



प्रज्ञानं ब्रह्म



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Evaluative Reports 2015

Vol. 3

Engineering, Management & other Programs at Manipal

Submitted to

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1. **Name of the Department:** **Aeronautical and Automobile Engineering**
2. **Year of establishment:**2008
3. **Is the Department part of a School/Faculty of the University?:** Department is part of the Manipal Institute of Technology, Manipal University.
4. **Names of Programmes/Courses offered (UG, PG, MPhil, PhD, Integrated Masters; Integrated PhD, etc.):** B Tech in Aeronautical Engineering and B Tech in Automobile Engineering.

5. **Interdisciplinary courses and departments involved:**

#	Interdisciplinary course	Department involved
1	Engineering Mathematics	Department of Mathematics
2	Engineering Economics and Financial Management	Department of Humanities and Management.

6. **Courses in collaboration with other universities, industries, foreign institutions, etc. – Nil**
7. **Details of programmes/courses discontinued, if any, with reasons–Nil**
8. **Annual/Semester/Choice Based Credit System – Semester Based 10-point Credit System**
9. **Participation of the department in the courses offered by other departments -**
Students of Aeronautical and Automobile Engineering are opting for the open elective courses offered by various other departments as a part of their curriculum. Similarly, Department is offering a few open elective courses in Aeronautical and Automobile streams to the students of other departments.
10. **Number of teaching posts sanctioned and filled (Professors/Associate Professors/Assistant Professors)**

Designation	Sanctioned	Filled
Professor	3	3
Associate Professors	6	-
Assistant Professors	12	18
Total	21	21

11. Faculty profile with name, qualification, designation and specialisation (DSc/DLitt/PhD/MPhil, etc.)

#	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students guided for the last 4 years
1	Dr Rammohan S Pai	PhD	Professor	Tribology	24	-
2	Dr Satish Shenoy B	PhD	Professor	Hydrodynamic Lubrication, CFD, Tribology	12	4
3	Dr Dayananda Pai	PhD	Professor	Manufacturing Engineering, Optimisation	22	-
4	Mr Laxmikant G Keni	MTech,	Asst.Professor (Senior Scale)	Tribology	7	-
5	Mr Mahesha G T	MTech, (PhD)	Asst.Professor (Senior Scale)	Energy Engineering, IC Engines	19	-
6	Mr Ravishankar-Baliga	MTech (PhD)	Asst.Professor	CAMDA	4	-
7	Mr Manikandan M	MTech	Asst.Professor	Helicopter Aerodynamics, Aircraft Propulsion	5	-
8	Mr Padmaraj NH	MTech	Asst.Professor	Manufacturing Technology	3	-
9	Mr Umananda KV	MTech	Asst.Professor	Manufacturing Technology	23	-
10	Mr Srinivas G	MTech (PhD)	Asst.Professor	Aerospace Engineering	3	-
11	Mr Shiva Prasad U	MTech	Asst.Professor	Aerodynamics, Aerospace Propulsion	5	-
12	Mr Ananda Pai	(MTech)	Asst.Professor	Automotive Tech	9	-
13	Mr Balbir Singh	MTech	Asst.Professor	Aerodynamics, Aerodynamics	4	-
14	Mr Chethan KN	MTech	Asst.Professor	Manufacturing Technology	3	-
15	Mr Vishnu G Nair	MTech	Asst.Professor	Control System, Fuzzy logic,	3	-
16	Mr Kamlesh Kumar	MTech	Asst.Professor	Aerospace Engineering	2	-
17	Mr. Jayakrishnan R	MTech	Asst.Professor	Designing and Construction(Aeronautical)	5	-
18	Mr Yogeeshia Pai	M.Tech	Asst.Professor	Aerospace Engineering	2	-
19	Mr Rahul G	M.Tech	Asst.Professor	Manufacturing Technology	2	-
20	Ms. Thara Reshma	M. Tech	Asst. Professor	Aerospace Engineering	<1	-
21	Ms. Divya Shetty	(M.Tech)	Asst. Professor	Advanced Thermal Power & Energy Systems Engg	2	-

12. Fellows, faculty, adjunct faculty, Emeritus Professors

Adjunct faculty

#	Name	Institute/Organisation	Remark
1	Mr. Amitabh Vaidya	Mahindra & Mahindra	Adjunct faculty
2	Prof. Rajkumar Panth	Indian Institute of Technology Mumbai	Adjunct faculty
3	Mr. H.N. Sudhindra	Jain University Bangalore	Adjunct faculty

13. Percentage of classes taken by temporary faculty members – programme-wise information: Nil

14. Programme-wise Student Teacher Ratio: UG: 1:15.6

15. Number of academic support staff (technical) and administrative staff: sanctioned and filled

Staff	Sanctioned	Filled
Support staff (technical)	5	5
Administrative staff	3	3

16. Research thrust areas recognized by funding agencies

- i. Advanced composites and mechanical characterization
- ii. Biofuels and environmental friendly lubricants
- iii. Tribology
- iv. Micro Aerial Vehicles (MAV's) and Bio-mimetic Aerial Vehicle Technology
- v. Engine and power transmission technology
- vi. Propulsion systems

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise.

Ongoing Projects	Name of the Funding Agency	Grants Received
National	-	Nil
International	-	Nil

18) Inter-institutional collaborative projects and grants received

Collaboration	Project	Grant Received	Institute
International	Scholarship to attend International Conference	9000 Euro	International Space University France
All India	Performance Evaluation of Novel Dental Implants	Nil	Manipal College of Dental Sciences
	National Conference	Rs. 50000/-	Defence research and development Organisation, Govt. of India

19) Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received: Nil

20) Research facility/centre with

- state recognition: Nil
- national recognition: Nil
- international recognition: Nil

21) Special research laboratories sponsored by/created by industry or corporate bodies

- (a) Avionics Laboratory- Honeywell Technology Solutions India Ltd
- (b) Advanced Composites Laboratory – National Aerospace Laboratories

22) Publications: (National and International conferences and National and International Journals)

Details		2012	2013	2014
Completed funded research projects		-	-	-
Completed non-funded research projects		-	-	-
Completed PhD research projects		-	-	-
Completed PG research projects		-	-	-
Completed UG research projects		-	-	-
Publications	International	12	01	10
	National	00	00	00
Books		-	-	-
Chapters in books		-	-	-
Conference presentations	International	06	07	19
	National	01	00	06

Journal Publications List:

Sl. No	Year of publication	Name of the Author(s)	Title of the Research Paper	Name of the Journal	National / International
1	2012	B.S. Shenoy K.G.Binu , R. Pai , D.S.Rao , R.S.Pai	Effect of nanoparticles additives on the performance of an externally adjustable fluid film bearing	Tribology International 45 (2012) 38–42. ISSN: 0301-679X.	International
2	2012	Raghuvir Pai , Dasapaiyya Srikanth Rao, Baloor Satish Shenoy, Rammohan Surendra Pai	Stability Characteristics of a Tri-taper Journal Bearing: a Linearized Perturbation Approach	Journal of Materials Research and Technology, 2012; 1(2):84-90	International
3	2012	Chandrakanth R. Kini, Satish Shenoy B.,and N.Yagnesh Sharma	Numerical Analysis of gas turbine HP stage blade cooling with new cooling duct geometries	International Journal of Earth Sciences and Engineering, Vol. 5, No.4 (02), August 2012, pp.1057-1062	International

4	2012	Neville Fernandes, Satish Shenoy B., Raghuvir Pai B., Rammohan S. Pai B, and Shrikanth Rao.D	Evaluation of Stiffness and Damping Coefficients of Multiple Axial Groove Water Lubricated Bearing Using Computational Fluid Dynamics	Scientica Special Journal Issue. World Academy of Science, Engineering and Technology 70: 2012 pp.876-881	International
5	2012	Chandrakant R Kini, Satish Shenoy B, and Yagnesh Sharma N	Computational Conjugate Heat Transfer Analysis of HP Stage Turbine Blade Cooling: Effect of Turbulator Geometry in Helicoidal Cooling Duct	Scientica, Special Journal Issue. World Academy of Science, Engineering and Technology 70: 2012 pp.645 - 652.	International
6	2012	Dayananda Pai,Srikantha S Rao.Raviraj Shetty,	Application of Taguchi and Response Surface Methodologies for Metal Removal Rate and Surface Roughness in Grinding of DRAC's	International Journal of Engineering and Management Sciences Vol. 3 (1)	International
7	2012	Praveen Kumar Akula, Balbir singh, Manikandan.M, Srinivas G	Influence of tip clearance on the turbulent aerodynamics of axial flow fan under off design conditions	Applied Mechanics and Materials	International
8	2012	Shiva Prasad U, Srinivas G	Flow Simulation over Re-entry bodies at supersonic & Hypersonic Speeds	International Journal of Engineering Research and Development	International
9	2012	Vishnu G Nair ,Dileep M V,V I George	Aircraft Yaw Control System using LQR and Fuzzy Logic Controller	International Journal of Computer Applications	International
10	2012	Vishnu G Nair ,Dileep M V,Prahalad K R	Design of Fuzzy Logic Controller for Lateral Dynamics Control of Aircraft by Considering the Cross-Coupling Effect of Yaw and Roll on Each Other	International Journal of Computer Applications	International
11	2012	Vishnu G Nair ,Dileep M V,Prahalad K R	New Programming Approach for Steepest Descent Optimization of Rocket Trajectories	International Journal of Computer Applications	International
12	2012	Vishnu G Nair ,V I George,Prahalad K R	Lateral Control of Aircraft, Considering the Cross-coupling	Sensors And Transducers	International
13	2013	Satish Shenoy, Nishant Jain, Isha Atreja	Biometric Flapping wing Aerial Vehicle	International Journal of Advancements in Mechanical and Aeronautical Engineering, Vol-1(1)	International

14	2014	Avik Arora, Varun Adishankar, Jayakrishnan.R	Design of a Tri-Sonic Wind Tunnel	Journal of Basic and Applied Engineering Research (JBAER), Volume 1, Number 4, page number 21-32, October 2014	International
15	2014	Mahesh G T, Satish Shenoy B, Padmaraj N H, Chethan K N	Synthesis and Mechanical Characterization of Grewia Serrulata Short Natural Fiber Composites	International Journal of Current Engineering and Technology	International
16	2014	Srinivas G, Mahesha G T, Chethan K N, Arjun N	Analysis of wind turbine blade	International Journal of Current Engineering and Technology	International
17	2014	N. S. Harshavardhan .R; Sanjana .K ; Sai Sharan .K; Srinivas .G,	Computational Flow Analysis Of Hypersonic Reentry Blunt Body Using Fluent And Gambit”	International Journal of Scientific & Engineering Research, Volume 5, Issue 5, May-2014, Page No: 262-269.	International
18	2014	Bhupal Rakhm, Srinivas G	“Flap Architecture by Morphing Trailing Edges”	International Journal of Current Engineering and Technology. E-ISSN 2277 – 4106, P-ISSN 2347 – 5161, February 2014. Pg No: 388-392	International
19	2014	Manikandan. M, Shiva Prasad U, Ashish Ashok Suvarna, Anuj Bhat , Vinayak Nair and Gun-da Shivakrishna	External Aerodynamic Analysis of TATA Nano using Numerical Tool	International Journal of Current Engineering and Technology	International
20	2014	Vishnu G Nair, Dileep M V, Prahalad K R	GPS Based Autonomous Flight Control System for an Unmanned Airship	Int. Journal of Engineering Research and Applications	International
21	2014	Dileep M V, Vishnu G Nair, Prahalad K R, Sureka Kamath	Trajectory Optimization of Launch Vehicles Using Steepest Descent Method – A Novel Approach	Int. Journal of Engineering Research and Applications	International
22	2014	Vishnu G Nair, Dileep M V, Prahalad K R	A Study On Recent Trends In High Subsonic Flow Over Delta Wings .	Int. Journal of Engineering Research and Applications	International
23	2014	Sreejith, Vishnu G Nair, Akhil Vishnu	Supply Chain Management of Satellite Mechanisms- Product Development and Monitoring	Int. Journal of Engineering Research and Applications	International

Conference Publications List:

Sl. No	Year of publication	Name of the Author(s)	Title of the Research Paper	Name of the Conference	National / International
1	2012	Chandrakanth R Kini, Satish Shenoy B, N Yagnesh Sharma	Numerical Analysis of Gas Turbine HP stage Blade cooling with new cooling duct geometries	Proceedings of 2 nd International Engineering Symposium – IES 2012, KU-MIT-NITK joint symposium, March 5-7,	International

				2012, Kumamoto University, Japan.	
2	2012	Arpan Chakraborty, Satish Shenoy and Raj-kumar S. Pant	CFD Investigations of Some Airship Envelope Shapes	Proceedings of 9 th International Airship Convention, Ashford, England 20 th to 23 rd June 2012.	International
3	2012	Nishant Jain, Isha Atreja and Satish Shenoy B	Biomimetic Flapping Wing Aerial Vehicle	Proceeding of International Conference on Advances in Aeronautical and Mechanical Engineering- 2012, AME2012, June 23-24, 2012, Bangkok, Thailand.	International
4	2012	Neville Fernandes, Satish Shenoy B., Raghuvir Pai B., Ram-mohan S. Pai B, and Shrikanth Rao.D	Evaluation of Stiffness and Damping Coefficients of Multiple Axial Groove Water Lubricated Bearing Using Computational Fluid Dynamics	ICMIE 2012 : International Conference on Mechanical and Industrial Engineering, Bali, Indonesia, October 24-25, 2012.	International
5	2012	Chandrakant R Kini, Satish Shenoy B, and Yagnesh Sharma N	Computational Conjugate Heat Transfer Analysis of HP Stage Turbine Blade Cooling: Effect of Turbulator Geometry in Helicoidal Cooling Duct	ICMIE 2012 : International Conference on Mechanical and Industrial Engineering , Bali, Indonesia, October 24-25, 2012.	International
6	2012	G Shenoy, B S Shenoy and Raj C Thiagarajan	Effects of Structural Forces on the Dynamic Performance of High Speed Rotating Impellers	COMSOL conference INDIA- 2012, Nov 2-3, Bangalore.	National
7	2012	B.S. Shenoy, R.S.Pai, R.Pai , D.S.Rao	Effect of Turbulence and Offset Loading on the Performance of a Single Pad Externally Adjustable Fluid Film Bearing	Proceedings of the ASME 2012 International Mechanical Engineering Congress & Exposition, IMECE2012 November 9-15, 2012, Houston, Texas, USA.	International
8	2013	Ravishanker Baliga, B, Satish Shenoy, B, Satish Rao, U., Vijendra Bhat, V	Synthesis and Mechanical Characterization of C.N.F Reinforced PCU Composite	International Conference on Bio Medical and Pharmaceutical Sciences, Oct 10-11, Batam, Indonesia pp. 29-32	International
9	2013	Padmaraj N H, M Vijay Kini, B Raghuvir Pai , B Satish Shenoy	Development of Short Arca Fiber Reinforced Biodegradable Composite Material	International Conference On DESIGN AND MANUFACTURING, 18-20 July 2013, Indian Institute of Information Technology Design and Manufacturing (IIITD&M) Kanchipuram. IConDM 2013, Procedia Engineering, Elsevier.	International

10	2013	Sathish Shenoy B. and Harish Kumar Kamat	Numerical simulation of internal cooling effect of gas turbine blades using inserts	”, International Conference on Sustainable Manufacturing, July 29-30, CIT, Coimbatore	International
11	2013	U.Shiva Prasad, Suresh R	Computational Analysis of Hypersonic Vehicle Intake Configuration	The International Conference of Engineering Sciences and Management (TJES). Vol.1 Issue.1 October, 2013	International
12	2013	Srinivas G, Potty Srinivasa Rao	Ballistic Performance prediction of Solid Rocket Motor with Erosive Burning by Incremental Analysis	International conference on Emerging trends in Engineering and Applied sciences (ICETEAS-2013), 27 th -28 th Dec 2013	International
13	2013	Potty Srinivasa Rao, Raghunandana K, KG Vishwanadhan, Srinivas G	Stake Holders Satisfaction through Evaluation System-A case Study	International conference on Emerging trends in Engineering and Applied sciences (ICETEAS-2013), 27 th -28 th Dec 2013	International
14	2013	Shlok Agarwal, Apoorva Mohan & Kamlesh Kumar	Design and Fabrication of Twinrotor UAV	AIRCC’s International Journal of Computer Science and Information Technology (IJCSIT), Computer Science Conference Proceedings (CSCP). CMCA-2013, pp. 369–377	International
15	2014	Kiran R, Jayakrishnan.R	Airfoil shape optimization using MATLAB	ICCMEH 2014	International
16	2014	Awadh Kapoor, Jayakrishnan.R	Comparative study and design analysis of golf ball dimpled aircraft wing and effects on aerodynamic efficiency	ICCMEH 2014	International
17	2014	Srinivas G, Mahesha G T, Chethan K N, K Aravind kumar	Numerical simulation of wind turbine blade using CFD Techniques	International conference on Environment & sustainable technologies-2014., Manipal.	International
18	2014	Dayanand Pai, Mahesha G T	Statistical Method for wear study on Al6061-fly ash composites	International Conference on Computational Methods in Engineering and Health Sciences (IC-CMEH- 2014), December 17 – 19, 2014	International
19	2014	Mahesha G T, Rakshit Rao, Satish Shenoy B, M Vijaya Kini, Srinivasa G	Review of natural fiber composites	International conference on Environment & sustainable technologies-2014, Jan3-5, 2014, Manipal Institute of Technology, Manipal	International

20	2014	Mahesha G T, Satisha Shenoy B, Vijaya Kini M, Subramanya Bhat , Abhiram P	Preparation and characterization of alkali treated Grewia serrulata short fiber composites	National conference on advances in Aerial / Road vehicle & its applications	National
21	2014	R. S. Pai, B. Satish Shenoy, D. S. Rao and R. Pai	Static characteristics of 3 –Axial Groove Journal Bearings Lubricated With Water Based Lubricant	NCAARV – 2014, July 18 – 19, 2014, MIT	National
22	2014	R. S. Pai, B. Satish Shenoy, D. S. Rao and R. Pai	Stiffness and damping coefficients of 3-axial groove water lubricated journal bearings	NCAARV – 2014, July 18 – 19, 2014, MIT, Manipal	National
23	2014	R. S. Pai, B. Satish Shenoy, D. S. Rao and R. Pai,	Comparison of static and Dynamic Characteristics of 4 –Axial and 6-Axial Groove water lubricated Journal Bearings: Reynolds and JFO models	NCAARV – 2014, July 18 – 19, 2014, MIT, Manipal	National
24	2014	R. S. Pai, B. Satish Shenoy, D. S. Rao and R. Pai	Stability Characteristics of Multiple Axial Groove Journal Bearings Lubricated With Water Based Lubricant	International Conference on Computational Methods in Engineering and Health Sciences (IC-CMEH- 2014), December 17 – 19, 2014	International
25	2014	R. S. Pai, B. Satish Shenoy, D. S. Rao and R. Pai	Dynamic Characteristics of 3 –Axial Groove Journal Bearings Lubricated With Water Based Lubricant	International Conference on Computational Methods in Engineering and Health Sciences (IC-CMEH- 2014), December 17 – 19, 2014	International
26	2014	M. V. Kini, R. S. Pai, B. Satish Shenoy , D. S. Rao and R. Pai	Non-linear transient analysis for 3-axial groove water based lubricant	, iCEST – 2014, January 03-05, 2014, MIT, Manipal	International
27	2014	R. S. Pai, D. S. Rao, B. Satish Shenoy, M V Kini and R. Pai	Comparison of Dynamic characteristics of 3-axial groove water lubricated bearing with typical water based lubricant	iCEST – 2014, January 03-05, 2014, MIT, Manipal	International
28	2014	R. S. Pai, D. S. Rao, B. Satish Shenoy, M V Kini and R. Pai,	Comparison of Static characteristics of 3-axial groove water lubricated bearing with water based lubricant	iCEST – 2014, January 03-05, 2014, MIT, Manipal	International
29	2014	Mahesha G T, Rakshit Rao, Satish Shenoy B, M Vijaya Kini, Srinivasa G.	Review of natural fiber composites	International conference on Environment & sustainable technologies-ICEST-2014	International
30	2014	Y V Saketh Reddy, Srinivas G	Performance Enhancement of Air Transportation and Airport Operation	International conference on Frontiers of Infrastructure 24and Finance ICFIF-2014	International

31	2014	Dayananda Pai, Mahesha GT	Statistical method for wear study on Al6061-fly ash composites	International Conference on Computational Methods in Engineering and Health Sciences (IC-CMEH- 2014), December	International
32	2014	Dayananda Pai, Chaitnya Krishna, Tang JunJi	Dry Sliding wear study on Fly ash Reinforced Al6061 Composites	National Conference on Advances in Aerial and Road vehicles from 17-18 July 2014 at M.I.T. Manipal	National
33	2014	Dayananda Pai, Apoorv Prem	Articulated vehicle Systems	National Conference on Advances in Automobile Engineering on 26-04-2014 at PSG Coimbatore	National
34	2014	Mateusz Pawlik, Ravishanker Baliga B, Satish Shenoy B, Raghuvir Pai B	Comparative static analysis of knee endoprosthesis implants for short and long stem lengths by the means of FEM	Proceedings of International Conference on Computational Methods in Engineering and Health Sciences Dec 17-19 2014	International
35	2014	Mateusz Pawlik, Ravishanker Baliga B, Satish Shenoy B, Raghuvir Pai B	Comparative approach to knee endoprosthesis stem materials – static analysis of bone-implant system by the means of FEM	Proceedings of International Conference on Computational Methods in Engineering and Health Sciences Dec 17-19 2014	International
36	2014	Mateusz Pawlik, Ravishanker Baliga B, Satish Shenoy B, Raghuvir Pai B	FEM static analysis of knee endoprosthesis implant systems for short and long stem lengths	Proceedings of the 3 rd World Conference on Applied Sciences, Engineering and Technology 27-29 September 2014, Kathmandu, Nepal, ISBN 13: 978-81-930222-0-7, pp 481-486.	International
37	2014	Anand Pai, Moparathi Kedarnath, Ravi Shanker Baliga, Chethan K N	2D combustion simulation of alkyl ethers for compression ignition engines	Proceedings of International Conference on Computational Methods in Engineering and Health Sciences Dec 17-19 2014	International
38	2014	Laxmikant G Keni, Padmaraj N H, Yash Arora, Ankesh Prabh hash, Ritika Kamal	Computational and Experimental external flow analysis of generic hatch back car	Proceedings of International Conference on Computational Methods in Engineering and Health Sciences Dec 17-19 2014	International
39	2014	Umananda K V Kunwardeep Singh Khanna	Optimization of a Suspension Geometry of a Solar Car	Proceedings of International Conference on Computational Methods in Engineering and Health Sciences Dec 17-19 2014	International

- * Monographs: Nil
- * Chapters in Book: Nil
- * Edited books: Nil

- * Books with ISBN with details of Publisher: Nil
- * Number listed in International Database: 24 (Scopus-10, web of Science-04, Google Scholar-16)
- * Citation Index- Range/Average: 0-12/ 2
- * SNIP: 0.5* (University level)
- * SJR: Nil
- * Impact Factor-Range/Average: 0.2-2.5/0.4
- * h-index: Range/Average 0-13/0.8

23) Details of patents and income generated :

24) Areas of consultancy and income generated

Area of Consultancy	Income Generated
Composite Materials	Rs. 3000/-
Automotive Engine (Technical Expertise on Automotive Vehicles)	Rs. 3000/-

25) Faculty selected nationally/internationally to visit other laboratories in India and abroad—

Name of the Faculty: Mr. Balbir Singh

1. Travel Grant and Funding from Emerging Space Leaders (ESL) Grant 2012 by International Astronautical Federation (IAF), Paris, France for attending 22nd UN/IAF Workshop “ Space Technologies Applied to the Needs of Humanity: Space for Land applications, Naples, Italy.
2. Travel Grant by United Nations for attending 23rd UN/IAF Meeting “Space Technology for Economic Development” from 19th September 2013 – 23rd September 2013 in Beijing, People’s Republic of China.
3. Travel Grant by Committee on Space Research (COSPAR), CNES, Paris, France and GISTDA, Thailand for attending First COSPAR Symposium “Planetary Systems of our Sun and other Stars, and the Future of Space Astronomy from 11th November 2013 – 15th November 2013 in Bangkok, Republic of Thailand.
4. Travel Grant by Committee on Space Research (COSPAR), CNES, Paris, France for attending 41st COSPAR Scientific Assembly “COSMOS 2014” from 02 August 2014 – 10 August 2014 in Moscow, Russian Federation
5. Travel Grant by United Nations for attending 24rd UN/IAF Meeting “Space Technology for Socio-Economic Benefits” from 26th September 2014 – 30th September 2014 in Toronto, Canada.

26) Faculty serving in**a) National committees b) International committees c) Editorial Boards d) any other (please specify)**

- (i) Dr. Satish Shenoy, Professor and HOD of the department is the recognised reviewer for the International journal of Tribology.
- (ii) Dr. Satish Shenoy Professor and HOD and Dr. Ramamohan Pai Professor of the Department are recognised reviewer for the international Journal IMeche.

27) Faculty recharging strategies: Through refresher/orientation courses and workshop arranged by the academic staff colleges and Industries.

28) Student projects

Total Projects	In-house Projects (Percentage)	Other University/Industrial Projects (Percentage)
100	54	46

29) Awards/recognitions received at the national and international level

Awards/Recognition	National	International
Faculty	Nil	01
Doctoral/Post-Doctoral fellows	Nil	Nil
Students	02	01

Details of Awards/Recognition:**(i) Faculty:**

- Mr. Balbir Singh, Faculty of the department received Emerging Space Leaders (ESL) Award 2012 by International Astronautical Federation (IAF), Paris, France.
- Mr. Balbir Singh, Faculty of the department received a Scholarship of 9000 Euros by International Space University, France for attending SSP 2009 from 29th June – 28th August 2009 at NASA AMES Research Centre, Moffett Field California, United States.

(ii) Students:

- In November 2014, the Solar Electric Road Vehicle (SERVe) project designed and built by the students was adjudged the 3rd best Innovation at the “India Innovation Initiative i4c” held as a part of Knowledgexpo 2014 at Noida by the Confederation of Indian Industry, AICTE and Dept. of Science & Technology (Govt. of India). The competition had over 1500 innovation entries from India, U.S.A. and Europe.
Team won first Prize in IIT Bombay Tech fest under the UJWAL category in January 2015.
- Students of Formula Manipal- a student racing car project, won the 2nd place in racing competition organised by SAE India and JK tyres at Coimbatore in January 2015. A total of seven trophies are won by the team.

3. Aero MIT- a student air craft model design and flying team, won first prize in Aviator design and second prize in aviator flying competition conducted at IIT Bombay, in January 2015, a national level competition.

The team is recipients of NASA Systems Engineering Award for three consecutive years from 2011 to 2013.

4. Students of Team Manipal Racing-a student all-terrain vehicle design and racing group won second prize safe vehicle and a cash award of RS 25000/- at SAE BAJA competition in NOIDA 2013, a national level competition.

The student team also secured 4th place in fastest car and one of the lightest car in SAE BAJA competition in NOIDA 2014, a national level competition.

30) Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any.–

- a. Organised an International conference on Environment and sustainable Technologies in January 2014. Funding through Delegate fee and sponsorship.

Outstanding Participants:

- i. Shuichi Torri, Dept. of mechanical systems Engineering, Kumamoto University, Japan.
- ii. Mohd Zulkifly bin Abdullah, Professor, School of Mechanical Engineering, Universiti Sains Malaysia.
- iii. Kamarul Afrin, Professor, Aerospace Engineering Dept., University Putra Malaysia, Malaysia.

- b. Organised a National Conference on Advances in Aerial/road Vehicles & its Applications in July 2014. Funded by Defence Research and Development organization (DRDO) Delhi.

31) Code of ethics for research followed by the departments: The basic responsibility of an Ethic Committee (EC) is to ensure a competent review of all ethical aspects of the project proposals received and execute the same free from any bias and influence that could affect their objectivity. EC should provide advice to the researchers on all aspects of welfare and safety of the research participants after ensuring the scientific soundness of the proposed research through appropriate Scientific Review Committees. In smaller institutions the EC can up the dual responsibility of Scientific and Ethical Review.

The responsibilities of an EC can be defined as follows:

1. To protect the dignity, rights and well-being of the potential research participants
2. To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs
3. To assist in the development and the education of a research community responsive to local health care requirements.

32) Student profile course-wise: Admission is being done by Manipal University.

Name of the Course (refer to question no. 4)	Applications received	Selected Male / Female	Pass percentage Male/Female
B.Tech Aeronautical	Admission is being done by Manipal University, as per the admission policy	39/5	82.0/100
B.Tech Automobile		54 / Nil	88.9/-

33) Diversity of students – Students are admitted from across the country through National Level Admission test.

34) How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise:

Competitive Exam	No. of Students Cleared
Civil Services	01
Defence Services	04
NET/SET	NA
GATE	07

35) Student progression

Student progression	Percentage against enrolled
UG to PG	21
PG to MPhil	-
PG to PhD	-
PhD. To Post-Doctoral	-
Employed	
Campus selection	53
Other than campus recruitment	16
Entrepreneurs	05

36) Diversity of staff

Percentage of faculty who are graduates	
Of the same university	50
From other universities within the State	5
From universities from other States	45
From universities outside the country	Nil

37) Number of faculty who were awarded PhD, DSc and DLitt during the assessment period– One

38) Present details of infrastructural facilities with regard to

Library –Central library has 1067 titles, 2709 volumes of text books and more than 10 technical journals related to the field.

Separate departmental library with more than 1500 e-books related to Aeronautical and Automobile engineering.

a) Internet facilities for staff and students –

Wi-Fi and Wired connection are available for both staff and students

b) Total number of class rooms– Four class rooms and one seminar Hall

c) Class rooms with ICT facility –The central computing facility comprises the ICT facility.

d) Students' laboratories:

#	Laboratory	Facility
1	Avionics lab	flight simulator
2	Propulsion lab	wind tunnel and jet engine
3	Air craft Maintenance lab	TB-20 Trinidad aircraft and cut model of Aircraft engines
4	Structures lab	Vibration beam test set-up, Wagner Beam Test Set-up
5	CAD lab	computing, modelling and analysis software
6	Automotive Engines lab	maintenance and overhauling of automobile engines
7	Transmission lab	Study the automobile transmissions such as synchromesh gear box.
8	Autotronics lab	Auto electrical test Bench, Alternator,
9	Automotive Machine shop	Cylinder boring machine, crankshaft grinding machine
10	Engines testing and heat transfer lab	Diesel and petrol engines (Facility is under Mechanical & Manufacturing Engineering Department.)
11	Vehicle testing lab	Wheel Alignment, Fuel Pump Calibration.
12	Strength of Materials Lab	Tension, hardness, impact test. (This facility is also availed by Mechanical Engineering Dept.)

e) Research laboratories –

(i) Composite materials lab with Autoclave, fatigue testing machine, C-scan, compression moulding and filament winding machine.

(ii) Avionics Lab with Flight simulator.

(iii) Propulsion lab with wind tunnel

39) List of doctoral, post-doctoral students and Research Associates

#	Post Doctoral Students		Research Associates	
	Host University	Other Universities	Host University	Other Universities
1	Nil	Nil	Mr RavindraMallya	Nil
2			Mr.Mahesha GT	
3			Mr.RavishankerBaliga	
4			Mr. Chandrakanta Bekal	
5			Mr. Srinivas G.	

40) Number of post graduate students getting financial assistance from the university – Mr. Anand Pai and Mrs. Divya Shetty are getting financial assistance for their post-graduation studies.

41) Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Keeping in mind the growing Indian economy and purchasing power of the individual it is observed that there is a tremendous growth in the automobile and aeronautical industries. Input from Industry, academicians, Jury of experts and other stake holders are collected before the start of the programme.

42) Does the department obtain feedback from

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Curriculum development is discussed regularly in the department meetings. Updates in the curriculum are further discussed in the department curriculum committee meeting, Board of Studies meeting and Senate meeting. The suggestions from these committees are incorporated in the curriculum.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Continuous improvement in the curriculum is discussed in the class committee meetings. The inputs from the class committee meetings are further discussed in the faculty meetings, Departmental curriculum committee, and Board of Studies meetings. At the end of every semester, the student feedback is collected for every course. The appraisal is reviewed at departmental level for appropriate action.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

The first batch of students passed out in the year 2012. Feedback is awaited.

43) List the distinguished alumni of the department (maximum 10)

Sr. No	Name
1	Ms. ISHA ATREJA
2	Ms. GAIL MADONNA RASQUINHA
3	Ms. ANJALI GOPALAKRISHNAN
4	Mr. NISHANT JAIN
5	Mr. ARUN KUMAR
6	Mr. ABHISHEK PANDEY

7	Mr VIBHU TOMAR
8	Mr SAHIL KYAL
9	Mr DIVESH NATHANI
10	Mr MANISH KUMAR BHATT

44) Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts.

#	Name of the Faculty	Topic	Date
1	Mr K Srinivas	UAVs A new focus in Aeronautics	14.10.2011
2	Dr Rajan Raman	Aviation Industry	24.10.2011
3	Mr AmitabhVaidya	Reliability engineering	24.01.2012
4	Mr Laxminarayana	Salient features of thermal power plants	12.03.2012
5	Air Marshal, M. Maheswaran	Today's Aerospace industry	18.04.2012
6	Mr AmitabhVaidya	Automotive engineering	24.04.2012
7	Mr Umanath N Nayak	Future Trends & Opportunities in Aeronautical Engg	21.09.2013
8	Mr Umanath N Nayak	Future Trends & Opportunities in Aeronautical Engg	30.11.2013
9	Mr Arun Kulkarni	Condition Monitoring of Rotating Engines	14.11.2014

45) List the teaching methods adopted by the faculty members for different programmes.

Teaching methods adopted: Multimedia and Power point presentations, problem-based- learning and assignments, case studies, quizzes mini projects etc.

46) How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- i. Continuous evaluation, Class committee meetings, Placement
- ii. Department faculty meetings.
- iii. Feedback from faculty members, students, alumni and employers
- iv. Result analysis after examination includes counselling of under performers
- v. Regular revision of syllabus in consultation with faculty, experts and senate members.
- vi. Input from the placement cell

47) Highlight the participation of students and faculty in extension activities.

- i. Faculty members and students actively participate in the Voluntary services organized by the Voluntary service organization of Manipal University. The activity includes blood donation camp, visiting the orphanage, and helping poor children.
- ii. Faculty members are the member of Rotaract club and lions club and participate in several social service activities such as blood donation camp, Beach cleaning, scholarship to intelligent and economically backward students etc.

48) Give details of “beyond syllabus scholarly activities” of the department.

- i. Student Chapter for Aeronautical Students undertaken the Design of Unmanned Aerial Vehicle (UAV) through the students club “AEROMIT”.
- ii. Students Chapter for Aeronautical Students “IE Aerospace”
- iii. Students participate in “Formula Manipal” for design of Automobile Vehicle.

49) State whether the programme/department is accredited/graded by other agencies? If yes, give details.

AICTE approved

50) Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

- i. Students take part in the guest lectures organized by our department and other departments.
- ii. Students are involved in different curricular activities through their students club such as AeroMIT, Solar Mobile, Formula Manipal, SAE India. and other student clubs.
- iii. In-plant training is offered to all the students, which is the part of curriculum.

51) Future plans of the department:

- a) Extension of Academic Courses to offer M.Tech (Both Automobile Engineering and Aeronautical Engineering)

- b) The Department aims to set up a state-of-the-art Design and Modelling laboratory with the advanced CAD techniques for the Computational Analysis and Research facility.
- c) Encourage the faculty members with M. Tech degree to register for PhD.
- d) Up gradation of Department Library with latest technical reference books, Assortment of research papers published by renowned International Journals, Data Hand Books etc.
- e) To sign Memorandum of Understanding with premier Aeronautical and Automobile related Industries.
- f) To attract more funded projects.

52) Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:

- (i) Experienced and qualified faculty members.
- (ii) Well-equipped Advanced Composites Lab and Avionics lab to cater the need of researchers and Industries.
- (iii) Faculty members actively engaged in research.
- (iv) Involvement of Students in various technical events/projects of National and International importance.

Weaknesses:

- (i) Relatively a new department.
- (ii) Post Graduate Programmes needed.
- (iii) Need to strengthen the departmental library.
- (iv) Need to strengthen alumni base.

Opportunities:

- (i) Ample scope for collaboration with Industries and other research centres.
- (ii) Adequate scope for growth.
- (iii) Scope for multi-disciplinary courses and research.

Challenges:

- (i) Up-grade the department infrastructure.
- (ii) Attract meritorious students to the course.
- (iii) Create a niche in the market for a relatively new programme.
- (iv) Attract good placement in core industries.

1. Name of the Department: Biomedical Engineering

2. Year of establishment: 1999

#	Course	Year of Establishment
1	B.Tech in Biomedical Engineering	1992
2	M.Tech in Biomedical Engineering	1989

(Initially the courses were under the department of Electronics and Communication Engineering)

3. Is the Department part of a School/Faculty of the university?

Part of Manipal Institute of Technology, Manipal University, Manipal

4. Names of Programmes/Courses offered (UG, PG, MPhil, PhD, Integrated Masters; Integrated PhD. etc.)

#	Name of Programmes/ Courses Offered
1	B.Tech in Biomedical Engineering
2	M.Tech in Biomedical Engineering
3	Ph.D in Biomedical Engineering

5. Interdisciplinary courses and departments involved:

#	Interdisciplinary Course	Department Involved
1	Mathematics I, II, III & IV	Department of Mathematics, MIT Manipal
2	Anatomy and Physiology	Department of Anatomy and Department of Physiology, KMC Manipal
3	Basic Clinical Sciences-I (Cardiology, Anaesthesiology and ENT)	Department of Cardiology, Dept. of Anaesthesiology, and Dept. of ENT, KMC Manipal
4	Basic Clinical Sciences – II (Orthopaedics, Ophthalmology, Speech and Hearing)	Department of Orthopaedics, Department of Ophthalmology, KMC Manipal, and Department of Speech and Hearing, MCOAHS Manipal
5	Basic Clinical Sciences – III (Radiology, Radiotherapy and Neurology)	Department of Radiology, Department of Radiotherapy and Department of Neurology, KMC Manipal
6	Operations and Research	Department of Mechanical and Manufacturing Engineering, MIT, Manipal
7	Essentials of Management & Engg. Economics	Department of Humanities and Social Sciences, MIT, Manipal
8	Research Methodology and Technical Communication	Department of Humanities and Social Sciences, MIT, Manipal
9	Probability, Random Variables and Stochastic Processes	Department of Mathematics, MIT, Manipal
10	Allied Health Sciences (Speech and Hearing and Physiotherapy)	Department of Speech and Hearing and Department of Physiotherapy, MCOHAS, Manipal

6. Courses in collaboration with other universities, industries, foreign institutions, etc.

The Department is looking at the possibilities of collaborative programs with foreign universities. For now, the Department has trained several students from abroad as interns, and many of our students have gone abroad as interns performing their final year projects.

7. Details of programmes/courses discontinued, if any, with reasons: NONE

8. Annual/Semester/Choice Based Credit System: Semester Based 10-point Credit System

9. Participation of the department in the courses offered by other departments:

#	Interdisciplinary Course	Department involved
1	Biomedical Instrumentation (Open Elective)	Offered to Sixth semester students of all branches of Engineering at MIT, Manipal
2	Biomechanics (Open Elective)	Offered to Fourth semester students of all branches of Engineering at MIT, Manipal
3	Physiological Control Systems (Open Elective)	Offered to Second semester PG students of Electrical stream of Engineering at MIT, Manipal

10. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)

Designation	Sanctioned	Filled
Professors	02	03
Associate Professors	04	05
Assistant Professors	07	04
Total	13	12

11. Faculty profile with name, qualification, designation and specialisation (DSc/DLitt/PhD/MPhil, etc.)

#	Name of the faculty	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students guided for the last 4 years
1.	Dr. Ramesh R. Galigekere	BE, MSc (Eng) (IISc), PhD	Professor and Head	Medical Imaging and Image/Signal Processing	27 years	1
2.	Dr. Gopalakrishna Prabhu K	BE, M.Tech, PhD	Professor	Neural Networks	26 years	4

3.	Jagadeesh Shanbhag	BE, M.Tech	Assoc. Professor -Senior Scale	Hospital Management Systems	32 years	Nil
4	G. Muralidhar Bairy	BE, M.Tech (Persuing PhD)	Assoc. Professor - Senior Scale	Signal Processing	26 years	-
5.	Dr. Niranjana S.	BE, M.Tech, PhD	Assoc. Professor -Senior scale	Pattern recognition and Nanotechnology	18 years	1
6.	Lawrence D'Almeida	BE, M.Tech	Assoc. Professor	Biomedical Instrumentation	29 years	-
7.	Dr.Goutam Thakur	B.Pharm, M.Tech, PhD	Assoc. Professor	Biomaterials, Drug Delivery, Tissue Engineering, Herbal based medicine	07 Years	-
8.	Hilda Mayrose	BE, MTech	Asst. Professor -Senior Scale	Biomedical Instrumentation &Signal Processing	15years	-
9.	Devadas Bhat	BE, MTech	Asst. Professor (Senior Scale)	Biomedical Instrumentation, Microprocessors/Microcontrollers.	19 Years	-
10.	Rajitha K.V.	BE, MTech	Asst. Professor (Senior Scale)	Biomedical Instrumentation	10 Years	-
11.	Sheeba Davis	BE, MTech	Asst. Professor (Senior Scale)	Biomechanics	8Years	-

12. List of Senior Visiting Fellows, faculty, adjunct faculty, emeritus professors

- Mr. Anand Madanagopal, Managing Director, Cardiac Design Labs © Ltd, Bangalore. He delivered lecture “Instrumentation in Cardiology” on April 25, 2014 to the Post Graduate / Under Graduate students of the department of Biomedical Engineering, MIT, Manipal.

Faculty (Invited Guest Lecture)

- Dr. V. S. Venkatesan, Senior Professor, Hindustan University, Chennai, India, delivered a Guest Lecture on “Innovation in Biomedical Engineering” to the Faculty and students of Biomedical Engineering Dept. and also of the E & C Dept., MIT, Manipal, on September 13, 2014.
- Dr. Rajesh Kumar, Head of the department, Nuclear Medicine, KMC, Manipal delivered an invited Lecture on “Medical Image Processing” to the Post Graduate / Under Graduate students of the department of Biomedical Engineering, MIT, Manipal, on April 15, 2014.
- Dr. Vibhor Agrawal, Assist. Professor, Dept. of Physical Therapy/BME/Miami Vetrenas Affairs Medical Center, University of Miami, Florida 33136, USA. He delivered a lecture to the students and Faculty of the Dept. of BME, Feb. 8, 2013.
- Dr. Narasimha Bhat, CEO and Managing Director, Manipal Dot Net, Manipal to deliver an invited talk on “How to make or break our futures” on November 16, 2013.
- Dr. Sriram N, Professor and Head, Department of Biomedical Engineering, SSN College of Engineering, Chennai, delivered a series of guest lectures on: “Perspectives of Biomedical Signal Processing for Clinical Diagnostic Applications” on February 24, 2012.

Visit by Emeritus Professor

Prof. Arvind P Kudchadkar, Professor Emeritus, IIT, Bombay visited the department on 28 March 2011 and interacted with UG and PG students.

Visit by Foreign Dignitaries

- Professor Alan Murray, Professor of Cardiovascular Physics, and Strategic Research Advisor in the Medical Faculty at Newcastle University, UK., delivered a Lecture: “Medical Devices: Use and Safety” on March 1, 2014 to the Post Graduate / Under Graduate students of the department of Biomedical Engineering, MIT, Manipal
- Mr. Prashant Sharma, UMCG, Groningen, delivered a Lecture: “Biomaterial Associated Infections and its prevention” on February 14, 2014 to the Post Graduate / Under Graduate students of the department of Biomedical Engineering, MIT, Manipal.
- Dr. Vibhor Agrawal, Assist. Professor, Dept. of Dept. of Physical Therapy/BME/Miami Vetrenas Affairs Medical Center, University of Miami, Florida 33136, USA. He delivered a lecture to the students and Faculty of the Dept. of BME, Feb. 8, 2013.
- Prof. Markad V. Kamath, McMaster University, Hamilton, Ontario, Canada visited us to explore the possibility of collaborative projects; a meeting to discuss the same was held on 5 July 2012.

- Dr. Lalit K. Mestha, Principal Scientist, Xerox Research Center, Webster, Phillips Rd, MS 128-56E Webster, New York 14580, visited the Dept. to explore the possibilities of collaborating with the Dept., on June 6, 2012, the “Cyber Vitals” Project. A meeting was held with the HOD, and the collaboration was initiated.
- Dr. Sastry Vedam, Assistant Professor, University of Texas M D Anderson ,Cancer Center, USA delivered an invited talk “ Radiotherapy: An introduction to Biomedical Engineers”, on 2 November, 2012.
- Prof. Raymond, NTU, Singapore addressed the final year UG and M.Tech (Biomedical Engineering) students on 29 March, 2012. He also interacted with the HOD and faculty members on 30 March, 2012.
- Prof. Dr. Kyriacou of the City University, London, UK, visited the department on March 2, 2011 and interacted with students of M.Tech (Biomedical Engineering).
- Dr. Philip Marc, ENSEA, France & Dr. Christian Faye, ENSEA, France, visited the Department on June 26, 2008.

13. Percentage of classes taken by temporary faculty–programme-wise information:

Nil

14. Programme-wise Student Teacher Ratio:

#	Program	Student Ratio*	Teacher
1	U.G in Biomedical Engineering	1:15	
2	P.G in Biomedical Engineering	1:12	

* As per AICTE Guidelines

15. Number of academic support staff (technical) and administrative staff: sanctioned and filled

Designation	Sanctioned	Filled
Administrative staff	03	03
Technical Staff	04	04
Total	07	07

16. Research thrust areas recognized by funding agencies

#	Research Thrust Area	Funding Agency
1.	Signal & Image Processing	Xerox Research Center Webster, USA

17. Number of faculty with ongoing projects from: a) national b) international funding agencies, and c) Total grants received. Give the names of the funding agencies and grants received project-wise.

Research Projects:

Investigator	Dr. Ramesh R. Galigekere (Co-Investigator) (along with Dr. Vijayakumar, Prof & Head, Paediatric Surgery, KMC, Manipal and Dr. Leslie Edward S. Lewis, Prof. & Head of NICU, KMC, Manipal, & Dr. Lalith Mestha (Principal Scientist) & Dr. B. Xu at Xerox Corporation, Connecticut, USA)
Project	“Cyber Vitals for Neonatal ICU” Collaborative Project between Xerox Corporation, Connecticut, USA and Manipal University – headed by Dr. Lalith Mestha, Principal Scientist, Xerox Corporation)
Location	NICU, KMC
Sponsor	Xerox Corporation, Connecticut, USA
Period of research	3 years; the Dept. was involved over the first 2 years.
Amount of research grant	USD 20,000 per year, for three years (involvement for two years); this grant was for the entire team.

18. Inter-institutional collaborative projects and grants received

a) All India collaboration b) International

Investigator	Dr. Ramesh R. Galigekere (Co-Investigator) (along with Dr. Vijayakumar, Prof & Head, Paediatric Surgery, KMC, Manipal and Dr. Leslie Edward S. Lewis, Prof. & Head of NICU, KMC, Manipal & Dr. Lalith Mestha (Principal Scientist) & Dr B. Xu at Xerox Corporation, Connecticut, USA)
Project	“Cyber Vitals for Neonatal ICU” Collaborative Project between Xerox Corporation, Connecticut, USA and Manipal University – headed by Dr. Lalith Mestha, Principal Scientist, Xerox Corporation)
Location:	NICU, KMC
Sponsor:	Xerox Corporation, Connecticut, USA
Period of research:	Sanctioned – 3 years; involved: 2 years.
Amount of research grant:	USD 20,000 per year, for three (3) years (involvement for 2 years).

Investigator	Dr. Ramesh R. Galigekere (Principal Investigator) Along with: Dr. Kiranam Chatti (co-investigator) Senior Research Scientist & Head, Dept. of Biology, Dr. Reddy's Institute of Life Sciences University of Hyderabad Campus, Gachi Bowly, Hyderabad – 500 046.
Project	Non-contact and Automatic Assessment of the Functioning of the Cardiovascular System in Zebrafish
Location:	Dept. of Biomedical Engineering
Sponsor:	Manipal University (Internally funded – PhD Student)
Period of Research:	1 ½ years; About 8 months completed by Dec. 31, 2014 (May-Dec. 2014).
Amount of research grant:	Rs. 1,37,000.00

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.;

The Department has been making efforts towards obtaining funded projects from suitable government agencies.

20. Research facility/centre with:

- state recognition: Nil
- national recognition: 01 (MIRS jointly with Philips)
- international recognition: Nil

21. Special research laboratories sponsored by/created by industry or corporate bodies:

- Medical Imaging Research Suite (jointly started by Philips and Manipal University) to promote Medical Imaging Research involving industry, Medical faculty and Engineering faculty.
- ARM Cortex M0 Microcontroller embedded kits (10nos.) sponsored by ARM India, under ARM University Program in 2013.

22. Research Output in last three years

Details	2012	2013	2014
Completed funded research projects	-	1	1
Completed non-funded research projects	02	-	-
Completed PhD research projects	02	01	-
Completed PG research projects	02	22	25

Completed UG research projects		26	13	14
Publications	International	9	01	07
	National	-	-	-
Books		-	-	-
Chapters in books		-	01	-
Conference presentations	International	03	04	06
	National	-	03	02
IAESTE student Projects		-	2	2

Funded Research projects:

- “*Cyber Vitals for Neonatals*” involving non-contact assessment of vitals – a project sponsored by Xerox Research Center Webster, NY, USA (along with Dr. Vijayakumar & Dr. Leslie ESL at the NICU, KMC and Dr. Lalith Mestha (head of the group) Principal Scientist, Xerox Research Center Webster, NY, USA).
- “*Non-contact and Automatic Assessment of the Functioning of the Cardiovascular System in Zebrafish*”, Funded by Manipal University; Principal Investigator – Dr. Ramesh R. Galigekere, Prof. & HOD, Dept. of Biomed. Engg., MIT, Manipal; co-investigator – Dr. Kiranam Chatti, Principal Scientist and Senior Research Scientist & Head, Dept. of Biology, Dr. Reddy’s Institute of Life Sciences, University of Hyderabad Campus, Hyderabad – 500 046.
- “*Cross-linked biopolymer carrier matrix for transport of bioactive molecules*”- a project internally funded worth 2.8lakh in November 2012 by Manipal University (principal investigator – Dr. Goutam Thakur).
- “*Computer Assisted Screening Of Colon Cancer Using Computed Tomography Colonoscopy Technique*”, Funded by Manipal University (Mr. Manjunath K.N. and Dr. G.K Prabhu).

International Student-projects (Interns at the Dept., under IAESTE or otherwise)

- “Reconstructions from Truncated Projections in CT using Different Methods of Extrapolations with MATLAB”, Maxime Laine, ESIGELEC, France, June 02, 2014 – Sep. 02, 2014, under the Supervision of Dr. Ramesh R. Galigekere.
- “Photoplethysmography Imaging”, Simon Nessmann, University of technology Chemnitz, Germany, Nov. 2014, under the guidance of Dr. Ramesh R. Galigekere.
- Project work performed in the area of Medical Imaging – Report submitted by Alexander Ricker and Meike Gierig, Chemnitz University of Technology, Germany, Dec. 13, 2014, under the guidance of Dr. Ramesh R. Galigekere.
- “Development of a Device for Measuring the Forces of the Fingers while Writing”, David Muller, Germany, October 31, 2013, under the guidance of Mr. G. Muralidhar Bairy.

Completed non-funded research projects: (two ongoing, as indicated below):

Completed PG Research Projects (2012):

1. Detection and Assessment of Ance Scars by image processing (M. Tech Project in collaboration with Dr. Nirmal Krishna, Dept. of Dermatology, KMC, Manipal).
2. Assessment of Heart-rate variability Zebra-fish-embryos, by image-processing of their video-recordings (completed at the Masters' level (MTech thesis), the Dept. of BME, MIT, in collaboration with Dr. Kiranam Chatti at the Dr. Reddy's Institute of Life Sciences, Hyderabad University Campus, Hyderabad).

Ph.D Research Project (ongoing):

1. Non-contact and Automatic Assessment of the Functioning of the Cardiovascular System in Zebrafish
2. Computer Assisted Screening of Colon Cancer Using Computed Tomography Colonoscopy Technique.
3. Analysis of Epileptic EEG Stages Based On Chaos Theory- A Comprehensive Study(PhD work at the Dept. of BME,MIT, Manipal University in collaboration with Dr. U Rajendra Acharya, Ngee Ann Polytechnic, Singapore).
4. Soft computing approaches for human emotion detection using Electroencephalogram.

P.G Research Projects:

In the Year 2013-2014:

1. Biopolymer: design, characterization & application in wound healing management (M. Tech Project performed at the Dept. of BME, MIT).
2. Segmentation of brachial plexus from diffusion weighted magnetic resonance images (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Manjunatha Maiya at Philips, Manipal).
3. Assessment of cognition functions using physiological signals (EEG, ECG, eye tracking) (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Sushil Chandra at Inst. of Nuclear Medicine & Allied Sciences, DRDO, Delhi).
4. Designing a multipurpose-aid for pressure wounds using natural mucilage (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Dr. B. Ganesh at Dept. of Biotechnology, MIT-Manipal).
5. Development of respiratory rate measurements using impedance pneumography method by ADS1292R evaluation kit (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. K. Mohanavelu at DEBEL, Bangalore).
6. Development of inspiratory block for ICU ventilator (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Tejas Bengali at Skanray Technologies Pvt. Ltd., Mysore).

7. Eye-track AAC for adults with communication challenges (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Dr. Jayashree Bhat at Audiology & Speech Language Pathology, KMC-Mangalore).
8. A real time foot pressure analysis system for posture and balance correction (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Dept. of Physiotherapy, SOAHS, Manipal University, and Dept. of Physical Therapy, Miller School of Medicine, University of Miami)
9. Non-conventional processing of EEG in the detection of psychological disorders (M. Tech Project performed at the Dept. of BME, MIT)
10. Lung sound classifier (M. Tech Project performed at the Dept. of BME, MIT)
11. Automatic Wound-region Segmentation (M. Tech Project performed at the Dept. of BME, MIT).
12. Vertigo detector (M. Tech Project performed at the Dept. of BME, MIT)
13. Automation in diagnosis of atrial septal defect (ASD) and ventricular septal defect (VSD) using neo-natal echocardiography (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Devdatt Kawathekar at PHILIPS Healthcare, Bangalore).
14. EMG based human computer interface for below knee amputee (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Dr. Venkatesh Balasubramaniam at Engg. Design Dept., IIT Madras)
15. Magnetic resonance imaging: design and develop method to characterize B0 and B1 magnetic field using multichannel coil (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Sandip Hinge at GE Healthcare, Bangalore)
16. Spirometry using digital signal processing techniques for ICU ventilator (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Tejas Bengali at Skanray Technologies Pvt. Ltd., Mysore).
17. Smart shoes (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Dr. Fiddy Davis at KMC Manipal)
18. Acoustic analysis of output of a digital hearing aid (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Ajis K Abraham at All India Inst. of Speech & Hearing, Mysore)
19. Hydrogel: design, characterization & applications in drug delivery system (M. Tech Project performed at the Dept. of BME, MIT).
20. Bone and joint infection diagnosis (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Prof. Rohit Srivastava at Dept. of Biosci & Bioengg, IIT Bombay)
21. An efficient training system for the rehabilitation of paralysis affected people (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Ganesh M at MCOAHS, Manipal)
22. Facilitated wound healing aid from a natural mucilage (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Dr. B. Ganesh at Dept. of Biotechnology, MIT-Manipal)
23. Object recognition from images for biometrics (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Dr. Malay K Nema at ISRD, DRDO)

24. Data acquisition system design using CCD sensor and memory interface for X-ray machine (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Prashanth A at Skanray Technologies Pvt. Ltd., Mysore)
25. Development of expiratory block for ICU ventilator (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Tejas Bengali at Skanray Technologies Pvt. Ltd., Mysore).

In the year 2012-2013:

1. Isolation and characterization of mesenchymal stem cells from cord tissue for bone regeneration (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Dr. E. M Elango at the Narayan Hrudayalaya, Bangalore).
2. Identification and correlation of tongue parameters for disease diagnosis based on Ayurveda (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Sanjeev Kumar at the CSIR-CSIO, Chandigarh).
3. Image processing algorithms for retinopathy of prematurity (ROP) (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Vishnu V Makkapati at PHILIPS Research India, Bangalore).
4. Facial emotion detection using machine vision (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Dr. Amod Kumar and Mr. Sanjeev Kumar at CSIR-CSIO, Chandigarh).
5. Design and implementation of iontophoretic transdermal drug delivery system (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Amit Gupta at ST MICROELECTRONICS, Noida, Uttar Pradesh).
6. Infant condition monitoring system using multi-sensors biofeedback (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Dr. Amod Kumar and Mr. Sanjeev Kumar at CSIR-CSIO, Chandigarh).
7. Development of pneumatic control & monitoring module for anesthesia ventilator (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Tejas Bengali at Skanray Technologies Pvt. Ltd., Mysore).
8. Electronic stethoscope (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Vineet Sinha at BARC, Mumbai)
9. Heart rate monitoring using human speech spectral features (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Dr. Alex P James at School of CS & IT, IITMK, Trivandrum)
10. Tremor acquisition and reduction for robotic surgical applications (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Dr. Amod Kumar and Mr. Sanjeev Kumar at CSIR-CSIO, Chandigarh).
11. Design and installation of extreme gradient amplifier-2 (XGA-2) & MR coil ate (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Pavan Kumar BA at GE Medical systems India Pvt. Ltd., Bangalore)
12. Lung sound analyzer (M. Tech Project performed at the Dept. of BME, MIT)
13. Development of signal processing algorithm for heart rate variability analysis (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. K. Mohanavelu at DEBEL, Bangalore)
14. Low power laser projection embedded monitoring system for detecting patient's breath rate (M. Tech Project performed at the Dept. of BME, MIT)

15. Pulse diagnosis based on Ayurvedic practices (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Dr. Amod Kumar and Mr. Sanjeev Kumar at CSIR-CSIO, Chandigarh).
16. Casual echo model based image reconstruction in sparse MRI (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Dr. Joseph S Paul at IITM-Kerala)
17. Classification of gait using singular value decomposition and neural network (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Dr. N. Pradhan at NIMHANS, Bangalore)
18. Pedometer and heart rate monitoring (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Ganesh M at MCOAHS, Manipal)
19. Study of spectro-temporal distribution of wave v of the auditory brainstem response (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. P. Hariprakash at MSOAHS, Manipal)
20. Optimization of GTV estimation in highly infiltrating glioblastoma multiforme with perifocal vasogenic edema (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Dr. Priestly Shan at St. Joseph's College of Eng. & Tech, Kerala)
21. Electrical modeling of hemodynamics of arteriovenous malformation edema (M. Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Y. Kiran Kumar at PHILIPS Research India, Bangalore).
22. Feasibility of pulse fluoroscopy with stationary anode tube (M.Tech Project performed at the Dept. of BME, MIT, in collaboration with Mr. Nagendra Shamanna at Siemens Healthcare Ltd., Goa)

In the year 2011-2012

1. Brain tumour classification using wavelet and texture based neural network (M.Tech. project in collaboration with Dr. N. Pradhan, Dept. of Psychopharmacology, NIMHANS, Bangalore).
2. Design and installation of extreme power supply² (XPS²) automated test engine (ATE) (M.Tech. project in collaboration with Mr. Pavan Kumar, Manufacturing Process Engg., GE medical systems, Bangalore).
3. Detection of epileptic seizure in EEG data using hurst exponent and radial basis function neural network (M.Tech. project in collaboration with Dr. N. Pradhan, Dept. of Psychopharmacology, NIMHANS, Bangalore).
4. AAC device for children with challenged communication (M.Tech. project in collaboration with Dr. Jayashree Bhat, Audiology & Speech Language Pathology, KMC Hospital, Mangalore).
5. Developing an auditory training tool for children with hearing aids and cochlear implants (M.Tech. project in collaboration with Dr. Jayashree Bhat, Audiology & Speech Language Pathology, KMC Hospital, Mangalore).
6. Automated ECG analysis (M.Tech. project in collaboration with Mr. S. Thirugnanam, Skanray Technologies pvt. ltd., Mysore).
7. Removal of movement artifacts from high density EEG during walking and running (M.Tech. project in collaboration with Dr. N. Pradhan, Dept. of Psychopharmacology, NIMHANS, Bangalore).

8. Premature ventricular beat detection and classification using support vector machine (M.Tech. project in collaboration with Dr. N. Pradhan, Dept. of Psychopharmacology, NIMHANS, Bangalore).
9. Derivation of hydration status from heart rate variability (M.Tech. project in collaboration with Mrs. Deepa Prabhu, DEBEL, DRDO, Bangalore).
10. Stochastic resonance for magnetic resonance image enhancement (M.Tech. project in collaboration with Dr. N. Pradhan, Dept. of Psychopharmacology, NIMHANS, Bangalore).
11. Pattern classification and clustering of multichannel EEG data using self-organizing neural network (M.Tech. project in collaboration with Dr. N. Pradhan, Dept. of Psychopharmacology, NIMHANS, Bangalore).
12. EMG modelling of human lower limb (M.Tech. project in collaboration with Mr. Neelesh Kumar Biomedical Instrumentation Unit, CSIR-CSIO, Chandigarh).
13. Gait analysis in parkinson's patient using fractal measures (M.Tech. project in collaboration with Dr. N. Pradhan, Dept. of Psychopharmacology, NIMHANS, Bangalore).
14. Development of a surface plasmon resonance (SPR) set-up for sensing applications (M.Tech. project in collaboration with Dr. Rajeev Kumar Sinha, Centre for Atomic & Molecular Physics, Manipal University).
15. Design and development of frequency transposition algorithm for digital hearing aid (M.Tech. project in collaboration with Mr. Ajish K. Abraham, Dept. of Electronics, AIISH, Mysore).
16. Measuring the level of patient's consciousness using edge frequency spectral entropy and bispectrum of EEG (M.Tech. project in collaboration with Dr. N. Pradhan, Dept. of Psychopharmacology, NIMHANS, Bangalore).
17. Algorithm for detection of acne scars for quantitative analysis (M.Tech. project in collaboration with Dr. Nirmal B., Dept. of Dermatology, KMC Manipal).
18. Auto alignment of tool for biomedical application (M.Tech. project in collaboration with Mr. Prasant Kumar Mahapatra, V-2 Biomedical Instrumentation Division, CSIR Chandigarh).
19. Inspiratory muscle training device (M.Tech. project in collaboration with Mr. Kalyan Chakravarthy, Dept. of Physiotherapy, MCOAHS, Manipal University).
20. Development of chitosan fiber through pH assisted wet spinning for biomedical application (M.Tech. project in collaboration with Dr. Santanu Dhara, IIT Kharagpur).
21. Kinetic modelling of lower limb modeling (M.Tech. project in collaboration with Mr. Neelesh Kumar Biomedical Instrumentation Unit, CSIR-CSIO, Chandigarh).
22. CT-MR deformable image registration (M.Tech. project in collaboration with Mr. Yogish Mallya, Philips, Bangalore).
23. Image segmentation using singular value decomposition (M.Tech. project in collaboration with Dr. N. Pradhan, Dept. of Psychopharmacology, NIMHANS, Bangalore).
24. Design of sensor for non-invasive screening of diabetes (M.Tech. project performed at the Dept. of BME, MIT Manipal).
25. Non-contact assessment of heart-rate and heart-rate variability in zebrafish larvae and paediatric subjects (M.Tech. project performed at the Dept. of BME, MIT Manipal).

UG Research Projects:**In the Year 2013-2014:**

1. Computer-Simulation and Analysis of 3D Microscopy-data Through Visualization and Counting (B. Tech project performed at the dept. of BME, MIT)
2. Android based remote fall monitoring System (B. Tech project performed at the dept. of BME, MIT).
3. Non-invasive infant monitoring system using a CO₂ sensor (B. Tech project performed at the dept. of BME, MIT in collaboration with Dr. Leslie Edward Lewis, Professor, Dept. of NICU, KMC, Manipal.
4. Flexible Dentures using Velplast as base material (B. Tech project performed at the Dept. of BME, MIT).
5. Chitosan based cross-linked hydrogels as a carrier for the transport of indomethacin (B. Tech project performed at the Dept. of BME, MIT).
6. Design and analysis of vascular graft prototype (B. Tech Project performed at the Dept. of BME, MIT in collaboration with Prof. S M Abdul Khader, Asst. Prof, Dept. of Mechanical and Manufacturing Engg., MIT, Manipal.
7. Digital measurement of chest expansion (B. Tech project performed at the Dept. of BME, MIT, MIT in collaboration with Mr. Kalyan Chakravarthy , Associate Prof., School of Allied Health Sciences, MU, Manipal)
8. Movement Triggered Access System for people with Disabilities (B. Tech Project performed at the Dept. of BME, MIT).
9. Accelerometer Based Signature Acquisition and Verification (B. Tech Project performed at the Dept. of BME, MIT).
10. Integration of SpO₂ Module in a defibrillator (B. Tech project in collaboration with Mr. A. Ananth AGM, R&D BPL Medical Technologies Pvt. Ltd, Bangalore.
11. Non-invasive Estimation of blood glucose using near Infrared Spectroscopy (B.Tech project in collaboration with Dr. Shubhajit Roy Chowdhury, Asst. Prof., Centre for VLSI and Embedded systems, IIT- Hyderabad)
12. Design of hardware for the breath belt system (B. Tech project in collaboration with Mr. Manoj Kumar L, Systems Engineer R&D, Perfint Healthcare).
13. Cognitive state Assessment using EEG signal (B. Tech project in collaboration with Mr. Sushil Chandra, Scientist F, Head of Dept. of Biomedical, DRDO, Delhi)
14. Evaluation study of different parameters in automatic classification of pigment epithelium detachment (PED) from spectral domain optical coherence Tomography (SD-OCT) images (B. Tech Project in collaboration with Mr. Goplal Joshi, Sr. Research Associate, Carl Zeiss, Bangalore)
15. Transmission, Storage, & Retrieval of an Electrocardiogram using GPRS (B. Tech project performed at the Dept. of BME, MIT).

In the Year 2012-2013:

1. Optimization of bioreactor conditions for skeletal muscle development (B.E. project in collaboration with Dr. George Christ, Regenerative Medicine, Wake Forest University, North Carolina, USA).
2. Investigating synergistic enzyme-substrate interactions using polydiacetylene liposomes containing encapsulated enzymes (B.E. project in collaboration with Dr. Punit Kohli, Southern Illinois University, Carbondale, USA).
3. Redesigning imaging modalities for the Indian scenario (B.E. project in collaboration with Mr. Mahesh Borkar, Siemens Healthcare, Goa).

4. Non-Invasive Blood Glucose Monitoring System using Impedance Spectroscopy (B.E. project in collaboration with Dr. Sneh Anand, Centre of Biomedical Engineering, Indian Institute of Technology, Delhi and AIIMS).
5. Scoring Systems in an Indian ICU (B.E. project in collaboration with Dr. Prasanna Ganapa, Healthcare Informatics, Philips Healthcare India, Gurgaon).
6. Culturing Islet Cells on Amniotic Membrane (B.E. project in collaboration with Dr. Sasikala Mitnala, Asian Healthcare Foundation, Asian Institute of Gastroenterology, Hyderabad).
7. Upgradation of automatic testing equipment for efficient working of patient table used in MRI and improvement in electronic system of MR table's history record (B.E. project in collaboration with Mr. Amit Dandenevar and Ms. Kratika Gupta, GE Healthcare, Bangalore).
8. Designing Scaffolds for Cranio-Maxillo Facial Surgery (B.E. project in collaboration with Dr. Rolson Sandeep Amanna, Narayana Hrudayalaya, Multi Speciality Hospital & Mazumdar Shaw Cancer Center, Bangalore and Prof. S.M.A. Khader, Dept. of Mechanical & manufacturing Engineering, MIT, Manipal).
9. Smart-phone in teleradiology (B.E. Project performed at the Dept. of BME, MIT in collaboration with Dr. Chandrakanth Shetty, Dept. of Radiology, KMC, Manipal and Mr. Manjunath Maiya, Manipal University BoP program).
10. Non-Invasive Anemia Detector (B.E. Project performed at the Dept. of BME, MIT).
11. Selection of the implant thread pitch for optimal biomechanical properties: a three-dimensional finite element analysis (B.E. Project performed at the Dept. of BME, MIT in collaboration with Prof. S.M.A. Khader, Dept. of Mechanical & manufacturing Engineering, MIT, Manipal).
12. Microcontroller based baby monitoring and care system (B.E. Project performed at the Dept. of BME, MIT).
13. Redaction Human Area Networking (B.E. Project performed at the Dept. of BME, MIT).

In the Year 2011-2012:

1. An instrumented Glove for monitoring forces during object manipulation (B. Tech project performed at the Dept. of BME, MIT in collaboration with Mr. Ganesh M, Dept. of Physiotherapy, MCOAHS, MU).
2. Design of an impedance plethysmography device for detecting deep vein thrombosis (B. Tech project performed at the dept. of BME, MIT).
3. Design of a bio-fluid analyzer based on the conductance, pH and temperature of the fluids involved in hemodialysis (B. Tech project performed at the dept. of BME, MIT).
4. Eye Mouse (B. Tech Project performed at the dept. of BME, MIT).
5. Empirical characterization of solid lesions visible in sonomammography towards computer assisted diagnosis of breast tissue abnormality (B. Tech project performed at the dept. of BME, MIT).
6. Sleep Inducing device (B. Tech project performed at the dept. of BME, MIT).
7. Interactive Voice Recognition system (B. Tech Project performed at the dept. of BME, MIT).
8. Diabetes risk assessment using Artificial Neural Networks (B. Tech project performed at the dept. of BME, MIT).

9. Design and Characterization of cross-linked bead as matrix for biomedical applications (B. Tech project performed at the dept. of BME, MIT)
10. An electronic travel aid for the blind (B. Tech Project performed at the dept. of BME, MIT).
11. Bandpass enhancement of speech and music signals in hearing aid (B. Tech project performed at the Dept. of BME, MIT in collaboration with Mr. Kishan M.M, Dept. of Speech & Hearing, MCOAHS, KMC, Manipal)
12. Braille Clock (B. Tech project performed at the dept. of BME, MIT).
13. Breath Analyser (B. Tech Project performed at the dept. of BME, MIT).
14. Development of bio-polymer based films for application in wound healing (B. Tech project performed at the dept. of BME, MIT).
15. Alternative communication using blink detection (B. Tech project performed at the dept. of BME, MIT).
16. Detection of head and Neck cancer in histopathological slides using image processing techniques (B.Tech project in collaboration with Dr. Chandan Chakraborty, SMST, IIT, Kharagpur)
17. Detection of brain tumor from MRI using Image processing techniques (B.Tech project in collaboration with Dr. Chandan Chakraborty, SMST, IIT, Kharagpur)
18. Detection of Diabetic retinopathy using image processing techniques (B.Tech project in collaboration with Dr. Chandan Chakraborty, SMST, IIT, Kharagpur).
19. Brain image segmentation as a post-processing application in MRI (B.Tech project in collaboration with Mr. Malancha Hore, MR Viz team, GE Healthcare, Bangalore.)
20. Testing tool design for Digital I/O boards (B.Tech project in collaboration with Vinod Kumar Hampargundi, GE Medical System INDIA (pvt) Ltd.)
21. Scientific analysis of Ayurvedic Bhasmas and Homeopathic remedies (B.Tech project in collaboration with Dr. Jayesh R Bellare, Dept. of Chemical Engg., IIT, Bombay.)
22. Breast cancer detection system (B.Tech project in collaboration with Ms. Sneha Anand Centre for Biomedical Engg., IIT, Delhi)
23. Peripheral pulse analyser (B.Tech project in collaboration with Mr. Vineet Sinha, scientific officer (E), BARC, Mumbai)
24. Device for assessment of hand function for stroke patients (B.Tech project in collaboration with Dr. Manjunatha M, SMST, IIT, Kharagpur)
25. A comparative study and analysis of the lower limb function of stroke and healthy subjects and design of a model for sEMG linear envelope (B.Tech project in collaboration with Dr. Manjunatha M, SMST, IIT, Kharagpur)
26. Gaze controlled wheel chair (B.Tech project in collaboration with V.Anil Kumar, Sr. Scientist, ARDIN, Dept. of Space, Hyderabad)
27. Development of algorithms for 3D visualization and counting of DNA damage-spots in Lymphocyte nuclei from Fluorescence-microscope images (in collaboration with the Manipal Life Sciences Centre, Manipal University, 2011.

*** Number of papers published in peer reviewed journals (National/International): 18**

Journal Publications details:

1. Kanabagatte Nanjundappa Manjunath, Prabhu Karkala Gopalakrishna, Pattappa Chandrappa Siddalingaswamy In "Feasibility of Computed Tomography Colonography as a Diagnostic Procedure in Colon Cancer Screening in India" International Journal on Asian Pacific Journal of Cancer Prevention Vol 15., 5111-5116, 2014.

2. Sandeep Patil H.G. Dr. Ramkumar P.S. G.K. Prabhu Dr. Ajit N Babu “Methods and Devices to Determine Hemoglobin Non-Invasively: A Review” International Journal of Scientific Engineering and Technology Volume No.3 Issue No.7 pp. 934-937 (July 01, 2014)
3. Anitha H and G K Prabhu, Karunakar A K “Reliable and Reproducible Classification System for Scoliotic Radiographs using Image Processing” in Journal of Medical Systems,. Vol. 38, pp. 124-133, Springer, NY, USA, 2014 (DOI: 10.1007/s10916-014-0124-z)
4. Bhat Shreya, Acharya U. Rajendra, Adeli Hojjat, G. Muralidhar Bairy, Amir Adeli, “Automated diagnosis of autism: in search of a mathematical marker”, Journal of Reviews in the Neurosciences, Volume 25, Issue 6, pages 841-850, ISSN: 2191-0200, 14-08-2014.
5. Bhat Shreya, Acharya U. Rajendra, Adeli Hojjat, G. Muralidhar Bairy, Amir Adeli, “Autism: cause factors, early diagnosis and therapies”, Journal Reviews in the Neurosciences, Volume 25, Issue 6, pages 851-861, ISSN: 2191-0200, 12-09-2014.
6. Muralidhar Bairy G, Shreya Bhat, U C Niranjana, “Automatic Classification of Epileptic EEG signals using wavelet entropies and energies”, Journal of Medical Imaging and Health Informatics, Volume 4, Issue 6, pages 868-873, 1-12-2014.
7. Datta, Pallab and Thakur Goutam and Chatterjee, Jyotirmoy and Dhara, Santanu (2014) “Biofunctional Phosphorylated Chitosan Hydrogels Prepared Above pH 6 and Effect of Crosslinkers on Gel Properties Towards Biomedical Applications”, Soft Materials, 12. pp. 27-35. ISSN 1539-445X.
8. Pal, Kunal and Singh, Vinay K and Anis, Arfat and Thakur Goutam and Bhattacharya, Mrinal K (2013) Hydrogel-Based Controlled Release Formulations: Designing Considerations, Characterization Techniques and Applications. Polymer-Plastics Technology and Engineering, 52. pp. 1-31. ISSN 1525-6111.
9. Muralidhar Bairy , EE Ping NG Teik-Cheng Lim Subhagata C, “Automated identification of epileptic and alcoholic EEG signals using recurrence quantification analysis”, Journal of Mechanics in Medicine and Biology, Vol. 12, 1240028 (17pages), No. 05 10.1142/S021951, 2012.
10. Muralidhar Bairy, Dr Oliver Faust, ‘Non linear Analysis of Physiological Signals: A Review’, Journal of Mechanics in Medicine and Biology, Vol. 12, No. 4 1240015 (12pages) , World Scientific Publishing Company, 2012.
11. Keerthana Prasad, Jan winter, Udayakrishna M. Bhat, Raviraja Acharya, G. K. Prabhu, "Image Analysis Approach for Development of a Decision Support System for Detection of Malaria Parasites in Thin Blood Smear Images", *Journal of Digital Imaging*, vol. 25, issue 4, pp. 542-549, 2012. ISSN 0897-1889.
12. Keerthana Prasad, G. K. Prabhu, "Image Analysis Tools for Evaluation of Microscopic Views of Immunohistochemically Stained Specimen in Medical Research—a Review", *Journal of Medical Systems*, vol. 36, issue 4, pp. 2621-2631, 2012. ISSN 0148-5598.
13. Goutam Thakur, Shubhadeep Banerjee, Analava Mitra, Amit Basak, Journal of Tissue Engineering and Regenerative Medicine “Genipincrosslinkedgelatin hydrogel: tolbutamide release and cytocompatibility”, Vol 6 (Suppl.1), pp 1-429, 2012.
14. Keerthana Prasad, Bhagath P. kumar, Marx Chakravarthy, G. K. Prabhu, "Applications of ‘TissueQuant’– A color intensity Quantification tool for Medical research", Computer Methods and Programs in Biomedicine, vol. 106, issue 1, pp. 27-36, 2012. ISSN 0169-2607.
15. Goutam Thakur, Muhammad Ali Naqvi, Derick Rousseau, Kunal Pal, Analava Mitra, Amit Basak, "Gelatin-Based Emulsion Gels for Diffusion-Controlled Release Applications", Journal of Biomaterials Science, vol. 23, pp. 645-661, April 2012. ISSN 0920-506.

16. H. Anitha, G. K. Prabhu, "Automatic Quantification of Spinal Curvature in Scoliotic Radiograph using Image Processing", *Journal of Medical systems*, vol. 36, issue 3, pp. 1943-1951, Jan2012. ISSN 1573-689X.
17. H. Anitha, G. K. Prabhu, "Identification of Apical Vertebra for Grading of Idiopathic Scoliosis using Image Processing", *Journal of Digital Imaging*, vol. 25, issue 1, pp. 155-161, July 2012. ISSN 0897-1889.
18. Rohit Nayak, A.K. Pandey, Pramod Kumar and Ramesh R. Galigekere, "Estimation of the Fiber-composition of Fascia Using Colour Image Processing", *International Journal of Medical Engineering and Informatics*, Vol. 3, No. 2, 2011.

Conference Presentations:

1. Gaurav Bhalerao and Niranjana S., "K-means clustering approach for the segmentation of corpus callosum from brain magnetic resonance images", Proceedings of International conference on Circuits, Communication, control and computing I4C2014, November 21-22, 2014, pp. 387-390, MSRIT, Bangalore.
2. Nandish S., Gopalakrishna Prabhu, Rajagopal K. V., "Multimodal Medical Image Deformable Registration", in Proceedings of Computer Science and Information Technology, IACSIT, Vol. 59, 2014, ISBN: 978-981-07-9560-3.
3. Ruchira Panchal, Goutam Thakur, "Glutaraldehyde Crosslinked Chitosan-PVA Composite Films: A Promising Candidate for Wound Healing Management", in Manipal University Students Research Forum, MU publishers, 2014.
4. Divya , Rajeshwari R Kamath, Goutam Thakur, "Effect of Glutaraldehyde as Fixative in Modulating Swelling Profile on Gelatin- Chitosan Composites", Manipal University Students Research Forum, MU Publishers, 2014.
5. Phalgun Chowdhary Chintala, Sai Chetan Kumar Gudepu, Anirudh Mehta, Aditya Sandeep Goyal, Goutam Thakur, "Cross-linked Albumin Beed as a Matrix for Biomedical Applications", International conference on European cells and materials, Scandinavian Society for biomaterials, 2014.
6. Surabhi Singh, Goutam Thakur, "Development of Carrageenan Based Nanogel as Vehicle for Drug Release", in Manipal University Students Research Forum, MU Publishers, 2014.
7. Winston D'Souza R. and Devadas Bhat, "Lung Sound Analysis using Fast Fourier Transform (FFT) and Temporal Fast Fourier Transform (TFFT)", in Proceedings of the International conference on Advances in Engineering, Technology and Science, International Junction for Business Review and Modern manufacturing, India , 2014, pp. 161-165.
8. Dattaguru V. Kamath, P. V. Ananda Mohan, Gopalakrishna Prabhu K., "Bandwidth Enhancement of CFOA based Inverting Amplifier", International Conference on Electronics and communication System, Feb. 2014.
9. Syam Krishna, Kiranam Chatti, Lalit K. Mestha, and Ramesh R. Galigekere, "Algorithms for Automatic & Non-contact Assessment of the Cardiovascular System in Zebra Fish Larvae", *IEEE EMBS International Conference on Point-of-care Healthcare technologies*, Bangalore, India, Jan. 16-18, 2013, pp. 46-49.
10. Biman Chandra Dey, Nirmal B. and Ramesh R. Galigekere, "Automatic Detection of Acne Scars: Preliminary Results", *IEEE EMBS International Conference on Point-of-care Healthcare technologies*, Bangalore, India, Jan. 16-18, 2013, pp. 224-227.
11. Gaurav Singh, Sravya Boddu, Indroneel Chakravorty, G. Muralidhar Bairy, and Ganesh M, "An Instrumented Glove for Monitoring Forces During Object Manipulation", *IEEE-EMBS Point of care International Conference POC13*, Jan 16-18 2013, Bangalore, India.

12. Druv Mohan, Lalith Nag Sharan, Richeek Dey, Goutam Thakur, "A Systematic Approach to Peripheral Temperature Monitoring and its Biomedical Applications", 15th international Conference on Biomedical Engineering, Sringer International Publishing Switzerland, 831-833, 2013.
13. B.S. Satyanarayana, S. Niranjana, Shounak De, K. Sreelakshmi, & N. Rama Venkateswaran, "Room Temperature Grown Novel Multi-Layered Nano Carbons Based Vacuum Nanoelectronics Electron Emitters For Sensors & Lighting", 1st National Conf. on Micro and Nano Fabrication, Central Manufacturing Technology Institute, 20-21 Jan2013, Bangalore.
14. B.S.Satyanarayana, Shounak De, S. Niranjana, K. Swamy, K. Sreelakshmi N. Tribikram Gupta, Ramavenkateswaran, "Study Of A Novel Room Temperature Grown Semiconducting Nanocluster Carbon Thin Films For Use In Nano, Micro, Macro And Flexible Electronics", 1st National Conf. on Micro and Nano Fabrication, Central Manufacturing Technology Institute, 20-21 Jan2013, Bangalore.
15. Niranjana S., B S Satyanarayana and U C Niranjana, "AN INSTANTANEOUS APPROACH FOR NANOCARBON CLASSIFICATION", Dec. 5-6, 2013, 6th Bangalore India NANO2013. Lalith Ashok, 74(1), Bangalore (poster).
16. Dr. Goutam Thakur, Associate Professor, Dept. of Biomedical Engineering, presented paper on a topic entitled "Crosslinked gelatin matrices for controlled drug delivery" in the Third International Multicomponent Polymer Conference (IMPC2012) held at Kottayam, Kerala, India, March 23-25, 2012.
17. Niranjana S., et.al "Raman based study of Low Threshold Field emitting Nanocarbons", Electronic Design and Signal Processing, Narosa Pub. , Editors: Kumara Shama, K.P. Nayak and Somashekar Bhat, pp 117-120, 2012 [ISBN 978-81-8487-160-9].
18. S. Nandish, G. K. Prabhu, K. V. Rajagopal, "Fusion of Lateral Skull X_ray with the Sagittal Section of Brain MRI Images", in 2nd international conference on Biomedical Engineering and Assistive Technology, NIT, Jalandhar, 2012, ISBN: 13-978-81-92-5454-1-7.

* **Monographs:** Nil

* **Chapters in Books :**01

- Thakur G, Rousseau D, Rafanan RR (2013) 'Gelatin based matrices for drug delivery applications' In: Gelatin: Production, Application, and Health Implications; Eds, Gokhan Boran, Nova Science Publishers, Inc.; NY, USA, ISBN: 978-1-62417-671-5.

* **Edited Books:** Nil

* **Books with ISBN with details of publishers.**

Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.):

* Citation Index – range/average scholar)	10-163 (based on Google scholar)
	[Average Citation index = 76.25]
* SNIP	1.47 (Max)/1.08(Average)
* SJR	1.871(Max)/ 0.715(Average)
* Impact Factor – range/average	0.468(Min)-5.6(Max)
	[Average=1.08]
* h-index scholar]	Range: 2- 7/ average:4.5 [google scholar]

23. Details of patents and income generated

#	Patent Details.
1	<ul style="list-style-type: none"> • Ramesh R. Galigekere, Mikkel B. Sorensen, Rohit Nayak, P.J. Prakasa Rao, “Method and Apparatus for In vitro Analysis of the Physical Response of Blood Vessels to vaso-active Agents” (US Patent on the verge of being issued, in December; issued in Jan.: US8929622B2 – Galigekere et al Jan 06 2015). • Ramesh R. Galigekere, Rohit Nayak, Vishnu Prasad Shenoy, “Automated Tuberculosis Screening” – awarded by <i>Intellectual Ventures</i> towards patenting. Patent Application Number: PCT/IB2010/056049, 18-05-2012. Filed and in process towards issue.
2	Dattaguru. V. Kamat, P.V. Ananda Mohan, K. Gopalkrishna Prabhu “Ota-based current-mode filter and oscillator”(US patent) Title: ota-based current-mode filter and oscillator Patent ID: US20120161891 A1 Publication number: CN103201952 A Date of Issue: 13 Feb 2014

24. Areas of consultancy and income generated:

The Department is considering consultancy in the areas of Medical devices & Instrumentation, and Biomedical Image & Signal Processing.

25. Faculty selected nationally/internationally to visit other laboratories in India and abroad:

1. Dr. Ramesh Galigekere, Prof. & HOD, visited the Institute of Dr. Reddy’s Institute of Life Sciences, and also the *CR Rao Advanced Institute of Mathematics, Statistics and Computer Science* (both on the University of Hyderabad Campus, Hyderabad) on Dec. 19, 2012. The visit involved interaction with the scientists at the two places, and also a Guest lecture by Dr. Galigekere on image/signal processing techniques on the videos of zebrafish larvae.

26. Faculty serving in

#	National Committee	International Committee	Editorial Boards	Any Other
1	The Indian Council of Medical Research (ICMR) Project Review Committee	---	Dr. Ramesh R. Galigekere (a) Editor, the Journal of the Biomedical Engineering Society of India (JBMESI). (b) Reviewer to International Journals: JDI (Springer), Optical Engineering (SPIE), Journal of Electronic Imaging (SPIE), Circuits, Systems, and Signal Processing (CSSP, Springer), & IEEE Trans. Medical imaging (IEEE).	Dr. Ramesh R. Galigekere (a) Chair of ICBME 2011, on the Committee of IEEE Special Topic Conference on POCHT, Bangalore, India, 16-18 January, 2013.
2.	---	---	Dr. Niranjana S Reviewer: (a) International Journal of Image Mining (IJIM), Inderscience. (b) Int. J. of Computer Applications in Technology, Inderscience Publishers	---

27. Faculty recharging strategies:

Name of the Conferences / Workshops	National /International	Held on
Two day workshop on Soft Computing in Healthcare Applications (SOFT-COMP 2014)	National	March 28-29, 2014
IGSTC-sponsored Symposium, organized by the Dept. of Biomedical Engg. in association with the Innovation Centre, and pmTUC (Technical University of Chemnitz).	International	March 5-7, 2014
International Conference on Biomedical Engineering	International	10-12 December, 2012
National workshop on Medical Imaging (NWMI' 2010).	National	19-20 February, 2010
Workshop on MEMS- Biomedical Applications (MEMS'09)	National	21,22 March, 2009
National Conference on Biomedical Engineering (NCBME)	National	5,6 October, 2007
National Workshop on Biomechanics (NWBM)	National	4 October, 2007

No of Workshops attended by Faculty Members:

Year	No. of workshops attended
2014	07
2013	06
2012	09
2011	06
2010	14

28. Student projects:

Percentage of students (UG) who have done in-house projects including inter-departmental projects:

#	Year	Total No. of students	In house	Outside
1.	2014	32	25	7
2.	2013	23	14	9
3.	2012	47	36	11
4.	2011	24	13	11
5.	2010	33	13	20
Total		159	101	58
Total Percentage			63.5	36.4

Percentage of students (PG) who have done in-house projects including inter-departmental projects:

#	Year	Total No. of students	In house	outside
1.	2014	25	06	19
2.	2013	22	02	20
3.	2012	23	05	18
4.	2011	25	08	17
5.	2010	23	01	22
Total		119	22	97
Total Percentage			21	79

Percentage of students doing projects in collaboration with other universities/industry/institute:

#	Year	Total No. of Students	Percentage of students doing collaborative projects
1.	2014	57	46
2.	2013	46	65
3.	2012	70	41
4.	2011	49	57
5.	2010	56	75

29. Awards/recognitions received at the national and international level by

Faculty Achievements:

- Dr. Ramesh R. Galigekere, Professor & HOD, Dept. of Biomedical Engineering, has been elevated to a *Senior Member*, IEEE, in 2013.
- Dr. Ramesh R. Galigekere, Professor & HOD, Dept. of Biomedical Engineering, is the Editor of the Journal of Biomedical Engineering Society of India.

- Two of the invention disclosures of Dr. Ramesh R. Galigekere were awarded by Intellectual Ventures towards patenting; patent-applications have been filed. The two are on the verge of being awarded.
 1. Ramesh R. Galigekere, Mikkel B. Sorensen, Rohit Nayak, PJ. Prakasa Rao, “Method and Apparatus for In vitro Analysis of the Physical Response of Blood Vessels to Vaso-active Agents”, Patent Application Number 20110135171
06-09-2011.
 2. Ramesh R. Galigekere, Rohit Nayak, Vishnu Prasad Shenoy, “Automated Tuberculosis Screening” – awarded by Intellectual Ventures towards patenting. Patent Application Number: PCT/IB2010/056049, 18-05-2012.
- Dr. Goutam Thakur is the recipient of European Doctoral Award (EDA) in 2012 by European Society of Biomaterials (ESB). Please check this link (<http://www.esbiomaterials.eu/index.php?cid=Education>) for details.
- Dr. Goutam Thakur was awarded a grant to support Post Doctoral Research, by Manipal University in 2012.

Student Achievements:

- Ms. Praneeta Rajeshwari K & Ms. Srinidhi Ragunathan of Final year B.Tech, Biomedical Engg. are the winners of MIT-Strathclyde Mukti challenge held at MIT, Manipal during October, 2014. These students will be participating in a programme organized by Strathclyde University, Glasgow, Scotland in January, 2015.
- Lalith Nag and Richeek Dey presented a paper (poster presentation) titled ‘A Systemic Approach to Peripheral Temperature Monitoring and its Biomedical Applications’ at the 15th International Conference on Biomedical Engineering held at NUS, Singapore from Dec 4th-7th, 2013.
- Richa Mishra, II year M.Tech, Biomedical Engineering (with Mr Devdas Bhat, Senior Lecturer) bagged the first Prize, at AAROHAN 2009 – Inter College Paper Presentation organized by Wipro Technologies.
- Anuradha Swaminathan, II year MTech student in Biomedical Engineering. (with Mr. G. Muralidhar Bairy, Selection Grade Lecturer) MIT Manipal bagged the “Outstanding Intern” Award from Philips Healthcare, Bangalore for her work “Removal of calcification from arteries in coronary CT Angiography data”
- Swathi Suran, II Year M.Tech student in Biomedical Engineering. MIT, Manipal, pursued her major project at Indian Institute of Science, Bangalore (Nanotechnology), Intern – Purdue University, Indiana, USA.

- Abhinith Ambastha a fourth year student of Biomedical Engineering along with two third year students of Computer Science and Engineering, Karthik Mandaville and Saurabh Suman, have written a Facebook Application "Autobudder" by which friends can be wished on birthdays automatically without logging in. This application was selected by ACM and has been incorporated by Facebook Corp in its Facebook application. As of 17November, 2010 this application has been used by more than 2.28 lakh people and have 1100 registered users

30. Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any.

Two day workshop on Soft Computing in Healthcare Applications (SOFT-COMP2014) during March 28-29, 2014.	Dr. Ganesh Murthy	Coordinator (Training & Consultancy), Mercedes-Benz Research & Development India Pvt. Ltd., Bangalore
	Mr. Harikrishna Rai	Research Analyst, Lead-Image and video analytics Group, Infosys Labs, Bangalore
	Dr. Niranjana U C	Director (Research and Training),
	Mr. Rajendra Kurady	Senior Manager, Philips, Bangalore
	Dr. Ram Mohan Reddy	Chairman, Central Computer Center, Professor, Dept. of IT, NITK, Surathkal
	Dr Sriram	Prof. & HOD, Dept. Medical Electronics, MSRIT, Bangalore
	Mr. Gautham Raj	Mercedes-Benz Research & Development India Pvt. Ltd., Bangalore
IGSTC-sponsored Symposium, funded by IGSTC, March 5-7, 2014, organized by the Dept. of Biomedical Engg. in association with the Innovation Centre, and pmTUC (Technical University of Chemnitz). Source of Funding: IGST (INR 20,000.00)	ChA Dr. Med. Sven Seifert	Klinikum Chemnitz (company)
	Dr.-Ing. Arved C. Hübler	TU Chemnitz (university)
	Dr. Ramesh R. Galigekere	MIT, Manipal University
	Dr. Günter Tovar Fraunhofer	IGB Stuttgart
	Dr. Manohara M. Pai	Manipal University
	Dr.-Ing. Stephan Denwald,	TU Chemnitz
	Dr. M. Manjunatha	IIT Kharagpur
	Dr.-Ing. Klaus Radermacher,	RWTH Aachen
	Dr. Chandra Sekhar Seelamantula,	IISc Bangalore
	Dr.-Ing. Friedrich Ueberle,	HAW Hamburg
	Vikram Mehta, M. Sc., Dr. Jürgen Steimle,	MMCI Uni Saarland
	Dr. Vishnu Prasad,	Kasturba Medical College Manipal
	Shyam Vasudeva Rao	Forus Health Pvt. Ltd, Bangalore
	Dr. G.K. Prabhu,	Manipal University
Dr. K. Satyamoorthy	Manipal University	

	Dr. Jörg Nestler; Prof. Dr. Thomas Geßner,	TU Chemnitz
	Dr. Rajagoapl K. V.	Kasturba Medical College Manipal
	Dipl.-Ing. Walter Wirths; Prof. Dr. Bernhard Wolf	TU München
	Dr. A.G. Ramakrishnan,	IISc Bangalore
	Dr. Kiranam Chatti,	University of Hyderabad
	Prof. Dr. Dipl.-Phys. Jürgen Stettin	HAW Hamburg
	Dr. C. Santhosh	Manipal University
	Justin Lange, M.A.; Prof. Dr. Thomas L. Milani,	TU Chemnitz
International Conference on Biomedical Engineering (ICBME 2011)10-12 December , 2011	Dr. Jayaram K Udupa	Chief Medical Image Processing Group Dept. of Radiology University of Pennsylvania Philadelphia, USA
	Dr. A. G. Ramakrishnan	Professor, Dept. of Electrical Engineering, IISc, Bangalore
	Dr. P Kyriacou	Prof. Biomedical Engineering Director, Biomedical Engineering Group School of Engineering and Mathematics, City University, London, UK
	Robert J Stokes	Nanoink, USA
	Mr. L Ramanan	CEO, RAISE Consultancy Services, Bangalore, India
	Dr. Soumyo Mukherji	Department of Bioscience and Bioengineering, Centre for Research in Nanotechnology and Sciences, IIT Bombay, India
	Dr. S. Radhakrishnan	Biomedical Engineering Group, IIT Madras, Chennai, India.
	Dr. Ameet Kumar Jain	Senior member-Research Staff Philips Research North America, NY
	Dr. Amit Kale	Programme Manager, Siemens Corporate Research & Technologies, Bangalore, India
	Dr. Chandra Sekhar Seelamantula	Assistant Professor, Department of Electrical Engineering, IISc, Bangalore
	Dr. Rama B. Bhat	Professor, Department of Mechanical and Industrial Engineering, Concordia University.
	Dr. Simona Badilescu,	Concordia University, Montreal, Canada (Author of the Book BioMEMS: Science and Engineering Perspectives, CRC Press)

Two day preconference tutorial, December 8-9, 2011 (ICBME2011)	Dr. A G Ramakrishnan	Professor, Department of Electrical Engineering, IISc, Bangalore
	Dr. Jayaram K. Udupa	Chief Medical Image Processing Group, Department of Radiology University of Pennsylvania Philadelphia, USA
National Workshop on Medical Imaging, NWMI 2010 19,-20 February, 2010	Dr. Ramesh Venkateshan	Principal Engineer (MR Pulse Sequence/Application Engineering) GE Healthcare, Bangalore
	Mr. Vinay V. Chaugule	Senior Design Engineer GE Healthcare, Bangalore
	Dr. Phaneendra K Yalavarthy	IISc, Bangalore
	Mr. Ramakanth.V. R	System Specialist, GE Healthcare, Bangalore.
	Dr. Uma Ranjan	Philips Electronics India Ltd, Bangalore
	Dr. Sathish Babu M	Department Radiology, KMC, Manipal
Two Day workshop on MEMS-Biomedical Applications 21,22 March, 2009	Prof. K. N Bhat	Visiting Professor, Department of Electrical Communication, Engineering, IISc, Bangalore
	Dr. Manoj Varma	Assistant Professor, Electrical Communication Engineering, IISc, Bangalore
	Mr. Nikil Mishra	Project Leader GE Healthcare, Bangalore
	Mr. Kunal K Trivedi	Senior Application Engineer, Bigtec Private Limited, Bangalore.

Sources of funding:

CSIR - INR 75,000/-

ICMR - INR 25,000/-

Karnataka Biotechnology and Information Technology Services (KBITS), Bangalore: INR 50,000/-

31. Code of ethics for research followed by the departments: As per Manipal University guidelines code of ethics is followed for research activities in the department. The Code is ethics intended to provide guidance that informs and is helpful to education researchers in their research, teaching, service, and related professional work. Code of ethics is monitored and reviewed by the ethics committee of the University.

THE ROLE AND RESPONSIBILITIES OF ETHICS COMMITTEE (EC)

The basic responsibility of EC is to ensure a competent review of all ethical aspects of the project proposals received and execute the same free from any bias and influence that could affect their objectivity. EC should provide advice to the researchers on all aspects of welfare and safety of the research participants after ensuring the scientific soundness of the proposed research through appropriate Scientific Review Committees. In smaller institutions the EC can up the dual responsibility of Scientific and Ethical Review.

The responsibilities of an EC can be defined as follows:

- To protect the dignity, rights and well-being of the potential research participants.
- To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs.
- To assist in the development and the education of a research community responsive to local health care requirements.

32. Student profile course-wise:

Name of the Course (UG) (refer to question no. 4)	Applications received	Selected		Pass Percentage	
		Male	Female	Male	Female
2013-2014	Admission is being done as per Manipal University admission policy	20	12	90	100
2012-2013		09	15	78	100
2011-2012		17	10	88	100
2010-2011		20	12	90	100
2009-2010		14	15	50	100

Name of the Course (PG) (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
2013-2014	Admission is being done as per Manipal University admission policy	07	18	100	100
2012-2013		12	11	92	100
2011-2012		12	11	100	100
2010-2011		08	17	100	100
2009-2010		19	04	100	100

33. Diversity of students

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
UG in Biomedical Engineering	---	---	---	5
PG in Biomedical Engineering	4	60	36	0

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

UG in Biomedical Engineering:

Year	No. of Students Enrolled	GATE	GRE	TOEFL	IELTS	MAT	CAT
2011-2012	27	-	10	06	-	-	-
2012-2013	23	-	11	10	-	01	02
2013-2014	30	-	06	05	-	-	-

PG in Biomedical Engineering:

Year	No. of Students Enrolled	GATE	GRE	TOEFL	IELTS	MAT	CAT
2011-2012	23	-	-	-	-	-	-
2012-2013	23	-	-	-	-	-	-
2013-2014	25	6	-	-	-	-	-

35. Student progression in percentage

Student Progression			
Year	2012	2013	2014
UG to PG	22	65	41
PG to MPhil	00	00	00
PG to PhD	4	9	4
Ph.D. to Post-Doctoral	00	00	00
Employed Other than campus recruitment (UG)	4.4	14	6
Employed Other than campus recruitment (PG)	32	60	84
Entrepreneurs	0	5	4

Campus Placement-UG

Year	No. of eligible students	students placed	Percentage
2013-2014	22	07	32
2012-2013	17	09	53
2011-2012	33	28	85

Campus Placement-PG

Year	eligible students	students placed	Percentage
2013-2014	25	03	12
2012-2013	22	07	32
2011-2012	25	02	08

Major Companies visited for the Placements:

Philips Medical Systems, Wipro –GE Medical Systems, GE Health Care, TCS, WIPRO, Infosys, I-Flex, Patni, Cognizant, IBM, Accenture, Cerner health care, Philips Innovation, L&T, Mphasis, Philips Electronics Limited, HCL Limited, Volmo, Beckman Coulter, Skanray Healthcare pvt. Ltd., Dolcera.

36. Diversity of staff

Percentage of faculty who are graduates	B.E In %	MTech In %	PhD In %
of the same university	9	18	9
from other universities within the State	64	73	0
from universities from other States	27	9	18
from universities outside the country	00	00	9

37. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period

1. GoutamThakur, Associate Professor had defended his thesis on 9 September, 2011 and awarded PhD from IIT Kharagpur.
2. Niranjana S, Associate Professor (Sr. Scale) had defended and awarded PhD form Manipal University, May 4, 2013.

38. Present details of infrastructural facilities with regard to

a) Library

We are supported by a very good central Library with more than 5,250 titles classified under Biomedical Engineering.

The Central library also has the following facilities:

- Abundant Audio visual aids and CD ROMs.
- Subscription to more than 60 print and online technical journals related to Biomedical Engineering

The department has its own library for the benefit of all the faculty members and the students. All faculty members are provided with internet facility. They have access (electronic) to IEEE and other journals/proceedings.

- Total number of books in the department library: 191
- Total number of computers: 51

b) **Internet facilities for staff and students**

Faculty members: 19 Students: 75 (Lab terminals)

Wi-Fi enabled campus

c) **Total number of classrooms:** 03

d) **Class rooms with ICT facility:** 03

e) **Students' laboratories**

#	Laboratory
1	Biomedical Instrumentation Laboratory
2	Electronics Laboratory
3	Microprocessors/Microcontrollers/Computing Laboratory

f) **Research laboratories:**

#	Laboratory
1	PG Research Laboratory
2.	Physiological Signal Acquisition Lab
3.	Medical Imaging Research Suite

39. List of doctoral, post-doctoral students and Research Associates –4 PhD Students

a) **From the host university:**

#	Name of PhD Student
1	G. Muralidhar Bairy
2	Syam Krishna
3	Manjunath K.N
4	Shashi Kumar G S

b) **From other universities:** Nil

40. Number of Post graduate students getting financial assistance from the university:

#	Name of Student	Academic Year	Financial Assistance (₹)
1. 2. 3. 4. 5.	Aneesha Acharya K Karthika S. Gopinath M. L. Narendran Saurabh Sindhu K Venkat	2009-2010	PG Teaching Assistantship of 5,000/= p.m. per candidate
1. 2. 3. 4.	Rini Mathew Riya Mariam Zachariah Surya D Elizabeth George	2010-2011	PG Teaching Assistantship of INR 5,000/= p.m. per candidate
1. 2. 3.	Yamini Reeja Antony Praveer Sihota	2011-2012	PG Teaching Assistantship of INR 5,000/= p.m. per candidate
1. 2. 3. 4. 5.	Tanya Susan Mathews (Reg.No.120912002) Anvita Dharmarajan (Reg.No.120912010) Shreya Bhat (Reg.No.120912012) Swathy P (Reg.No.120912017) Rakshitha K.G. (Reg.No. 120912018)	2012-2013	PG Teaching Assistantship of INR 5,000/= p.m. per candidate
1. 2. 3. 4.	Kayande Anup Ramesh (Reg.No.130912009) Tarun Gangil (Reg.No.130912019) Bhalerao Gaurav Vivek (Reg.No.130912011) Shamlin Sunny (Reg.No.130912028)	2013-2014	PG Teaching Assistantship of INR 5,000/= p.m. per candidate

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

The M.Tech and B.Tech programmes were started by the University in 1989 and 1996 respectively, based on inputs from academicians, industry, hospitals and other stakeholders; the presence of Kasturba Medical College was particularly a strong motivating factor for starting the courses.

42. Does the department obtain feedback from

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Through periodic meetings of department curriculum committee (DCC) and of the Board of Studies (BOS), suggestions/revisions approved by BOS/Academic Senate will be implemented.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Discussed in the class committee meetings and then presented to Department Curriculum Committee for further recommendations.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

Alumni/industry feedback also used for updating theory and laboratory courses.

43. List the distinguished alumni of the department (maximum 10)

SI #	Name of the Alumni and contact Details.
01	Dr. Gopalakrishna Prabhu K (1994, M.Tech.) Director (Earlier was the Registrar of Manipal University) MIT, Manipal University , MANIPAL - 576104, India E-mail: gk.prabhu@manipal.edu Phone: +91-820-2922323 (Off), +91-820-2574014 (Res) 91-820-2570062
02	Dr. Rajendra Acharya U (1997, M.Tech) Visiting faculty, Dept. of ECE, Ngee Ann Polytechnic, 535, Clementi Road, Singapore, 599489. E-mail: aru@np.edu.sg Tel: 65 - 6460 6135 Fax: 65-64678697
03	Dr. N. Sriraam (2000, M. Tech.) New no.2 VII Main Road, Dhandeeswarar Nagar, Velachery, Chennai 600 042. Tamil Nadu, Contact No - 044 2243 4589/09962520546 Email ID - sriraamn@ssn.edu.in / natarajan.sriraam@gmail.com
04	Dr. S. Poornachandra (1994, M. Tech.) Dean - IQAC at SNS College of Engineering, Coimbatore Email: pcmed8@gmail.com E-mail:
05	Gaurav Agarwal (1996, B.E) Director at Innvolution Health care Pvt Ltd INNVOLUTION HEALTHCARE PVT. LTD. 106, Roots Tower, Laxmi Nagar District Center, Laxmi Nagar, New Delhi - 110092 (INDIA) Telephone: +91-11-22526593 / 94 / 98, TeleFax: +91-11-22526595 Mobile Phone: 9560211559 Email: agarwagaurav@gmail.com

06	Kurady Rajendra (1997, BE) Co Founder & Director RTWO Healthcare Solutions, Bangalore Email: raj.kurady@gmail.com
07	Gajanan Nagarsekar (2005, M.Tech.) Managing Director at Kallows India, Goa, India Address: S-7, Second Floor, Pai House, Sadar, Ponda Goa 403401 Email: gajanan.nagarsekar@gmail.com Phone +91-7875882820 (Mobile)
08	Gracee Agrawal (2006, B.E) Research Lead (Health Technology) at Apple Email: gracee.85@gmail.com
09	Venkatesh Mani (1996, B.E) Assistant Professor at Mount Sinai School of Medicine, New York, USA Assistant Professor, Radiology Director, Cardiovascular Imaging Clinical Trials Unit Translational and Molecular Imaging Institute Icahn School of Medicine, Mount Sinai Email: jillan75@yahoo.com
10	Sastry Vedam (1996, B.E) Assistant Professor, University of Texas M D Anderson ,Cancer Center, USA Email: vedam.sastry@gmail.com , svedam@mdanderson.org Phone:713-792-0383

44. Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts.

Year	Workshops	Invited Talks/Guest Lectures
2014	02	05
2013	Nil	02
2012	Nil	04

Experts invited

- Dr. Vibhor Agrawal, Assistant. Professor, Miller School of Medicine, University of Miami, Florida, U.S.A., has delivered a talk on “ Current Trends and Prospects in Rehabilitation”, and explore possible collaboration during February 08, 2013.
- Dr. L. L. Raj Rodrigues, Department of Humanities& Social Sciences, MIT, Manipal, has delivered a Lecture “Ethics” (Code of ethics for research followed by the departments: As per MIT/MU policy) On12October 2012.

- Dr. Gopalakrishna Prabhu K, Registrar, Manipal University & Professor, Dept. of Biomedical Engineering, MIT, Manipal, delivered a talk on “Scope of Biomedical Engineering” for UG & PG students on October 08, 2012.
- Dr. N. Sriram, Professor & Head, Department of Biomedical Engineering, SSN College of Engineering, Chennai, delivered a series of Guest Lecture under the following topics on" Perspective of Biomedical Signal Processing for Clinical Diagnostic Applications" on 24February , 2012.
- Prof. Raymond, NTU, Singapore addressed the final year UG and M.Tech students and had discussions with HOD and faculty members on 29, 30March 2012.
- Prof Arvind P Kudchadkar, Professor Emeritus, IIT, Bombay visited the department on 28 March 2011 and interacted with UG and PG students.
- Prof Kyriacou of City University, London, UK, visited the department on 2 March 2011 and interacted with Postgraduate students.

Name of the Conferences / Workshops	Date
Two day workshop on Soft Computing in Healthcare Applications (SOFT-COMP2014)	March 28-29, 2014.
IGSTC-sponsored Symposium, funded by IGSTC, organized by the Dept. of Biomedical Engg. in association with the Innovation Centre, and pmTUC (Technical University of Chemnitz).	March 5-7, 2014
Pre-Conference Tutorials on 1) Insights into Signal Processing, Transforms and Linear Algebra 2) Medical Image Segmentation: Principles, Methods and Practice	8-9, December 2011
National workshop on Medical Imaging (NWMI'10)	19 and 20 February , 2010
Workshop on MEMS- Biomedical Applications (MEMS'09)	21and 22March , 2009

45. List the teaching methods adopted by the faculty for different programmes.

Regular black-board teaching supported by power-point presentations, assignments, quizzes, Peer-learning (through Tutors), and Tutorial Sessions. Setting appropriate question papers is also a part of the teaching-learning process.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- Through continuous evaluation of students through in-semester tests, quizzes, assignments
- Periodic class committee meetings are also conducted to get feedback/suggestions from faculty members as well as students. Feedback from alumni is also taken.
- Result-analysis after examinations
- Counselling of poor-performers after each examination.
- Regular revision of syllabi
- Inputs from the placement cell

47. Highlight the participation of students and faculty in extension activities.

- Participation in social and voluntary organizations.
- Participation in student clubs
- Participation in faculty club activities
- Participation in sports activities
- Participation in several competitions e.g., Strathclyde-MIT-Mukti Challenge funded by Strathclyde University, Glasgow, UK.

48. Give details of “beyond syllabus scholarly activities” of the department.

- The Department has the editor of Journal of the Biomedical Engineering Society of India
- Some of the faculty-members are reviewers of reputed National & International journals and conferences
- The Manipal Chapter of BMESI conducts activities for the students of Biomedical Engineering
- The Department has provided training to selected students of BTech, in collaboration with and also funded by the Strathclyde University, Glasgow, UK, through a competition “Strathclyde-MIT-Mukti Challenge” (an international challenge), in the area of Prosthetics and Orthotics. The winning team gets a paid internship to Strathclyde University and also the Mukti clinic, Chennai, India.
- Faculty participate regularly as resource persons at various reputed forums in the country
- Faculty are engaged in R&D projects
- Students are often engaged informally on interesting biomedical engineering projects – not necessarily as a part of the curriculum.

49. State whether the programme/department is accredited / graded by other agencies? If yes, give details.

- The UG program- NBA accredited for 5 years from 2007. Reaccreditation process is in progress.
- The PG program- NBA accredited for 3 years from 2007. Reaccreditation process is in progress.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

- The courses offered by the Department involve training the students to be competitive engineers. In addition, the essentials of clinical subjects are taught by experts from a reputed medical college i.e., the Kasturba Medical College – which also a part of Manipal University. This is a unique advantage the Department has, and is regarded highly in the country, as acknowledged by the (NBA) committee set up by the AICTE, during its previous visit. Not surprisingly, the Department has been producing several outstanding biomedical engineers every year.
- Many of our Alumni have pursued higher studies at some of the top universities in the world. Our program is thus established to be excellent for higher studies, and the opportunities are being rightly exploited by our students.
- Many of our Alumni are working at top multi-national companies such as GE Healthcare, Siemens Healthcare and Philips Healthcare.
- The field of biomedical engineering is excellent for entrepreneurship; indeed, some of our alumni have started their own companies.
- The Department is engaged in several academic research projects, which have resulted in several scientific findings, published the form of papers in journals and conferences. Many projects have been performed in collaboration with the KMC, Manipal.
- The Department has engaged itself in several innovative projects, resulting in the filing of patent-applications; one patent has already been awarded, while the other two are in the final stages of processing (a list has been provided in this report).
- The Department has been mentoring several research (PhD) scholars, in multi-disciplinary areas.
- Areas in which we have been productive: Biomedical Signal Processing, Medical Imaging/Image Processing

51. Future plans of the department.

- Steering the Department towards becoming a Centre of Excellence in Biomedical Engineering – this includes areas such as image/signal processing applications, and medical devices.
- The department is seriously planning on establishing new laboratories – to cater to R & D, and also to student-training, through Govt.- and/or industry-grants, or even otherwise.
- Recruitment of competent faculty with PhDs from reputed Universities in India and abroad.
- Recruitment of Adjunct Faculty from reputed Industry/organizations towards supporting the ambitions of the Department.
- Support research by recruiting funded (external) PhD scholars at the Department
- Encourage innovation, filing of patents and licensing of products (including software).
- Consultancy work
- Enhance interaction with foreign universities, towards collaborative research and education program.
- Spreading awareness regarding Biomedical Engineering throughout the country, in various ways.

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strength:

- (i) The presence of the reputed Kasturba Medical College under the umbrella of the same (Manipal) University, supporting the program by involving in teaching many clinical courses with demonstrations, offering laboratory support, and also by creating opportunities for R &D projects e.g., development of medical support systems and devices for clinical applications – is a major strength of the Department.
- (ii) The presence of other institutions, such as Manipal College of Pharmaceutical Sciences, Manipal College of Dental Sciences, and School of Life Sciences – under the umbrella of Manipal University itself, are also of great support in providing facilities when required, and also defining projects, etc.
- (iii) A combination of (i) and (ii) puts the Department of Biomedical Engineering at the MIT, Manipal – on a unique pedestal.
- (iv) Well qualified and experienced faculty members with diverse specialisations.

(Medical Imaging & Image Processing, Signal Processing, Medical Devices & Instrumentation, Pattern Recognition, Nano-electronics, Biomaterials & Tissue engineering, Biomechanics)

- (v) State of the art Infrastructure.
- (vi) Excellent internship-opportunities in both local and multinational companies, and also organizations in India and abroad.
- (vii) Excellent program for higher studies and research.
- (viii) Excellent for entrepreneurship

Weakness:

- i. Geographical location – Manipal is away from industrial hubs like Bangalore.
- ii. The number of companies in the domain is (relatively) somewhat limited.
- iii. Highly specialized and also multi-disciplinary, due to which the awareness of this fascinating program needs to reach the people throughout the country, much more strongly.

Opportunities:

- i. Proximity to the Kasturba Medical College under the umbrella of the same (Manipal) University, supporting the program by involving in teaching many clinical courses with demonstrations, offering laboratory support, and also by creating opportunities for R &D projects e.g., development of medical support systems and devices for clinical applications – provides unprecedented opportunities to both the students and the Faculty.
- ii. Proximity to institutions such as Manipal College of Pharmaceutical Sciences, Manipal College of Dental Sciences, and School of Life Sciences – under the umbrella of Manipal University itself, enhances opportunity for teaching, leaning, and collaborative projects.
- iii. Excellent opportunity for entrepreneurship. This opportunity is strengthened by the Innovation and incubation centres supported by Manipal University. Indeed, the promotion of the concept of “make in India” by the Govt. is very timely, and turns out to be a great opportunity to our Students and Faculty.
- iv. The program, involving state-of-the-art training to students, is excellent for higher studies and research.
- v. Multi-disciplinary training.

Challenges:

- i. Spreading awareness of the richness and uniqueness of this program, and the great opportunities it offers – be it in terms of teaching-learning, research, innovation and entrepreneurship – and future prospects: Biomedical Engineering is expected to be the second most sought after fields in the near future – needs to be propagated effectively.
- ii. Attract good faculty/industry participation in spite of being far away from major city/industry hub such as Bangalore.

1. **Name of the Department: Department of Biotechnology**

2. **Year of establishment:** 2005-06

3. **Is the Department part of a School/Faculty of the university?**

Department is part of Manipal Institute of Technology, Manipal

4. **Names of Programmes/Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)**

- UG: B.Tech - Biotechnology,
- PG: M.Tech - Industrial Biotechnology, M.Tech- Biochemical Engineering
- PhD - Biotechnology

5. **Interdisciplinary courses and departments involved:**

SL.No.	Details of the Program	Interdisciplinary Course	Department involved
1.	B.Tech Biotechnology	Transport Phenomena	Chemical Engineering
2.		Biomedical Instrumentation	Biomedical Engineering
3.		Financial Management	Humanities and Social Sciences
4.		Engineering Economics and Essentials of Management	Humanities and Social Sciences
5.		Engineering Mathematics-III	Mathematics
6.		Engineering Mathematics-IV	Mathematics
7.	M.Tech -Industrial Biotechnology	Research Methodology and Technical Presentation	Humanities and Social Sciences
8.		Mathematical and Numerical Techniques in Chemical & Biological Engineering	Mathematics
		Energy & Environment	Civil Engineering
9.	M.Tech- Biochemical Engineering	Research Methodology and Technical Presentation	Humanities and Social Sciences
10.		Mathematical and Numerical Techniques in Chemical & Biological Engineering	Mathematics

6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:**

B.Tech Biotechnology and M.Tech-Industrial Biotechnology curriculums have been designed by taking reviewers feedback from reputed universities such as I.I.T Madras, I.I.T. Bombay and CSIR research institutes like IICT Hyderabad & CFTRI Mysore.

7. **Details of programmes/courses discontinued, if any, with reasons:** NIL

8. **Annual/Semester/Choice Based Credit System:** Semester Based 10-point Credit System

9. Participation of the department in the courses offered by other departments:

Programme	Semester	Course offered
Undergraduate	Fourth Semester	I. Biology for Engineers II. Introduction to Bioinformatics
	Sixth Semester	i. Industrial Biotechnology
Postgraduate	Second Semester	i. Animal and Plant Biotechnology, ii. Biofuels Engineering, iii. Bio-Nanotechnology,

10. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)

Designation	Sanctioned	Filled
Professor	03	01*
Associate Professor	06	05*
Assistant Professor	14	17
Total	23	23

*Based on University Criteria fulfilment, the present faculty members are eligible for the position in future.

11. Faculty profile with name, qualification, designation and specialization

Sl. No	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students guided for the last 4 years
1	Dr. V Ramachandra Murty	MTech., PhD	Professor	Biochemical Engineering	22	7
2	Dr M. Ramananda Bhat	MTech., PhD	Associate Professor	Chemical Engineering	16	-
3	Dr S. Balaji	MPhil, PhD	Associate Professor	Bioinformatics	12	2
4	Dr Bharath Raja Guru	MTech., PhD	Associate Professor and Head	Nanomedicine Biomaterial, Drug delivery	18	2
5	Dr S. Raja	MTech PhD	Associate Professor	Biotechnology	12	-
6	Dr V. Thivaharan	MTech PhD	Asst. Professor (Senior scale)	Biotechnology	9	-
7	Mr V. Ramesh	MTech	Asst. Professor	Biotechnology	8	-

Sl. No	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students guided for the last 4 years
			(Senior scale)			
8	Mr P. Muthukumaran	MTech	Asst. Professor (Senior scale)	Biotechnology	7	-
9	Mr N. Kannan	MTech	Asst. Professor (Senior scale)	Industrial Biotechnology	6	-
10	Mr K. S. Mukunthan	MTech	Asst. Professor (Senior scale)	Industrial Biotechnology	6	-
11	Dr Ritu Raval	M.Sc., PhD	Asst. Professor	Enzyme Biotechnology	8	-
12	Mr J. Rajesh	MTech	Asst. Professor	Chemical Plant Design	6	-
13	Ms S. Subbalaxmi	MTech.	Asst. Professor	Biotechnology	6	-
14	Ms M. Lavanya	MTech.	Asst. Professor	Industrial Biotechnology	6	-
15	Dr Divyashree	PhD	Asst. Professor	Microbiology & Biotechnology	01	-
16	Dr Naresh Kumar Mani	PhD	Asst. Professor	Bio-nano Technology	01	-
17	Dr Vijendra Prabhu	PhD	Asst. Professor	Cell Biology and tissue regeneration	01	-
18	Dr Praveen Kumar	PhD	Asst. Professor	Stemcells & cancer	10	-
19	Dr Narasimhan	PhD	Associate Professor	Plant Biotechnology	10	-
20	Ms Archana Rao	MTech	Asst. Professor	Industrial Biotechnology	1	-
21	Ms Salma Taj	MSc	Asst. Professor	Biochemistry	11	-
22	Ms Vrunda R	MSc	Asst. Professor	Microbiology	05	-
23	Dr Ganesh	PhD	Asst. Professor	Biochemistry	02	-

12. List of senior Visiting Fellows, faculty, adjunct faculty, emeritus professors:

Name of the Faculty	Designation and Address	Adjunct faculty/visiting fellow
Dr Guhan Jayaraman	Professor, Dept of Biotechnology, I.I.T-Madras	Adjunct faculty
Dr Amir Khan	Visiting professor ISB, Hyderabad and consultant Bill and Melinda Gate Foundation	Adjunct faculty
Dr Rajinikanth	Associate Professor and Head, Dept of Biotechnology, NIT Calicut	Visiting Faculty

13. Percentage of classes taken by temporary faculty –programme-wise information:

NIL

14. Programme-wise Student Teacher Ratio: As per AICTE norms

Programme	Faculty-student ratio
UG	1:15
PG	1:12

15. Number of academic support staff (technical) and administrative staff: sanctioned and filled:

Cadre	Staff	Sanctioned	Filled
Support Staff(Technical)	Senior Lab Technologist	1	1
	Lab Technologist - II	1	1
	Lab Technician	1	1
Administrative staff	Senior Clerk	1	1
	General Duty Worker – 1	1	1
	Senior House Keeping Staff	1	1
	General Duty Worker	1	1

16. Research thrust areas recognized by funding agencies:

- i. Nanomedicine
- ii. Cheminformatics

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise.

National funding agencies: VGST, Bangalore

International funding agencies: NIL

18. Inter-institutional collaborative projects and grants received :

- a) All India collaboration: The following are the collaborated projects between MIT, Manipal and other Indian Institution during Internships of our UG and PG Biotechnology students.

Institute	Name of the Project	Period
IISc-Bangalore	Metabolome analysis of senescent cells	2013-14
I.I.T Madras	Multivariate analysis using NIR spectroscopy and its application for real time monitoring of anaerobic cultivation of <i>lactococcuslactis</i> for hyaluronic acid production	2013-14
I.I.T-Bombay	<ol style="list-style-type: none"> i. Control And Monitoring Of Fed- Batch Fermentation Processes ii. Microfluidic Analysis Of Cell Migration For Biomedical Applications iii. Model based approach towards hydrothermal processing Microalgae For Biodiesel Production 	2013-14
NCL, Pune	<ol style="list-style-type: none"> I. Cloning, expression, purification and characterization of amylase inhibitor from <i>Amaranthus</i> sp. II. Microbial route to synthesize silver nanoparticles using novel bacterium III. Preparation of lignin – carbohydrate complexes and their applications as antimicrobial fillers in biocomposites and for conversion to bio-oils 	2013-14
NEERI, Nagpur	Isolation, extraction and purification of biogenic amines from degraded food products and their environmental applications	2013-14
BIOCON, Bangalore	Upstream Pre-characterization studies for recombinant protein expressed in <i>pichiapastoris</i>	2013-14

NIIST, Trivandrum	Extraction of Pineapple Leaf Fibers Using an UASB Bioreactor	2013-14
CLRI, Madras	Isolation and Characterization of Bacteriocin from Lactic Acid Bacteria	2013-14
CFTRI, Mysore	Studies On Effect Of Partial Gelatinization Of Millet Flours On Extruded Products	2013-14
TERI, New Delhi	Optimization studies for Pilot scale Algal Biofuels	2012-13
NCL, Pune	Cloning, Expression and Characterization of Helicoverpa armigera digestive Amylases	2012-13
CFTRI, Mysore	Optimization of Processing Conditions for Reverse Micellar Extraction of Biomolecules	2012-13
I.I.T. Madras	Purification of Hyaluronic acid and using it for drug delivery	From 2014

(b)International:

i. The following are the IAESTE student exchange program details (From Abroad to MIT, Manipal)

Name of the Intern	Country	University from where intern came to MIT, Manipal	Duration
Franziska Speck	Germany	UNIVERSITY OF JENA	01/09/2014-19/12/2014
Lukas Gerstweiler	Germany	UNIVERSITY OF HONHEHEIM	01/10/2014-15/11/2014
Stevica Bozhinoski	Macedonia	SAINTS CYRIL AND METHODIUS UNIVERSITY OF SKOPJE	01/08/2014-30/09/2014
Nicolas Kaltwasser	Germany	UNIVERSITY OF APPLIED SCIENCES, MAINZ	04/08/2014-14/09/2014
Clarissa Forbes	UK	University of Strathclyde	28/07/2014-05/09/2014
Tim Schultze	Germany	FRIEDRICH SCHILLER UNIVERSITY JENA	10/08/2014-22/09/2014
Robin Simsa	Austria	UNIVERSITY OF NATURAL RESOURCES AND LIFE SCIENCES	01/07/2014-01/10/2014
Alexandra Elisabeth Wagner	Germany	Technical University of Munich	10/10/2014-26/12/2014
Patricia Jankkila	Sweden	Chalmers University of Technology	09/06/2014-13/8/2014
Christina Blatt	Germany	TECHNICAL UNIVERSITY OF MUNICH	20/10/2014-12/12/2014
Matea Pirjevac	Croatia	University of Zagreb-Faculty	17/07/2014-15/10/2014
Groiss Silvia	Austria	JOHANES KEPLER UNIVERSITY OF LINZ/ UNIVERSITY OF SALZBURG	07/07/2014-14/09/2014

Cynthia Pauwels	Belgium	University of Ghent	15/7/2013-15/9/2013
Maja Sedivy	Slovenia	University of Ljubljana	15/7/2013-15/9/2013

ii. The following are the IAESTE student exchange program details (From MIT, Manipal to Abroad)

Name of the Intern	Country	University /Institute	Title of the Project	Duration
Ms PRANJALI BHANDARE	Singapore	Nanyang Polytechnic Singapore	Developing a vaccine against <i>Vibrio harveyi</i> and a nanotechnology based vaccine delivery system for immunizing Sea bass	04/01/2014-5/05/2014
Ms NICOLE SAVIA MENDONSA	Sultanate of Oman	National Pharmaceutical Companies, Muscat, Sultanate of Oman	Manufacturing of domperidone & its evaluation	07/01/2014-8/05/2014
Ms RISHIKA PRASAD	United Kingdom	University of Westminster	Optimization of biopolymer production using biodiesel waste as carbon source	09/01/2013-20/05/2013
Ms. VAISHNAVI KAIPILYAWAR	Poland	Polish Academy of Sciences Centre for Molecular Biology, Lodz	Role of Rec-A protein in the DNA repair process in the pathogenesis of <i>Mycobacterium tuberculosis</i>	1/6/2012 to 31/7/2012

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received.

#	Project Name	Principal Investigator	Funding Agencies	Grant received on (Month and year)	Total Grants Received (In Rs.)
1	Biohydrogen Production from domestic kitchen.	S Raja	TRIP (Technology related Innovative Projects) project under VGST, Karnataka,	2013-14	Rs.40,000/-
2	Center for Nanomedicine: Biodegradable nano-materials for Drug and Vaccine delivery	Dr. Bharath Raja Guru	Vision Group on Science and Technology	2014 – 2016	10 lakhs / year (2-yr duration)

20. Research facility/centre with :

- state recognition: KFIST under VGST for infrastructure development in the year 2014
- national recognition: NIL
- international recognition: NIL

21. Special research laboratories sponsored by/created by industry or corporate bodies: NIL

22. Research Output in last 3 years

Details		2012	2013	2014
Completed funded research projects		-	01	-
Completed non-funded research projects		-	-	2
Completed PhD research projects		-	01	01
Completed PG research projects		15	14	16
Completed UG research projects		10	8	11
*Publications	International	10	16	15
	National	-	-	-
Books		2	-	-
Chapters in books		-	-	-
Conference presentations	International	8	9	11
	National	3	2	4

Number of papers published in peer reviewed journals (national/international):

Sl. No	Year of publication	Name of the Author(s)	Title of the Research Paper	Name of the Journal	National / International
1	2012	V.R.C. Murty	Review of Various Treatment Methods for the Abatement of Phenolic Compounds from Wastewater. Vol 54, 1-4.	Journal of Environmental Science and Engineering	International
2	2012	V.R.C. Murty	Review on adsorption of phenol from wastewater using locally available adsorbents. 6 (3A), 763-772	Journal of Environmental Research and Development.	International
3	2012	Bharath Raja Guru	Folic acid functionalized nanoparticles for enhanced oral drug delivery	Molecular Pharmaceutics 9 (7), 2103-2110.	International
4	2012	S. Balaji	Physio-chemico-thermo-mechanical properties of selected biodegradable polymers	Green Materials, ICE science,	International
5	2012	S. Balaji	Biomolecular Mimic Circuit for an Allosterically Regulated Enzyme of Pyrimidine Biosynthetic Pathway	Biosensors & Bioelectronics	International
6	2012	Selvaraj Raja	Decolorisation of synthetic dye by Guava (Psidium guajava) leaf powder – A statistical approach	Journal of Chemical and Pharmaceutical Research	International
7	2012	Selvaraj Raja	Development and Evaluation of Environmentally Benign Aqueous Two Phase Systems for the Recovery of Proteins from Tannery Waste Water	ISRN Chemical Engineering	International
8	2012	Kannan N	Evaluation and optimization of food-grade tannin acyl hydrolase production by a probiotic Lactobacillus plantarum strain in submerged and solid state fermentation	Food and Bioproducts Processing	International

9	2012	K.S. Mukunthan.	Silver Nanoparticles Shoot Up from the Root of <i>Daucuscarrota</i> (L.)	International Journal of Green Nanotechnology	International
10	2012	K.S. Mukunthan	Cashew Apple Juice (<i>Anacardiumoccidentale</i> L.) Speeds Up the Synthesis of Silver Nanoparticles	International Journal of Green Nanotechnology	International
11	2013	V.R.C. Murty	Probiotic-mediated biotransformation of monosodium glutamate to γ -aminobutyric acid: differential production in complex and minimal media and kinetic modeling	Annals of Microbiology (2014) 64:229–237	International
12	2013	V.R.C. Murty	Studies on Adsorption of Phenol from Wastewater by Agricultural Waste	J Environ. Science & Engg. Vol. 55, No. 3, p. 275-282, July 2013	International
13	2013	V.R.C. Murty	Adsorption of basic dye from aqueous solution using HCl treated saw dust: Kinetic, Modeling of Equilibrium, Thermodynamic, INDIA	International Research Journal of Environment Science Vol. 2(8), 6-16	International
14	2013	V.R.C. Murty	Removal of Phenol from wastewater in Packed bed and fluidized bed: A Review.	International Research Journal of Environment Science Vol. 2(10), 96-100	International
15	2013	M. Ramananda Bhat	Rupture Studies on KokumWax Coated Urea Briquettes	World Journal of Agricultural Research, 2013, Vol. 1, No. 5, 82-84	International
16	2013	S. Balaji	A Diverse Assimilation of Sequence and Structure Dependent Features for Amyloid Plaque Prediction Using Random Forests.	Current Proteomics, 2013, 10, No.1 38-44	International
17	2013	S. Balaji	Biomorphic Presentation of Proteins: Artistic Science or Scientific Art?	Leonardo, Vol. 46, No. 3, Pages 226-231	International
18	2013	S. Balaji	Protein Kolam: An Artistic Rendition of Molecular Structure Data	Leonardo, 46 (1), 24–29	International
19	2013	S. Balaji	Docking, QSAR and COMFA studies on Arecoline analogues as	Proc Indian Natn Sci Acad (2013). 79	National

			muscarinic acetylcholine receptor (mAChR) M1 agonists.	(1):41-50.	
20	2013	Selvaraj Raja	Optimization of Aqueous Two-Phase Systems for the Recovery of Soluble Proteins from Tannery Wastewater Using Response Surface Methodology	Journal of Engineering, vol. 2013: 1–10	International
21	2013	Selvaraj Raja	“Liquid-Liquid Equilibrium of Poly(Ethylene Glycol) 6000 + Sodium Succinate + Water System at Different Temperatures	The Scientific World Journal, Volume 2013: 1–7.	International
22	2013	Selvaraj Raja	Liquid-Liquid Equilibria of Aqueous Two-Phase Systems Containing PEG + Sodium Citrate + Water at various pH	<i>Journal of Chemical Science and Technology</i> (JCST). Oct. 2013, Vol. 2 Iss. 4, PP. 169-174	International
23	2013	S Narasimhan	Scanning Electron Microscopic Study Reveals The Developmental Stages And Ultrastructure Of Utricles In Utricularia striatula Smith	Annals of Plant Sciences ISSN: 2287-688X	International
24	2013	V. Thivaharan	Production of a Lipopeptide Biosurfactant by a Novel Bacillus sp. and Its Applicability to Enhanced Oil Recovery	ISRN Microbiology	International
25	2013	V. Thivaharan	Production and properties of a lipopeptide biosurfactant by B. subtilis subsp. Inaquosorum	Journal of Microbiology and Biotechnology Research 2013, 3 (4):63-73	International
26	2013	Ritu Raval	Enzymatic modification of chitosan using chitin deacetylase isolated from Bacillus cereus.	Open Access Scientific Reports 2 •617-620	International
27	2014	V.R.C. Murty	Studies on Biosorption of Methylene Blue from Aqueous Solutions by Powdered Palm Tree Flower (Borassus	International Journal of Chemical Engineering Volume 2014,	International

			flabellifer)	Article ID 306519, 13 pages	
28	2014	M. Ramananda Bhat	Urea Concentration Profiles from Kokum Wax Coated Briquettes	Universal Journal of Agricultural Research 2(2): 43-44, 2014	International
29	2014	S. Balaji	Methanimineas a potent anticancer agent against colorectal cancer	International Journal of Pharmaceutical Chemistry	International
30	2014	S. Balaji	3-[(E)-(4-Hydroxy-3- methoxybenzylidene)am ino]-2- thioxoimidazolidin-4- one as Snail1 Inhibitor with Anticancer and Anti-migratory Properties Against Colorectal Cancer	Chemical Science Transactions	International
31	2014	S. Balaji	Bio-Nanomaterials: Structure and Assembly, Reviews in Advanced Sciences and Engineering	Ingentaconnect	International
32	2014	S Raja	Prediction of Viscosities of Aqueous Two Phase Systems Containing Protein by Artificial Neural Network	Chemical Engineering and Process Technology	International
33	2014	Vinayagam Ramesh	Sequential Statistical Optimization of Media Components for the Production of Glucoamylase by Thermophilic Fungus Humicola grisea MTCC 352	Hindawi Publishing Corporation Enzyme Research	International
34	2014	N. Kannan	Effect Of Bacteria On Partial Replacement Of Concrete With Fly Ash And Ggbs	IJRET: International Journal of Research in Engineering and Technology	International
35	2014	N. Kannan	Evaluation of process parameters for biosorption of chromium (VI) using full factorial design and response surface methodology	Environmental Science An Indian Journal	National

36	2014	K.S. Mukunthan	Analysis of Essential Oil Constituents in Rhizome of <i>Curcuma caesia</i> Roxb. from South India	Journal of Essential Oil Bearing Plants	International
37	2014	K.S. Mukunthan	Molecular docking and binding studies of bioactive compounds from elite coastal flora on their interaction with cyclooxygenase-2 and 5-lipoxygenase protein: a search for novel anti-inflammatory drug	World Journal of Pharmaceutical Sciences	International
38	2014	Ritu Raval	Phytochemical quantification and antioxidant capabilities of <i>Moringaoleifera</i> , <i>Basellaalba</i> and <i>Centellaasiaticaleaf</i> sources	International Journal of Innovative Research in Science, Engineering and Technology	International
39	2014	Rajesh.J	Effect of yeast fermentation on nutraceutical and antioxidant properties of rice bran	International Journal of Agricultural and Food Science	International
40	2014	Vrunda.R.	Absorption Spectroscopy for the Quantification of Serum Thyroglobulin and Thyroglobulin Antibody levels in Differentiated Carcinoma Patients : A pilot study	Journal of Medical Imaging and Health Informatics.	International
41	2014	Vijendra Prabhu	Objective assessment of endogenous collagen <i>in vivo</i> during tissue repair by laser induced fluorescence	PLOS One	International

- * **Monographs:** Nil
- * **Chapters in Books:** Nil
- * **Edited Books :** Nil
- * **Books with ISBN with details of publishers:** 2,
ISBN-13: 978-3-659-13088-5 and ISBN-13: 978-3848447497
- * **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)**
- * **Citation Index** – range/average: 1-6/ 3.28
- * **SNIP:** 1.72

- * **SJR:** 1.46
- * **Impact Factor – range/average:** 4.5 – 0 / 1.1
- * **h-index :** 3.28 (Web of Science)

23. Details of patents and income generated :

- **Patent:**NIL
- **Income generated:** NIL

24. **Areas of consultancy and income generated:** Consultancy in the areas of Biotechnology is being explored.

25. Faculty selected nationally/internationally to visit other laboratories in India and abroad:

- i. Mr. Mukunthan K S – VIT, Vellore
- ii. Dr Ritu Raval- Tata Chemicals Limited, Innovation Center, Pune

26. Faculty serving in

a) **National committees**, b) **International committees**, c) **Editorial Boards**, d) **Any other (please specify):**

#	Faculty	Details
1	Dr V R C Murty	BOS Member, NMAMIT, Nitte
2	Dr S. Balaji	BOS Member, Aloysius Institute of Management and Information Technology (AIMIT) St. Aloysius College, Mangalore -22 Subject expert in the interview panel, Indian Institute of Spices Research, Calicut

27. Faculty recharging strategies:

- Induction programme for new faculty
- Faculty club activities
- Faculty encouraged to attend the faculty development programmes organized by reputed organizations

28. Student projects

- percentage of students who have done in-house projects including inter-departmental projects: **in-house projects :BTech - 37% and M.Tech: 10 %**
- percentage of students doing projects in collaboration with other universities/industry/institute : **B.Tech: 63 % and M.Tech: 90% of students carry out their projects in various CSIR Labs and industries**

29. Awards/recognitions received at the national and international level by

- **Faculty:**
 - VGST –Young scientist award 2011 awarded to Dr S. Balaji
 - Best Teacher award 2013 awarded to Dr V R C Murty by MIT, Manipal.

- Dr. Bharath Raja Guru was awarded the best paper for oral presentation on ‘Biodegradable nanomaterials to treat retinal diseases’ at 4th World Conference on Applied Sciences, Engineering & Technology, Kumamoto University, Japan.
- Dr. Bharath Raja Guru was awarded the best paper award for the paper ‘Biodegradable nanomaterials for sustain release of drugs for inflammation’ presented in Manipal Research Colloquium-2015

- **Doctoral/post-doctoral fellows:** Two
- **Students :** Nil

30. Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any.

- Department of Biotechnology organizes Two days Biotechnology conference “SYMBIOT” annually since 2009. This conference has been financially supported by various Biotechnology industries. Nearly 80 to 100 outstanding participants register for this conference and present their research papers. During this conference guest lectures are arranged to benefit the students technically.

31. Code of ethics for research followed by the departments :

The basic responsibility of an EC is to ensure a competent review of all ethical aspects of the project proposals received and execute the same free from any bias and influence that could affect their objectivity. EC should provide advice to the researchers on all aspects of welfare and safety of the research participants after ensuring the scientific soundness of the proposed research through appropriate Scientific Review Committees. In smaller institutions the EC can up the dual responsibility of Scientific and Ethical Review.

The responsibilities of an EC can be defined as follows:

1. To protect the dignity, rights and well-being of the potential research participants
2. To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs
3. To assist in the development and the education of a research community responsive to local health care requirements.

32. Student profile course-wise:

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage
		Male	Female	
BTech Biotechnology	Admission has been done as per Manipal University	25	21	97.8 (M: 96%, F: 100%)
MTech Industrial Biotechnology		10	7	100 (M: 100% F: 100%)

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage
		Male	Female	
MTech Biochemical Engineering	admissions policy (Refer data from Admission department)	01	2	100 (M:100% F:100%)

33. Diversity of students

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
BTech Biotechnology	Students are admitted from across the country through UGET			
MTech Industrial Biotechnology	Nil	41.1	58.9	0
MTech Biochemical Engineering	Nil	33.3	66.7	0

34. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Name of the Course	Name of the competitive exam	No. of students (Last Three years)
BTech Biotechnology	GATE	20
	TOEFL	75
	GRE	75

35. Student progression

Student progression	Percentage against enrolled
UG to PG	50
PG to M.Phil.	NIL
PG to Ph.D.	NIL
Ph.D. to Post-Doctoral	NIL
Employed	
• Campus selection	45
• Other than campus recruitment	NIL
Entrepreneurs	5
Total	100

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	22.7
from other universities within the State	13.6
from universities from other States	50.1
from universities outside the country	13.6

37. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period : Two

38. Present details of infrastructural facilities with regard to

- Library:** Well stocked departmental library.
- Internet facilities for staff and students:** Wi-Fi enabled campus
- Total number of classrooms:** 4 + 1 (seminar hall)
- Class rooms with ICT facility:** 2
- Students' laboratories:** 11
- Research laboratories:** 1

39. List of doctoral, post-doctoral students and Research Associates

From the host university:

Name of the candidate and designation	Name of the guide	Research Topic
V.Ramesh Asst. Prof. – Senior Gr.	Dr. V. Ramachandra Murty	Production and purification of thermo stable glucoamylases
S.Subbalaxmi Asst. Prof.-Senior Gr	Dr. V. Ramachandra Murty	Production of tannase under solid state fermentation by bacterial isolates
N.Kannan Asst. Prof. – Senior Gr.	Dr. S. Balaji	Physiochemical assessment of mineral-based Siddha formulations and their bioefficacy
Priyodip Paul PhD scholar	Dr. S. Balaji	Assessment of phosphatase from selected probiotic bacteria
Sushruta S. Hakkimane, PhD scholar	Dr. Bharath Raja Guru	Nanomaterial based therapeutics for the treatment of tuberculosis
Sriprasad Acharya Asst. Professor, Dept of Chemical Engineering.	Dr. Bharath Raja Guru	Targeted drug delivery using biodegradable polymers

From other universities:

Name of the candidate and designation	Name of the University	Name of the Guide	Research Topic
K.S.Mukunthan Asst. Prof. – Senior Gr.	VIT Deemed University, Vellore	Dr.Trupti, Associate Professor	Lead identification from natural sources

40. Number of post graduate students getting financial assistance from the university:

Details of post graduate teaching assistantships			
Register No.	Name of the Student	Class	Academic Session
120946002	Ms VindyaVati	1st Year IBT	2012 -2013
120946003	Ms. T.R. Apurva	1st Year IBT	2012 -2013
120946007	Ms.KabitaBhattacharjee	1st Year IBT	2012 -2013
120951004	Ms.SumaliDutta	1st Year BCE	2012 -2013
120951008	Ms.Kavitha M	1st Year BCE	2012 -2013
120946009	Ms. Anusha Prabhu B	2nd Year IBT	2013 -2014
120946018	Mr. Prem Pal	2nd Year IBT	2013 -2014
130946007	Ms. Chethana M	1st Year IBT	2013 -2014
130946005	Mr. Akshaya T R	1st Year IBT	2013 -2014
130946003	Mr. Arun B Puranik	1st Year IBT	2013 -2014
140946001	Mr. Joel Rohan Machado	1st Year IBT	2014 -2015
140946004	Mr. Harish Kumar	1st Year IBT	2014 -2015
140946005	Mr. Nitheesh S	1st Year IBT	2014 -2015
140946009	Ms. Debalina Chakraborty	1st Year IBT	2014 -2015

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Before starting the programme, a survey on the curriculum was done across engineering colleges in India and abroad. Accordingly, it was found that there is a need for a design-based biotechnology program from both students and industry. The curriculum was designed so as to develop industry-ready professionals who are thoroughly trained in trouble-shooting exercises. They are also made competent in research-based programmes. Regular inputs are also considered from industry, academicians and other stakeholders, over a period of time.

42. Does the department obtain feedback from

- a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes. It is discussed in the department curriculum committee (DCC) meetings, and suggestions/revisions approved by BOS/Academic Senate is implemented.

- b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Yes. It is discussed in class committee meetings and then presented to DCC for further recommendations.

- c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

Yes. Based on the feedback from alumni, certain topics are introduced in the laboratory and in theory courses.

43. List the distinguished alumni of the department (maximum 10)

Name of the Alumni	Name of the university and year of joining
Vinayaka Mathur	Joined for PhD program at University of Pennsylvania in 2009
Mohit Philip Mathew	Joined for PhD program at Johns Hopkins University, School of Medicine in 2012
Divya Ramchandran	Joined for PhD program at University of Illinois, Urbana Champaign in 2012
Roopali Dhingra	Joined for PGDM course at Indian Institute of Management, Kozhikode in 2012
Nikhita Joy	Joined for MTech Program at IIT-Hyderabad in 2014

44. Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts.

Year	Name of the conference/workshop	sponsors	Resource person invited for SYMBIOT Symposium
2012	National biotechnology symposium "SYMBIOT-12"	Mahanadi Coal Fields Limited, Jubilant Energy	(i)Dr Pragna Rao, Professor, Biochemistry,KMC, Manipal (ii)Dr. R. K. Samal, Professor and Head, Punjab Institute of Medical Science.
2013	National biotechnology symposium "SYMBIOT-13"	Olympus, DRDO	Dr Guhan Jayaraman, Professor, IIT-Madras
2014	National biotechnology symposium "SYMBIOT-14"	Olympus, DRDO	(i)Prof. Dr. P.K. Ponnuswamy, Former Vice-chancellor of Madras University and Madurai Kamraj university (ii)Dr. Gopalakrishnan Vaidyanathan, Vice President-Technical Operations Waters India Private Limited (iii) Dr. Unnikrishnan M K, Head, Department of Pharmacy Practice, Manipal University. (iv) Dr. Labanyamoy Kole, Head - RD & Technical, VINS Bioproducts Limited. Hyderabad\

45. List the teaching methods adopted by the faculty for different programmes.

- PPT with LCD
- Tutorials
- Industrial visits
- Assignments
- Quizzes
- Seminars by experts and students

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- Feedback from faculty members, students, alumni and employers
- Result analysis after examinations and counselling
- Revision of syllabus
- Inputs from the placement cell
- Students opting for higher education

47. Highlight the participation of students and faculty in extension activities.

- Learning foreign languages such as French, German etc.
- Participation in Social organizations – Volunteer Service Organization, Rotaract, IE Biotech – Student chapter etc.

48. Give details of “beyond syllabus scholarly activities” of the department.

- Research training is given to students by assigning mini projects
- Faculty members are reviewers of national and international journals
- Faculty members are adjudicators for PhD thesis submitted to other universities in India
- Faculty members participate as resource persons at various conferences/workshops.

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details: AICTE Approved.**50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**

Currently, the faculty members carry out research to generate new knowledge in the following areas: Nano biotechnology, Drug delivery, Bioinformatics, Bioprocess engineering and Environmental biotechnology

51. Future plans of the department.

The department is working to establish a strong research environment by applying for research grants from various funding agencies. The details of the research proposals with UTN number are shown in the following Table.

UTN	Name of the project	Principal Investigator	Co-investigators	Department	Funding Agency (VGST)	Project Budget	Duration of the project	Date of Submission
915 100	Centre for Biomolecular 3D-literacy (Bio-3D-Lit)	Dr S Balaji	nil	Biotech	CISEE Programme	10,00,000	2 years	6-Oct-15
915 101	Detection of trace elements (metals) in foods and beverages using phytic acid	Dr S Balaji	nil	Biotech	RFTT Programme	3,00,000	1 year	6-Oct-15
915 102	Biodegradable Polymer films for printing and packaging applications	Dr S Balaji	nil	Biotech	SMYSR Programme	4,00,000	1 year	6-Oct-15
915 103	The effects of 4-methylumbelliferone on selected probiotic bacteria	Dr S Balaji	Madhoolika Bisht	Biotech	TRIPS Programme	40,000	5 months	6-Oct-15
915 104	Simulation of Intestinal Absorption Using Goat Gut	Dr S Balaji	Kaushik suneeet , Aravind	Biotech	TRIPS Programme	40,000	5 months	6-Oct-15
915 075	Enhancement of enzymatic activity of <i>Bacillus licheniformis</i> chitin deacetylase for insoluble chitin	Dr. Ritu Raval	None	Biotech	VGST	20 Lakhs	2 years	29.09.15
915 076	Chitin deacetylase-Engineering and process scale –up for insoluble chitin	Dr. Ritu Raval	Dr. Keyur Raval, NITK	Biotech	DBT	80 Lakhs	3 years	25.10.15
915 077	Development of Novel Antiviral Agent Based on Chemical and Enzymatic Modified Chitosan	Dr. Ritu Raval	Dr. Selva kumar , Dr. Piya	Biotech	SERB	51 Lakhs	3 years	24.10.15
915 108	Center for Photomedicine- A light activated tissue regeneration	Dr. Vijendra Prabhu	NA	Biotech	Vision Group of Science and Technology, Government of Karnataka	20 Lakhs	2 years	5th September 2015

915 109	Travel Grant	Dr. Vijendra Prabhu	NA	Biotech	SERB Govt of India	NA	NA	10th November 2014
915 110	Effect of drug encapsulated biodegradable nanoparticles for the treatment of tuberculosis	Mrs. Sushruta Hakkimane	NA	Biotech	VGST- (SMYSR)	4 LAKHS	1 year	02- 10.20 15
914 08	Establishment of field gene bank of elite genotypes of Shankarpura Jasmine of coastal Karnataka, their chemoprofiling and micropropagation	Dr Narasimhan S	NA	Biotech	VGST - SMYSR Program me	4.00 Lakhs	2 years	7/23/2 014
915 112	Light Assisted Trans (Z) / Cis (E) isomerization (LAZER)	Dr. Naresh Kumar MANI	NA	Biotech	VGST (SMYSR)	4 Lakhs	1 year	5.10.2 015
915 113	Synthesis of Silver Nanoparticles using Green Algae - Bionanofactories	Dr.M.Rama nanda Bhat	Sridhar Govind	Biotech	TRIP- VGST	40,000	6 months	3-Oct- 15
915 114	Effect of neem oil on urea hydrolysis and nitrification in soils	Dr.M.Rama nanda Bhat	Surak sha Suvar na and Srishti Singh	Biotech	TRIP- VGST	40,000	6 months	3-Oct- 15
915 118	Extraction and purification of anthocyanin from kokum fruit (<i>Garcinia Indica</i> Choisy) waste using novel aqueous two phase systems	S.Raja	NA	Biotech	SMYSR (VGST)	4 lakhs	2 years	30.09. 2015
915 119	In-situ remediation of Manipal dairy effluent by green synthesized magnetic iron nanoparticles	S.Raja	NA	Biotech	SMYSR (VGST)	4 lakhs	2 years	30.09. 2015
915 116	Azolla-mediated phytoremediation of dairy effluents in Udupi District using constructed wetland treatment system (CWTS)	V. Thivaharan	NA	Biotech	SMYSR (VGST)	4 lakhs	2 years	30.09. 2015
915 117	Production of microbial biosurfactants for bioremediation of	V. Thivaharan	NA	Biotech	SMYSR (VGST)	4 lakhs	2 years	30.09. 2015

	hydrocarbon-contaminated soils			ch				
915 121	Reverse micellar extraction for the purification of glucoamylase from <i>Humicola grisea</i> MTCC 352	V.Ramesh	NA	Biotech	SMYSR (VGST)	4 lakhs	2 years	30.09.2015
915 115	Biosynthesis, optimization and industrial application of tannin acyl hydrolase and gallic acid”	Ms. Subbalaxmi S	NA	Biotech	SMYSR	4,00,000	1 year	30-Sep-15
9151 23	Centre for cancer stem cell research: Identification of cancer stem cell biomarkers	Dr. PRAVEEN KUMAR	NA	Biotech	VGST-KFIST	20 Lakhs	2 years	6 October 2015
9151 24	Identification of cancer stem cell biomarkers	Dr. PRAVEEN KUMAR	NA	Biotech	VGST-SMYSR	4 Lakhs	1 year	6 October 2015
9151 22	Formulation Repurposing: A Novel Computational Strategy to Study the Underlying Mechanisms and Treatment Opportunities for Type-3 Diabetes.	Mr. Fayaz S.M.	NA	Biotech	VGST-SMYSR	3.5 Lakhs	1 year	30th September 2015

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths

- (i) Department has faculty in the diversified areas such as applied Medical, Plant and Industrial Biotechnology.
- (ii) Well established laboratories with the state of art infrastructure
- (iii) Proximity of Medical and Pharmaceutical institutes is an added advantage for collaborative research.

Weaknesses

- (i) Locational disadvantage from core Biotechnology industries

Opportunities

- (i) Scope for bringing in research funds.
- (ii) Students graduated from the Department have opportunities to go for Higher education in reputed universities across the globe.

Challenges

- (i) Obtaining Research Grants from National/state funding agencies
- (ii) Enhancing the placement opportunities for UG and PG students in core sector and attract good PhD research scholars

1. **Name of the Department** : **Chemical Engineering**

2. **Year of establishment** : 1969

3. **Is the Department part of a School/Faculty of the university?**

Part of Manipal Institute of Technology, Manipal.

4. **Names of Programmes/Courses offered (Undergraduate, Postgraduate, MPhil, PhD, Integrated Masters and Integrated PhD, etc.)**

Programmes	Course
Under Graduate	B.Tech, Chemical Engineering
Post Graduate	M.Tech, Chemical Engineering
	M.Tech, Industrial Pollution Control Engineering
PhD	Chemical Engineering

5. **Interdisciplinary courses and departments involved:**

#	Interdisciplinary Course	Department involved
1	CHM-201 Organic Chemistry	Chemistry Department
2	CHM-202 Physical and analytical Chemistry	Chemistry Department
3	MAT-205 Engineering Mathematics	Mathematics Department
4	MAT-208 Engineering Mathematics IV	Mathematics Department
5	HUM-401 Essential of Management	Humanities and Management Department.
6	CHE-409.2 Operation Research (Elective)	Mathematics Department.
7	HSS-501 Research Methodology and Technical Presentation	Humanities and Management Department
8	MAT 503 Mathematical and Numerical Techniques in Chemical & Biological Engineering	Mathematics Department.

6. **Courses in collaboration with other universities, industries, foreign institutions, etc.**

#	Course	Collaboration
1	M.Tech (Chemical Engineering)	University of Nottingham, UK.
2	M.Tech (Chemical Engineering)	University of South Alabama, USA.

7. **Details of programmes/courses discontinued, if any, with reasons**

Nil

8. **Annual/Semester/Choice Based Credit System :**

Semester Based 10-point Credit System

9. Participation of the department in the courses offered by other departments :

Programme	Semester	Course offered
Undergraduate	Fourth Semester	Introduction to Chemical Engineering (Open Elective)
	Sixth Semester	Industrial Pollution Control (Open Elective)
Postgraduate	Second Semester	Advanced Separation Processes (Open Elective) for Biotechnology and Biomedical Engineering

10. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Assistant Professors)

Cadre	Sanctioned	Filled
Professor	3	1
Associate Professors	6	6
Assistant Professors	9	10
Total	18	17

11. Faculty profile with name, qualification, designation and specialisation (DSc/DLitt/PhD/MPhil, etc.,)

#	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of PhD students guided for the last 4 years
1	Dr S Harish Kumar	BE, M.Tech, PhD	Professor and HOD	Chemical Engineering, (Fluidization)	22	-
2	Sri Sivasankaran S	BE, M.Tech	Associate Professor-Senior Scale	Chemical Engineering	31	-
3	Sri K Balakrishna Prabhu	BE, M.Tech	Associate Professor-Senior Scale	Chemical Engineering	27	-
4	Dr S. V. S. R. Krishna Bandaru	B.Tech, M.Tech, PhD	Associate Professor	Chemical Engineering (Fluidization, Energy)	12	-
5.	Dr.S.ShanmugaPriya	B.Tech, M.Tech, PhD	Associate Professor	Photo catalytic Reaction Engineering	07	-
6	Dr.Srinivas Kini	BE, M.Tech PhD	Associate Professor	Chemical Plant Design	15	-
7	Dr. Muddu Madakyaru	BE, M.Tech PhD	Associate Professor	Chemical Engineering (Process Control)	15	-

8.	Sri P Vairavel	BE, M.Tech	Assistant Professor- Selection Grade	Industrial Biotechnology	12	-
9	Sri Girish CR	BE, M.Tech	Assistant Professor Senior Scale	Chemical Plant Design	10	-
10	Sri Sriprasad Acharya	BE, M.Tech	Assistant Professor Senior Scale	Chemical Plant Design	10	-
11	Sri Pachimatla Rajesh	B.Tech, M.Tech	Assistant Professor	Industrial Pollution Abatement	06	-
12	Sri Prasad D	B.Tech, M.Tech	Assistant Professor	Chemical Engineering	03	-
13	Ms. Monami Dey	BE, M.Tech	Assistant Professor	Chemical Engineering	03	-
14	Sri Laxman Kumar Kunderapu	BE, M.Tech	Assistant Professor	Petroleum Refinery Engineering	03	-
15	Miss.Suma Shettigar	BE, M.Tech	Assistant Professor	Chemical Engineering	01	-
16	Sri. Sushant Kumar	BE, M.Tech	Assistant Professor	Chemical Engineering	01	-
17	Mr. Sandeep Parma	BE, M.Tech	Assistant Professor	Chemical Engineering	01	-
18	Dr. Ashwin. P.Gaikwad	BE, M.Tech PhD	Assistant Professor	Chemical Engineering	< 01	-
19	Miss. M. Karthika	BE, M.Tech	Assistant Professor	Chemical Engineering	< 01	-
20	Mr. Adil Muhammed	BE, M.Tech	Assistant Professor	Chemical Engineering	< 01	-
21	Sri. Hemant Bherwani	BE, M.Tech	Assistant Professor	Chemical Engineering	< 01	-
22	Mr. Nethaji.S	BE, M.Tech	Assistant Professor	Chemical Engineering	< 01	-

12. List of senior Visiting Fellows, faculty, adjunct faculty, emeritus professors :

List of Adjunct faculty

#	Name of the faculty	From (Present institution and address)	Adjunct faculty since	Assignment valid till	Subject handled	No. of visits in 2014
1.	Dr Girish Rao	Manager, Bitumen Research, Shell Technology Centre Bangalore	June 23, 2014	June 23, 2016	Interfacial Science and Engineering (M Tech course)	Four
2.	Dr Leon Ittiachian	Associate Professor, Dept. of Biotechnology, SCET, Trichur, Kerala 680 684	July 19, 2014	July 19, 2016	NIL	Two

13. Percentage of classes taken by temporary /visiting faculty – programme-wise information :

Nil in 2014 and

50% in 2015 for one subject

14. Programme-wise Student Teacher Ratio :As per AICTE norms

Programme	Ratio
UG	1:15
PG	1:6

15. Number of academic support staff (technical) and administrative staff: sanctioned and filled

Cadre	Staff	Sanctioned	Filled
Support Staff(Technical)	Assistant Engineer	1	1
	Junior Engineer	2	2
	Technician	1	1
Administrative staff	Clerk	2	2
	General Duty Worker	2	2
	House Keeping Staff	2	2

16. Research thrust areas recognized by funding agencies :

Renewable Energy

17. Number of faculty members with on-going projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise.

#	Project Name	Principal Investigator	Funding Agencies	Grant received on Month/year	Total Grants Received (In Rs.)
1.	Experimental and simulation studies on integrated solar bioprocess for industrial treatment	Dr.S.Shanmuga Priya	Manipal University	30/11/2012	Rs 4.25 lakhs

18. Inter-institutional collaborative projects and grants received

- All India collaboration: Collaborative projects with Shell Technology Centre, Bangalore is initiated.
- International : Nil

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.: total grants received :

- Project proposal is submitted to ONGC, New Delhi by Dr Shanmuga Priya, Associated Professor titled “Conversion of captured CO₂ and treated water/sea water to renewable fuels”.
- Project proposal is submitted to VGST, Karnataka by Dr SVSR Krishna Bandaru on “Development of heterogeneous catalyst for production of biodiesel from waste oil”.
- Two Project proposals are submitted to VGST, Karnataka by Mr Sriprasad Acharya.

20. Research facility/centre with

- state recognition : Nil
- national recognition: Nil
- international recognition : Nil

21. Special research laboratories sponsored by/created by industry or corporate

bodies: An experimental facility is initiated to carry out the advanced research with the help of Dr Girsh G Rao, Manager, Shell Technology Centre, Bangalore and Adjunct Professor, Department of Chemical Engineering, MIT, Manipal

22. Research output in last three years

Details		2012	2013	2014
Completed funded research projects		1	-	-
Completed non-funded research projects		-	-	-
Completed PhD research projects		-	-	01
Completed PG research projects		18	17	5
Completed UG research projects		53	64	70
Publications	International	09	13	17
	National	1	1	-
Books		-	01	-
Chapters in books		-	01	01
Conference presentations	International	7	10	6
	National	1	0	2

Publications:

- * **Number of papers published in peer reviewed journals (national/international)**

Journals:

Year	Journal		Conference Presentation	
	National	International	National	International
2012	01	09	01	07
2013	01	13	00	10
2014	00	17	02	06

2012

National Journals

Sl no	Author Name	Title	Journal	Volume	Page	Year
1	C. R. Girish	Review of various treatment methods for the abatement of phenolic compounds from wastewater,	<i>J. of Env. Sci. and Eng</i>	vol. 54(2)	pp. 306-316	2012

International Journals

Sl no	Author Name	Title	Journal	Volume	Page	Year
1	Krishna, B.S.V.S.R.	Effect of Sodium Alginate Concentration on Size of Yeast Immobilized Particle and on Production of Bio-ethanol in a Packed-Bed Fermenter	Jr of Energy, Env. And Carbon Credit	V2, I3	P1-6	2012
2	Krishna B.S.V.S.R,	Prediction of pressure drop in helical coil with single phase flow of non-Newtonian fluids	Int. J. of Appl. Res. Mech. Engg	V2, I1	P31	2012
3	Krishna, B.S.V.S.R	An Electrical Conductivity Method for Axial Gas and Solid Holdup Determination in Three Phase Fluidized Beds	Bonfring Int. Jr. of Ind. Engg. And Management Sc.	V2, I2	P5	2012
4	S. Shanmuga Priya	An Experimentation on Anti-Reset Windup Scheme for level Process Station	Sensors & Transducers Journal	Volume 147 I 12	87-94	2012
5	Krishna, B.S.V.S.R	Expanded bed Adsorption: An option for energy savings in multiple protein purification	Int. J. of Mech. And Ind. Engg	V1, I4	P7	2012
6	Rajesh Pachimatla	Use of granular Activated Carbon for the Enhancement of Phenol Removal from Wastewater by Electrocoagulation	International journal of Biological sciences and engineering	Volume 03, No. 03	223-228	2012
7	C R Girish	Review on adsorption of phenol from wastewater using locally available adsorbents	Journal of Environmental Research and Development.	6 (3 ^a)	763-772	2012
8	S.Shanmuga Priya	Comparison of efficiency of solar photocatalytic degradation of phenol using UV transparent materials	International Journal of Engineering Science and Technology	Vol.4	1421-1425	2012
9	S. Shanmuga Priya	An Experimentation on Anti-Reset Windup Scheme for level Process Station	Sensors & Transducers Journal	Vol.147	87-94	2012

2013**National**

SI no	Author Name	Title	Journal	Volume	Page	Year
1	C R Girish	Studies on Adsorption of Phenol from Wastewater by Agricultural Waste.	Journal of Environmental Science and Engineering	55(3)	275-282	July,2013

International

SI no	Author Name	Title	Journal	Volume	Page	Year
1	S.Shanmuga Priya,	Design And Performance Evaluation Of Solar Trickle Down Reactor For Cypermethrin Effluent Treatment	International Journal of ChemTech Research	Vol.5	IJCRG No.2,	Apr-13
2	S. Shanmuga Priya	Effect of different absorbing materials on solar distillation under the climatic condition of Manipal	International Journal of Application or Innovation in Engineering & Management	Volume 2	Issue 5	May-13
3	S.Shanmuga Priya	Studies on Solar Radiation Estimation, Modeling and Analysis for Manipal.	IRACST – Engineering Science and Technology: An International Journal	Vol.3, No.3	ISSN: 2250-3498	June, 2013
4	Krishna, B.S.V.S.R	Predicting the Bed Height in Expanded Bed Adsorption Column	Bonfring Int. Jr. of Ind. Engg. And Management Sc.	Vol. 3, No. 4	p107-110	June, 2013
5	Krishna B.S.V.S.R	Climate change and Sustainable development through carbondioxide utilization	Business Sciences International Research Journal	V1, I1	p 154-158	June, 2013
6	Srinivas Kini	Adsorption of Basic Dye from Aqueous Solution using HCI Treated Saw Dust (Lagerstroemia microcarpa): Kinetic, Modeling of Equilibrium, Thermodynamic, India	International Research Journal of Environment Science	Vol.2(8)	Pages: 6-16	15 th July 2013
7	C R Girish	Removal of Phenol from Wastewater in Packed Bed and Fluidised Bed Columns: A Review	International Research Journal of Environment Sciences	2(10)	Page 96-100	Oct.,2013

8	Laxman Kumar	Shale gas development and opportunities in India	International Journal of Science, Engineering and Technology Research	Vol.2	1951-1959	Oct.2013
9	S.Sivasankaran	Novel Ultrasound Assisted Advanced Oxidation Process for Water Pollution Control Abatement Using Transition Metal Oxides	International Journal of Scientific and Engineering Research	Vol. 4, Issue 10	2229-5518	Oct-13
10	S.Shanmuga Priya	Design of Coupled Solar Photocatalytic Biosorption Process for degradation of Dairy Effluent	Journal of Petroleum and environmental biotechnology	Vol. 4,		Nov. 2013
11	Krishna, B.S.V.S.R	Effect of Helix of Helix angle on two phase flow pressure drop of air-Newtonian/non-Newtonian fluids.	Int. Jr. of Adv. In Management, Technology & Engineering Sciences	V 2, I8	p 24-28	2013
12	Krishna B.S.V.S.R	4 As Marketing Approach by FMCG's to tap Indian rural market – A Review	Business Sciences International Research Journal	V1, I2	p 554-561	2013
13	Krishna B.S.V.S.R	Prediction of bed height and minimum fluidization velocity using conductivity method in 2 and 3- phase fluidized beds	Int. J. of Polymers and Tech.	V5, I1	p-9-16	Dec., 2013

2014

National

Nil

International

SI no	Author Name	Title	Journal	Volume	Page	Year
1	S. Shanmuga Priya	Role of optical density on the choice of photolytic	Int. J. Environmental Engineering	Vol. 6, No. 2	136-151	2014
2	Srinivas Kini	Studies on Biosorption of Methylene Blue from Aqueous Solutions by Powdered Palm Tree Flower (Borassus flabellifer)	International Journal of Chemical Engineering	Vol 2014,	13Pgs	Feb.2014
3	S. Sivasankaran	Statistical Design of Experiments for Optimizing the Batch Conditions for the	International Journal of Science and	Volume 3 Issue 5,	Page.1 777-1780	May 2014

		Degradation of Congo Red Dye Using Ruthenium Based Catalyst	Research (IJSR)			
4	S. Sivasankaran	A Novel Advanced Oxidation Process Using Palladium Based Catalyst and its Application to Waste Water Treatment	International Journal of Science and Research (IJSR)	Volume 3 Issue 5,	Page.8 29-833	May-14
5	S. Sivasankaran	Synthesis of nanometre Sized Pd-CoO a Transition Bimetal Oxide using Sonochemical Method and its Characterization	International Journal of Science and Research (IJSR)	Volume 3 Issue 5,	Page.8 72-875	May-14
6	S. Sivasankaran	Comparative Study for the Synthesis of Ru-Nio Transition Bimetallic Catalyst Using Sonochemical Method & Characterization of the Effective Catalyst with the Cost Analysis	International Journal of Science and Research (IJSR)	Volume 3 Issue 5,	Page. 1785-1788	May 2014
7	S. Sivasankaran	A Hybrid Ultrasound Assisted Advance Oxidation Process Using Ruthenium based Catalyst and its Application to Waste Water Treatment	International Journal of Science and Research (IJSR)	Volume 3 Issue 5,	Page.9 20-923	May-14
8	Sandeep parma	Preparation and characterization of microfiltration ceramic membrane for oily waste water treatment	International Journal of Research in Engineering and Technology	Vol.3	Issue.0 3	May-14
9	S. Sivasankaran	Design of Experiment As a Tool for Optimizing the Batch Condition of Methylene Blue Degradation Using Palladium Based Catalyst	International Journal of Science and Research (IJSR)	Volume 3 Issue 5,	Page.1 781-1784	May-14
10	C R Girish	Removal of Phenol from Wastewater Using Chemically Treated Coconut Stalk:(Cocos nucifera)	International Research Journal of Environment Sciences	Vol.3(6)	48-55	Jun-14
11	C R Girish	Adsorption of Phenol from Aqueous Solution Using Lantana camara, Forest Waste: Kinetics, Isotherm, and Thermodynamic studies.	Hindawi Publishing Corporation International Scholarly Research Notices	Vol 2014, ,	Article ID 201626	O ct. 2014
12	S. Shanmuga Priya,	Role of optical density on the choice of photolytic reactor	International Journal of Environmental Engineering	Vol. 6, No. 2	pp 136-151	Jun-14

13	S. Shanmuga Priya,	Performance improvement of solar photovoltaic panels	Journal of Alternate Energy Sources and Technologies	Vol:5, Issue : 3	pp 1-7,	Jul-14
14	S. Shanmuga Priya,	Distillery Effluent Treatment Using Parabolic Trough Solar Collector Coupled With Biological Process	Int'l Journal of Advances in Chemical Engg., & Biological Sciences	Vol. 1,		2014
15	Krishna, B.S.V.S.R	Impact of Biochar Amount on Water Evaporating Capacity of Biochar Blended Soil	International Journal of Basis and Applied Biology	Vol.2	pp 120-123	Oct-Dec.2014
16	Krishna, B.S.V.S.R	Progressive Expansion of Particles in 3-Phase Inverse Fluidized Bed for Higher Archimedes Number	Journal of Basic and Applied Engineering Research	Vol.1	, pp.80-84	Oct-Dec. 2014
17	S. Nethaji	Removal of Herbicide (2,4-Dichlorophenoxyacetic Acid) in Aqueous Solution Using magnetic Activated Carbon Derived from Waste Biomass.	International Journal of Applied Engineering Research	Vol. 9, Number 1	, PP.65-70	2014

CONFERENCES

2012

National

#	Author Name	Title	Conference	Place	Date	Year
1	C R Girish	Batch studies on phenol removal using activated carbon derived from sweet lemon	5th Annual KSTA conference	DSCE, Bangalore	19-20,Dec	2012

International

#	Author Name	Title	Conference	Place	Date	Year
1	Rajesh Pachimatla	" Use of granular activated carbon for the enhancement of phenol removal from wastewater by Electro-coagulation"	IES2012, kumamoto, japan	Japan	March 5 th - 7 th	2012

2	S Shanmuga Priya	Artificial Neural network analysis of effect of path length in photolytic reactor	International Conference on Emerging trends in communication	Kanyakumari , Tamil Nadu	8 th – 9 th March	2012
3	Krishna, B.S.V.S.R	An Electrical Conductivity Method for Axial Gas and Solid Holdup Determination in Three Phase Fluidized Beds	ICET2K12	Tirupachur	18-20 th April	2012
4	Krishna, B.S.V.S.R	Variation of immobilized particle size with Sodium Alginate concentration for Bio-ethanol production in a batch reactor	World Biotech Congress	Hyderabad	4-6 th May	2012
5	Krishna, B.S.V.S.R	Prediction of pressure drop in Helical coil with single phase flow of Non-Newtonian Fluid	ICMIE	Mysore	5 th August	2012
6	S.ShanmugaPriya	Heat transfer analysis of tube tanks using CFX software	6 th International Conference on Advanced Computing and Communication Technologies	Panipat, Harayana	3 rd Nov	2012
7	S Shanmuga Priya	Enhancement of servo response of the Integrating process with 2 DOF control structure	International Conference on Advanced Computing & Communication Technologies, ICACCT	Asia Pacific Institute of Information Technology SD India, Panipat .	3rd November	2012

2013**National****NIL****International**

#	Author Name	Title	Conference	Place	Date	Year
1	C.R.Girish	Removal of Toxic Phenol from Waste Water using Recycled waste material as Adsorbent	ICMR-NRHM Sponsored International Conference on "Global Public Health and Social Work"	Rajagiri College of Social Science, Cochin, Kerala.	3rd to 5th January	3rd to 5th January , 2013
2	S Shanmuga Priya	Design and Performance Evaluation of solar tricile down reactor for cypermethrin effluent treatment	International Conference on Global Scenario in Environment and Energy	MANIT, Bhopal	14-16th March	2013
3	Krishna, B.S.V.S.R	Predicting the Bed Height in Expanded Bed Adsorption Column	ICET2K13	THIRUPAC HUR	18-19th APRIL	2013
4	Krishna, B.S.V.S.R	Effect of helix angle on two-phase flow pressure drop of air-newtonian/non-newtonian fluids	International Conference on Emerging trends in Business, Management, Engineering and Technology Science.	Bangkok, Thailand	17-18th May	2013
5	Krishna, B.S.V.S.R	Climate Change And Sustainable Development Through Carbondioxide	International Conference on Management , Business & Economics	Vijayawada, Andhra Pradesh	7th & 8th June	2013
6	S.Shanmuga Priya	"PID Controller design for a real time ball and beam system-A double integrating process with dead time"	ISTE sponsored Proc. of Int. Conf. on Advances in Signal Processing and Communication.	Lucknow	21st June	2013
7	C.R.Girish	The adsorption of Phenol from waste water using Activated carbon prepared from Mango peel.	TEQIP - II Sponsored International Conference & Exhibition	UVCE, Bangalore University, Jnanabharathi, Bangalore.	25-27 July	2013

8	C.R.Girish	The Preparation and Characterisation of Biofull Produced from Fish Waste Feed stock	International Conference on Biotechnology for Innovative applications	Amrita Vishwa Vidyapeetham, Amritapuri Campus, Kerala, India.	11-14, August	2013
9	K.Balakrishna Prabhu	Poster presentation	Chemical Research of India Mid Year Symposium-13	NITK, Surathkal, Mangalore		2013
10	S.Shanmuga Priya	Phenomenal and worthy oral presentation	World congress on Petrochemistry and Chemical Engineering	OMICS Group conferences, Hilton San Antonio Airport, TX, USA.	18-20 Nov.	2013

2014**National**

#	Author Name	Title	Conference	Place	Date	Year
1	S.Shanmuga Priya	“Experimental studies on design of efficient solar detoxification system for treatment of high turbid paper mill wastewater”	National Conference on Emerging Trends For Sustainable Development In Engineering & Technology, 3 2014.	Udaipur,Rajasthan,	30th-31st Jan	2014
2	Rajesh Pachimatla	Catalytic Wet Peroxide Oxidation of Acid Orange 7	National Conference	Organized by BITS Pilani, Goa Campus, Goa	7-9 th February	2014

International

#	Author Name	Title	Conference	Place	Date	Year
1	S. Nethaji	Removal of Herbicide (2,4-Dichlorophenoxyacetic Acid) In Aqueous solution using Magnetite Activated Carbon Derived from Waste Biomass	2nd International Conference	Jawaharlal Nehru University, New Delhi.	4th 5th Jan.	2014
2	Krishna, B.S.V.S.R	Oral Presentation, Hydrodynamics of fluidized bed reactor for ethanol production.	International Conference on Green Technology for Environmental	National Institute of Technology, Tiruchirappalli, Tamilnadu	27 & 29th Sept.	2014

			Pollution Prevention and Control (ICGTEPC-2014)			
3	S.Shanmuga Priya	Integratefd Solar Bioprocess for Environmental Remediation	International Conference on Advances in Agricultural, Biological & Environmental Sciences (AABES-2014)	IICBE INT'l Conference, Dubai	Oct. 15-16	2014
4	S.Shanmuga Priya	Distillery Effluent Treatment Using Parabolic Trough Solar Collector Coupled with Biological Process	International Conference on Advances in Agricultural, Biological & Environmental Sciences (AABES-2014)	IICBE INT'l Conference, Dubai	Oct. 15-16	2014
5	Krishna, B.S.V.S.R	Progressive expansion of Particles in 3 phase inverse fluidized bed for higher Archimedes number	International Conference	Jawaharlal Nehru University, New Delhi.	29th 30th Nov.	2014
6	Krishna, B.S.V.S.R	Performance Evaluation for Bioethanol production in three reactors! Batch, packed bed and fluidized bed bioreactors.	International Conference	MANIT Bhopal.	27th, 29th Nov.	2014

- * **Monographs** : Nil
- * **Chapters in Books** : 01
- * **Edited Books** : Nil
- * **Books with ISBN with details of publishers** : 02
 - a. UV Photolysis of phenol; ISBN : 978-3-659-34339-1
 - b. Multiscale filtering and applications to Chemical and Biological Systems : ISBN: 9781466644502
- * **Number listed in International Database (For e.g., Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)** : 36

- * **Impact Factor – range** : 0.5-1
- * **h-index** : 0.72

23. Details of patents and income generated :

Inventor	Professor S Sivasankaran
Assignee	Manipal University
US Patent –S. Sivasankaran “Synthesis of Palladium Based Metal Oxides by Sonication”, January 2013, Patent No. 20130004412	

24. Areas of consultancy and income generated:

Analysis Procedures testing

- Areas of consultancy: Oil testing and particle size analysis in instrumental analysis Lab
- Income generated: 2012,2013, 2014 = Total Amount Rs.32,575

25. Faculty members selected nationally/internationally to visit other laboratories in India and abroad: -

Dr. S Harish Kumar, Mr. Sriprasad Acharya, Mr. Sandeep Parma and Ms. Monamy Dey visited National Laboratories, PPISR, Bangalore in 2014

26. Faculty serving in :

a. National Committees	Nil
b. International committees	Nil
c. Editorial Boards	Dr. S. Shanmuga Priya - Journal of Brewing and Distilling – Editorial board member Dr. BSVSR Krishna: International Journal of Advances in Engineering and Applied Science- Editorial Board Member
d. Any other	Dr. S. Shanmuga Priya, Gandigram Rural Institute Publication Office, Gandigram, Dindugal, Board member of Academics for Department of Energy, 2012

27. Faculty recharging strategies

- a) Participation of faculty members in international faculty exchange programs
- b) Participation of faculty members in national and international conferences, symposia and workshops
- c) Participation of faculty members in Faculty Development Programmes and refresher courses organized by other Universities, UGC and others

28. Student projects :

- percentage of students who have done in-house projects including inter-departmental projects: 63 per cent
- percentage of students doing projects in collaboration with other universities/industry/institute: 37 per cent

29. Awards/recognitions received at the national and international level by

1. Faculty-2012-2014

1	Mr K.Balakrishna Prabhu chaired a session in National Conference in Emerging Trends on Energy Engineering on 23 rd and 24 th march 2012 at Dehradun
2	Dr B.S.V.S.R Krishna, chaired a session International Conference on Mechanical and Industrial Engineering on 5 th August 2012 at Mysore
3	Dr. Jayadeva Bhat chaired a session in DRDO-CSIR Sponsored IX CISCON-2012 on Theme- Emerging Trends in Industrial Automation & Control , Control System-III, 16 th and 17 th November 2012 at Manipal
4	Dr. S. Shanmuga Priya chaired a session in Int'l Conference IICBE 15 th and 16 th October 2014 at Manipal
5	Dr S Harish Kumar chaired a session in CISCON on 15 th and 16 th October 2014 at MIT, Manipal.
6	Dr S Harish Kumar chaired a session International Conference -ICRAES-2014 on 4 th and 5 th of Sept. 2014
7	Dr S Harish Kumar chaired a session International Conference on 14 th Feb 2014 at SIT, Tumkur, Karnataka
8	Krishna, B.S.V.S.R, Delivered a guest lecture in a workshop on Trends in Reaction and Environmental Engineering on 16 th March 2012 at IIT Madras.
9	Dr Ashwin Gaikwad got best poster award at CCST, IST, JNTUH, Hyderabad, 2014

- **Doctoral/post-doctoral fellows – One**

Students - 2012-2014

1	Four undergraduate students qualified GATE examination in 2013
2.	Three undergraduate students qualified GATE examination in 2014
3	One student got Mitchelin India Scholarship in 2014 (He is one among the only three students selected From INDIA)
3.	Under dual degree program as per the MoU, Mr. Kevin Anil Devidson joined University of Nottingham, UK for his second year M.Tech. after completing the first year M.Tech. Chemical Engineering at MIT.
4	Ms Sucharitha Kamath got <ul style="list-style-type: none"> a) 2nd prize in paper presentation at Tatyasaheb Kore Institute of Engineering and Technology, Kolhapur. (2013-2014) b) 2nd prize at Kolhapur institute of Technology, Kolhapur (2013-2014)
5	Ms Alakananda Roy got 1 st prize in paper presentation at Visveswarya National Institute of Technology, Nagpur. (2013-2014)

6	Mr Nakul Rampal got 2 nd prize in paper presentation at Birla Institute of Technology & Science, Pilani. 2013-2014
7	Mr Champak Gagoi got 1 st prize at Visveswarya National Institute of Technology, Nagpur 2013-2014
8	Ms Shombrita Ghosh got a) 2 nd prize in essay competition at Indian Institute of Chemical Engineering: Bangalore regional center (2013-2014) b) Got 3 rd prize in paper presentation at Birla Institute of Technology & Science, Pilani. 2013-2014

30. Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any:

	Workshop/Symposium
1	A National Level symposium on “Chemignite 2K12” on “Sustainable Development: Issues and Challenges” is organized by IChE student chapter, MIT Maniapl on 7 th and 8 th September, 2012.
2	A National level symposium “Chemignite 2K13” on Safety in process industries and chemical laboratories is organized by IChE student chapter, MIT Maniapl on 25 th & 26 th of October, 2013.
3	National Level Symposium, Chemignite 2K14 on "Clean and Green Technologies for Sustainable Development" is organized by IChE student chapter, MIT Maniapl on 17 th & 18 th Oct. 2014.

31. Code of ethics for research followed by the departments :

The basic responsibility of an EC (Ethics Committee) is to ensure a competent review of all ethical aspects of the project proposals received and execute the same free from any bias and influence that could affect their objectivity. EC should provide advice to the researchers on all aspects of welfare and safety of the research participants after ensuring the scientific soundness of the proposed research through appropriate Scientific Review Committees. In smaller institutions the EC can up the dual responsibility of Scientific and Ethical Review.

The responsibilities of an EC can be defined as follows:

1. To protect the dignity, rights and well-being of the potential research participants
2. To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs
3. To assist in the development and the education of a research community responsive to local health care requirements.

32. Student profile course-wise:

2012

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
BTech - IV Semester	Admission is being done as per Manipal University Policy (Refer data from admission Department)	55	22	32(58%)	16 (73%)
BTech – VI SEMESTER		45	18	34 (76%)	14 (78%)
BTech – VIII SEMESTER		35	17	35(100%)	17(100%)
MTech I SEMESTER		11	7	8 (73%)	7(100%)
MTech II SEMESTER		8	10	8(100%)	10(100%)

2013

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
BTech - IV Semester	Admission is being done as per Manipal University Policy (Refer data from admission Department)	39	21	28(72%)	18 (86%)
BTech – VI SEMESTER		50	21	35 (70%)	18 (86%)
BTech – VIII SEMESTER		46	18	46(100%)	18(100%)
MTech I SEMESTER		3	2	2 (67%)	2(100%)
MTech II SEMESTER		12	6	12(100%)	6(100%)

2014

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
BTech - IV Semester	Admission is being done as per Manipal University Policy (Refer data from admission Department)	57	25	30(53%)	16 (64%)
BTech – VI SEMESTER		45	22	29 (65%)	19 (86%)
BTech – VIII SEMESTER		48	23	48(100%)	23(100%)
MTech I SEMESTER (Chem)		10	4	9(90%)	4(100%)
MTech I SEMESTER (IPC)		3	1	2(67%)	1(100%)
MTech II SEMESTER		3	2	3(100%)	2(100%)

33. Diversity of students

2012

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
B.Tech Chemical Engineering	0%	5%	94%	1%
M.Tech Chemical Engineering	0%	40%	60%	0%

2013

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
B.Tech Chemical Engineering	0%	1%	97%	2%
M.Tech Chemical Engineering	0%	50%	50%	0%

2014

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
B.Tech Chemical Engineering	0	15	83	2
M.Tech Chemical Engineering	12.5	37.5	50	0

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.:

S.No.	Year	Name of Examination	No of students
1	2013	GATE-2013	4
		Michelin India scholarship	1
2	2014	GATE-2014	3

35. Student progression:

Student progression	Percentage against enrolled
Undergraduate to Postgraduate	24.8%
Postgraduate to MPhil	-
Postgraduate to PhD	-
PhD to Post-doctoral	-
Employed	48.2%
<ul style="list-style-type: none"> • Campus selection • Other than campus recruitment 	
Entrepreneurs	-

36. Diversity of staff :

Percentage of faculty who are graduates	
of the same university	11 %
from other universities within the State	44 %
from universities from other States	45%
from universities outside the country	Nil

37. Number of faculty who were awarded PhD, DSc and DLitt during the assessment period: One**38. Present details of infrastructural facilities with regard to**

- a) Library - Department Library -1
- b) Internet facilities for staff and students - 78
- c) Total number of class rooms- 03
- d) Class rooms with ICT facility- 03
- e) Students' laboratories -08

SI No.	Laboratory	Description of apparatus and facilities available
1	MO & MT Lab	Screen Effectiveness
		Drop Weight Crusher
		Sampling Studies
		Batch Sedimentation
		Leaf Filter Experiment
		Orifice Meter
		Annular Pipe Set up
		Venturi Meter Set up
		Circular Pipe (1') Set up
		Packed Bed Set up
		Fluidized Bed Set up
		V-Notch Set up
		Reynolds Experiment
		Pilot Tube Experiment
		Bernoulli's Theorem Apparatus
Centrifugal Pump Test Rig		
Jaw crusher		
Ball mill		

2	Heat Transfer Lab	Single Effect Evaporator
		Drop wise & Film wise condensation
		Packed Bed heat exchanger
		Thermal Conductivity of Metal Rod
		Horizontal shell & Tube heat Exchanger
		Vertical shell & Tube heat Exchanger
		Bare tube heat Exchanger
		Fin Tube heat Exchanger
		Double Pipe heat Exchanger
		Boiling Point Jacketed Vessel
		Boiling Point Oil Jacketed Vessel
		Transient heat conduction
		Pool Boiling Apparatus
3	Mass Transfer Lab	Diffusion apparatus
		Simple Distillation
		Steam distillation
		Liquid-Liquid extraction in 3 stage cross flow cascade operation
		Simple leaching
		Mass Transfer in co-efficient in dissolution of solid
		Packed bed distillation column
		Batch adsorption
		Liquid-Liquid Equilibrium
		Cross flow leaching
4	CRE &PDC Lab	Conductivity
		First & Second order system
		Multi-process Trainer
		Cascade Control Trainer
		DCS Trainer
		Multivariable control trainer
		Level Control
		Temp. Control;
		P/I Converter
		I/P Converter
		Control valve characteristics
		RTD studies in CSTR
		Kinetic studies in CSTR
		Kinetic studies in PFR
		Batch Reactor
		RTD Studies in PFR (Pulse input)
		Step Response of a Thermometric system
Single Tank experiment system(Linear)		
Step response of Interacting Tank system		
Step response of non-Interacting Tank system		
5	Computer Lab	Aspen/Ansys /Comsol /Autocad /Mat lab software installed in PC
6	Analytical Lab	Gas Chromatograph (GC) with Auto Liquid Sampler (ALS)
		BET Apparatus
		Particle size analyzer
		Atomic Absorption Spectrometer
		HPLC
		Glass Reactor
		UV-Vis Spectrophotometer

f) **Research laboratories** -02

1	Bio Chemical Lab	1	B.O.D Incubator (2 No s)
			Incubator Shaker
			B.O.D.Monitor
			C.O.D. Digester
			Turbidity Meter
			P ^H Meter
			TDS
			Salinity
			PH
			DO
			Fermentor
			TOC analyzer
2	Research Laboratory	1	Ultrasonic Processor-Probe type
			Ultrasonic Processor –bath type
			Centrifuge
			Circulator bath (2 Nos)
			B.O.D. Incubator
			Incubator Shaker
			P ^H Meter (2 Nos)
			Laminar air flow chamber
UV VIS Spectrometer Shimadzu -1800			

39. List of doctoral, post-doctoral students and Research Associates

a) **From the host university** : Three (Manipal University)

- 1) Mr C R Girish
- 2) Mr P Vairavel
- 3) Mr Sriprasad Acharya

b) **From other universities**: One (NITK Surathkal)

- 1) Mr K Bala Krishna Prabhu

40. Number of postgraduate students getting financial assistance from the university

- Nine

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology

Inputs are taken from academicians, industries and other stake holders

42. Does the department obtain feedback from

a. Faculty members on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes, The feedback from faculty is discussed in Departmental curriculum committee meetings and suggestions/ revisions approved by BoS/ Academic Senate is implemented.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Yes, the feedback from the students is discussed in class committee meetings & DCC meeting and suggestions/ revisions approved by BoS/Academic Senate is implemented.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

The collected feedback from the alumni and employers is used for introducing the new courses and introducing the new experiments in the laboratory courses.

43. List the alumni of the department (maximum 10)

- Mr Sathish Kumar is the Vice Chancellor, Vinayaka Mission University, Salem
- Dr.Suhas Bhandarkar, Professor, Alfred University, New York
- Dr Ganapathi Aiappan, Professor & Chair of Department of Chemical Engineering, IISc, Bangalore
- Mr Paresh Trivedi, Vice President, Technical Services, Reliance Industries
- Dr Prakash K, CEO, Kerox Chemicals, Bangalore
- Mr Nanda Kishore Rathi, Managing Director, Tara Group. Pune
- Dr Murali Krishna Reddy, President, IE India.
- Dr K T Shenoy, Head, Chemical Engineering Division, BARC, Mumbai
- Mr Venkatesh, Director, MRPL, Mangalore

44. Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts.

Guest Lecture:

- Mr Raja Shekar, Skill development consultant Process Training Associates, Bangalore, on 05/03.2012. Topic: Emerging Opportunities to Chemical Engineers.
- Mr Vikram M Sampat, Vice President- Business Strategy, Reliance Industries, Mumbai , 15/10/2012, Topic: Global Energy Scenario-Challenges and Opportunities
- Mr Vikram. M. Sampat, Vice President, Business Strategy, Reliance, 6/4/2013, Topic: "Refining Overview-Reliance Example"
- Dr GopalVaidyanathan, Vice President (Technical), Water India Pvt Ltd., Bangalore, 16.03.2013, Topic: Recent developments in spectroscopic techniques.
- Dr S. U. Rahman, Professor of Chemical Engineering, King Fahd University of Petroleum and Minerals, Dhahran , Saudi Arabia, 22.01.2013,Topic: Electrochemical Reduction of CO₂ in Electrochemical Reactors similar to Fuel Cell
- Dr. S. Hariharan, CEO and Joint Managing Director Solaris Chemtech Industries Ltd., Avantha Group, Topic: Indian Chemical Industry - Opportunities and

- Challenges for young Chemical Engineers, 27-9-2013.
- Mr. Vikram M. Sampat, Vice President-Business Strategy, Reliance Industries, Mumbai., Topic: Global Fibers overview – Opportunities for Innovation”, 10/11/2013.
 - Dr. Girish G. Rao PhD, Manager-R&D (Bitumen & Sulphur Products) Shell Technology Centre Bangalore-India., Topic: The Energy Challenge: Delivering Technology from India for a Carbon Constrained World, 2/26/2014.
 - Dr. Girish G. Rao PhD, Manager-R&D (Bitumen & Sulphur Products) Shell Technology Centre Bangalore-India., Making a Career form Yourself in the Technical World., 30-Sept. 2014.
 - Dr. Leon Ittiachen PhD., Associate Professor, Sahrdaya College of Engg. & Tech., Kerala. Adjunct Professor - Dept. of Chemical Engineering, MIT Manipal., Engineering the knowledge Economy, 6th Nov. 2014.
 - Sri. Sanjay Venugopal., Senior Technologist, Yokogawa R&D, Bangalore., "Emerging Opportunities for Chemical Engineers in Process Design, Operations & Control, 7th Nov. 2014.

Symposium Organized

1.	<p>A national symposium “Chemignite 2k12” on “Sustainable Development: Issues and Challenges” organized by IChE student chapter MIT, Manipal on 7-8th September, 2012.</p> <p>Participants: nearly 75 participants attended the symposium from Karnataka, Tamilnadu.</p> <p>Guest Speakers: Dr YJ Rao, Former registrar, IChE, India, Dr AV Ramana Acharyulu, Professor, TAPMI, Manipal</p>
2	<p>A national symposium “Chemignite 2K13” on Safety in Process Industries and Chemical laboratories” organized by IChE student chapter MIT, Manipal, on 25th & 26th of October 2013.</p> <p>Participants: nearly 50 participants attended the symposium from Karnataka, Tamilnadu.</p> <p>Guest Speakers: Shri. Gopalakrishna, Consultant, Safety, Health and Environment, Manipal Group, Manipal. Sri Sunil M Kulkarni, General Manager, Production, MCF, Mangalore, Prof. B. K. Mishra, Phd(Utah), FNAE, Director, CSIR-Bhubaneswar</p>
3	<p>A National Level Symposium “Chemignite 2K14” on "Clean and Green Technologies for Sustainable Development” is organized by IChE student chapter MIT Manipal on 17th & 18th Oct. 2014.</p> <p>Participants: nearly 70 participants attended the symposium from Karnataka, Tamilnadu</p> <p>Chief Guest : Dr. Utpal M Vakil, Senior Manager T&I, SABIC Technology Centre, Bangalore, Dr. Sivakumar, Manager, SABIC Technology Centre, Bangalore, Dr. Srikumar, Visiting Professor, NITK Surathkal, Dr. Girish G. Rao, PhD, Manager-R&D (Bitumen & Sulphur Products), Shell Technology Centre, Bangalore-India.</p>

45. List the teaching methods adopted by the faculty for different programmes.

- Class room teaching by using modern teaching tools
- Tutorial classes

- Mini projects, major projects and practice school
- Individual experiments and group experiments in laboratories
- Seminars by experts and students
- Guest lectures on current and advanced topics by industry and academia persons.
- Group discussion

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- Feedback from faculty, students, alumni and employers
- Result analysis after examination which includes counselling of under performers
- Regular revision of syllabus
- Input from placement cell

47. Highlight the participation of students and faculty in extension activities.

- Participation in social organizations student club and faculty club
- Learning foreign languages
- Supervision of International student's internship

48. Give details of “beyond syllabus scholarly activities” of the department.

- a. Students/Faculty members have participated in conferences held at various Institutions.
- b. Faculty members' involvement:
 - Chairing Sessions
 - Delivering invited talks,
 - Engaging in Research activities
 - Filing patents
- c. Journal paper review
- d. Master's/Doctoral thesis evaluation
- e. Guest Lectures
- f. Activities of student chapter of Indian Institute of Chemical Engineers

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details.

- Undergraduate programme was accredited by NBA for 5 years in 2007. Reaccreditation process is in progress.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

Conducting Conferences, Symposia, Workshops and Lecture series for the faculty members and students

51. Future plans of the department.

- Aiming for funded research projects
- Enhancement of consultancy work and industry-institute interactions
- Enhancement in the number of publications in national/international journals/conferences
- Collaboration with industries and R&D organizations.

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths

- Qualified and experienced faculty members.
- Updated Curriculum according to industry needs.
- State-of-the-art laboratories with sophisticated equipment.
- Academic collaboration with National/International universities.
- Testing and analysis consultancy work.
- Research Collaboration with industry/research organizations like Shell Technology Centre, Bangalore, SABIC Technology Centre, Bangalore and PPISR, Bangalore.
- Students' mobility through IAESTE.

Weaknesses

- Sponsored funded research projects.
- Locational disadvantage for improvement of consultancy work in the department.

Opportunities

- Availability of excellent central instrumentation facility to carry out research.
- Adequate internal funding for research.
- Involvement of various stake holders in the field of Chemical Engineering for academic and research activities in the department.

Challenges

- Improving industry-academia relationship.
- Attracting external research funding.
- Effective implementation of revised curriculum
- Encourage the students for participation in public/service examinations
- Exploring placement opportunities in core industries.

- Name of the Department:** Chemistry
- Year of establishment:** 1957
- Is the Department part of a School/Faculty of the university?**
Yes, the department is part of Manipal Institute of Technology, Manipal
- Names of Programmes/Courses offered (Undergraduate, Postgraduate, MPhil, PhD, Integrated Masters, Integrated PhD, etc.,)**

Course Name	Course Code
B. Tech. Engineering Chemistry (Common subject)	CHM-1001
Chemical Engineering – Chemistry - II	CHM-201
Chemical Engineering – Chemistry – III	CHM-202
I & CE- ANALYTICAL INSTRUMENTATION	ICE 303
Open Electives	
Analytical techniques and instrumentation- IV Sem.	CHM – 320
Catalysis and Colloidal System- VI Sem.	CHM – 328

- Interdisciplinary courses and departments involved:** B. Sc. Biotech (SOLS), B.S. Eng. (ICAS), Chemical Engineering B.Tech (Dept. of Chemical Eng.)
- Courses in collaboration with other universities, industries, foreign institutions, etc.,** Nil
- Details of programmes/courses discontinued, if any, with reasons:**
Nil
- Annual/Semester/Choice Based Credit System**
Semester Based 10-point Credit System
- Participation of the department in the courses offered by other departments –**
Manipal College of Dental Sciences:

Post Graduate Diploma in Dental Materials
First Year PG Diploma Course “Chemistry of Materials”

- Number of teaching posts sanctioned and filled (Professors/Associate Professors/Assistant Professors) -**

Details	Sanctioned	Filled
Professor	2	2
Associate Professors	7	7
Assistant Professors	11	11
Total	20	20

11. Faculty profile with name, qualification, designation and specialisation (DSc/DLitt/PhD/MPhil, etc.,)

#	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students guided for the last 4 years
1	Dr. M. P. Yashoda	MSc, PhD	Associate Professor (Sr. Scale) & Head	Physical Organic Chemistry	16	2
2	Dr Padmalatha	MSc, PhD	Professor	Physical Chemistry	28	2
3	Dr. B. H. S Thimmappa	MSc, PhD	Professor	Organometallic Chemistry	15	2
4	Dr. M. Srinivasulu	MSc, PhD	Assoc. Professor (Sr. Scale)	Nuclear Chemistry	13	3
5	Dr. Suma A. Rao	MSc, PhD	Assoc. Professor (Sr. Scale)	Physical Chemistry	17	-
6	Dr. Subrahmanya Bhat K.	MSc, PhD	Assoc. Professor	Organic Chemistry	11	2
7	Dr. N V. Anil Kumar	MSc, PhD	Assoc. Professor	Organic Chemistry	12	2
8	Dr. Santhosh Gaonkar	MSc, PhD	Assoc. Professor	Organic Chemistry	15	1
9	Dr. Fasiulla	MSc, B.Ed. PhD	Assoc. Professor	Industrial Chemistry	8	1
10	Dr. M. Selvakumar	MSc, PhD	Asst. Professor (Senior Scale)	Physical Chemistry	7	2
11	Dr. Dhanya Sunil	MSc, PhD	Asst. Professor (Senior Scale)	Inorganic Chemistry	8	1
12	Mr. Venkatachalam H.	MSc	Asst. Professor (Senior Scale)	Inorganic Chemistry	11	-
13	Mrs. Lalitha Simon	MSc, B.Ed.	Asst. Professor (Senior Scale)	Chemistry	16	-
14	Dr. Poornima Bhagavath	MSc, PhD	Asst. Professor (Senior Scale)	Physical Chemistry	8	-
15	Mrs. Pushpanjali Bhat	MSc	Asst. Professor (Senior Scale)	Inorganic chemistry	8	-
16	Dr. Nitinkumar S Shetty	MSc, PhD	Asst. Professor (Senior Scale)	Organic Chemistry	8	1
17	Mr. B. S. Manjunatha	MSc, MPhil	Asst. Professor (Senior Scale)	General Chemistry	11	-
18	Mrs. Sangeetha G. Bhat	MSc	Asst. Professor	Inorganic Chemistry	8	-
19	Mrs. Preethi Kumari P.	MSc	Asst. Professor	Applied Chemistry	6	-
20	Mrs. Sowmya	MSc	Asst. Professor	Organic Chemistry	5	-

12. List of senior Visiting Fellows, faculty, adjunct faculty, emeritus professors:

Dr. A. S. Radhakrishna, GE Technologies, Bangalore (Adjunct faculty).

13. Percentage of classes taken by temporary faculty – programme-wise information

Nil

14. Programme-wise Student Teacher Ratio:

NA

15. Number of academic support staff (technical) and administrative staff: sanctioned and filled:– 8(technical), 1 (administrative)

Category	Sanctioned	Filled
Administrative staff	1	1
Academic support staff (technical)	8	8

16. Research thrust areas recognized by funding agencies:

Liquid crystals, corrosion studies, polymer chemistry, bio organic & medicinal chemistry, composite materials, organic synthesis, organo-metallic chemistry and polymer electrolytes.

17. Number of faculty with on-going projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise.

National Project – Defence Research and Development organization

Grants received – Rs. 16.98Lakhs

Investigators: Dr M Selvakumar and Dr. Krishna Bhat

Title: ‘Development of supercapacitors based on polymer electrolytes’

18. Inter-institutional collaborative projects and grants received:

a) All India collaboration b) International

Dr. Selvakumar got Project from DRDO ‘Development of supercapacitors based on polymer electrolytes’ in collaboration with Dr. Krishna Bhat, NITK, Surathkal

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received: Nil**20. Research facility / centre:**

Instruments available in Department

1. Fourier-Transform Infrared Spectrophotometer (FTIR)

2. UV-Visible Spectrophotometer
3. Differential Scanning Calorimetry (DSC)
4. Thermogravimetric analysis

Instruments available in central facility.

1. 400 MHz Nuclear magnetic resonance spectrometer
2. Powder XRD
3. Scanning electron microscope

21. Special research laboratories sponsored by/created by industry or corporate

bodies: Nil

22. Research Output in last 3 years

Details		2012	2013	2014
Completed funded research projects		-	-	1
Completed non-funded research projects		-	-	-
Completed PhD research projects		-	1	2
Completed PG research projects		19	12	20
Completed UG research projects		-	-	-
Publications	International	15	48	34
	National	-	-	-
Books		-	-	-
Chapters in books		-	-	-
Conference presentations	International	3	3	5
	National	1	2	5

Publications:

International Journals (2014)

#	Name of the Author(s)	Title of the Article	Name of the Journal/Conference	Indexed/N on-indexed	Other Details
1	Ajithkumar, M P Yashoda, M P, Prasannakumar, S	Synthesis, characterization, microstructure determination and thermal studies of poly(N-vinyl-2-pyrrolidone–maleic anhydride–styrene) terpolymer.	Iranian Polymer Journal	Indexed	2014
2	Pushpanjali, M and Rao, Suma and Padmalatha,	Inhibitive effect of Carica papaya seed extract on aluminium in sulphuric acid medium	Journal of Materials and Environmental Science	Indexed	2014
3	Thimmappa, B H S	Higher Education Perspectives for an Exciting Educational	Bulgarian Journal of Science	Indexed	2014

		Experience – Part III : An Indian Context.	Education.		
4	Thimmappa, B H S	Higher Education Perspectives for an Exciting Educational Experience – Part IV – An Indian Context.	Bulgarian Journal of Science Education.	Indexed	2014
5	Kumar, Ashok A V N and Chalapathi , P V and Srinivasulu, M and Muniprasad, M and Potukuchi, D M	Influence of spacer moiety and length of end chain for the phase stability in complementary, double hydrogen bonded liquid crystals, MA:nOBAs.	Journal of Molecular Structure	Indexed	2014
6	Subrahmanyam, S V and Chalapathi , P V and Mahabaleshwara, S and Srinivasulu, M and George, A K and Potukuchi, D	Ferroelectric response in achiral non-symmetric bent liquid crystal: C12C10.	Physica B	Indexed	2014
7	Subrahmanyam, S V and Chalapathi , P V and Mahabaleshwara, S and Srinivasulu, M and Potukuchi, D M	Ferroelectric phases in non-symmetric achiral bent liquid crystals towards ambient temperatures: a novel series with oxadiazol as central moiety.	Liquid Crystals	Indexed	2014
8	Shounak, De and Satyanarayana, B S and Srinivasulu, M	Band-gap measurement of room temperature grown clustered Carbon films for large area microelectronics.	Journal of Electron Devices	Indexed	2014
9	Preethi, Kumari P and Shetty, Prakash and Rao, Suma	Corrosion Inhibition of Mild Steel in HCl Medium by 2-(3, 4, 5-Trimethoxybenzylidene) Hydrazinecarbothioamide.	Journal of Applicable Chemistry	Indexed	2014
10	Pushpanjali M, Suma A Rao, Padmalatha Rao	Inhibitive effect of Carica papaya seed extract on aluminium in H ₂ SO ₄ medium	Journal of Materials and Environmental Science	Indexed	2014
11	Kumari, Preethi P and Shetty, Prakash and Rao, Suma and Sunil, Dhanya	Corrosion inhibition and adsorption behaviour of (2E)-2-(3-hydroxy-2-methoxybenzylidene) hydrazinecarbothioamide on mild steel in 1M HCl.	Revue Roumaine de Chimie,	Indexed	2014
12	AN Prabhu, A Jayarama, V	Growth, characterization and molecular	Chemical Science	Indexed	2014

	Upadhyaya, KS Bhat	hyperpolarizabilities of novel nonlinear optical chalcone crystals	Transactions 3 (2)		
13	KS Mukunthan, NV Anil Kumar, S Balaji, NP Trupti	Analysis of Essential Oil Constituents in Rhizome of <i>Curcuma caesia</i> Roxb. from South India	Journal of Essential Oil Bearing Plants	Indexed	2014
14	CP Chandrappa, M Govindappa, NV Anil Kumar, R Channabasava,	Identification and Separation of Quercetin from Ethanol Extract of <i>Carmona retusa</i> by Thin Layer Chromatography and High Performance Liquid Chromatography with Diode Array Detection	Journal of Pharmaceutical Sciences	Indexed	2014
15	CP Chandrappa, M Govindappa, NV Anil Kumar, R Channabasava	In Vitro Anticancer Activity Of Quercetin Isolated From <i>Carmona retusa</i> (Vahl.) Masam on Human Hepatoma Cell Line (Hepg2)	IOSR Journal of Pharmacy and Biological Sciences 9 (6)	Indexed	2014
16	Gaonkar, Santosh L and Namratha, B and Shetty, Nitinkumar S and Shimizu, Hiroki	Microwave-assisted synthesis and evaluation of N-substituted thiazolidine-2,4-dione derivatives as antimicrobial agents.	Interactive Medicinal Chemistry	Indexed	2014
17	Santosh L. Gaonkar and K. M. Lokanatha Rai,	Applications of Azoalkenes in the Synthesis of Fused Ring Pyridazine Derivatives,	Journal of Heterocyclic Chemistry	Indexed	2014
18	B Namratha, SL Gaonkar	1, 2, 4-Triazoles: synthetic strategies and pharmacological profiles,	International Journal of Pharmacy and Pharmaceutical Sciences 6 (8)	Indexed	2014
19	M.Selvakumar , Y. N. Sudhakar, D. Krishna Bhat	Miscibility studies of Starch and Poly(4-styrene sulfonic acid) blend system	International Journal of ChemTech Research 6 (7)	Indexed	2014
20	M.Selvakumar DKrishna Bhat, SSK Y. N. Sudhakar	Reduced graphene oxide derived from used cell graphite and its green fabrication as an eco-friendly supercapacitor	RSC Advances 4,	Indexed	2014
21	YN Sudhakar, M Selvakumar, DK Bhat	Tubular array, dielectric, conductivity and electrochemical properties of biodegradable gel polymer electrolyte	Materials Science and Engineering	Indexed	2014

22	IM De la Fuente Salas, YN Sudhakar, M Selvakumar	High performance of symmetrical supercapacitor based on multilayer films of graphene oxide/polypyrrole electrodes	Applied surface science 296	Indexed	2014
23	Sunil, Dhanya and Shetty, Puneeth and Murugappan, Rama	Synthesis, antimicrobial and QSAR studies of some new thiadiazepine derivatives.	International Journal of Pharmaceutical Chemistry, 04 (03).	Indexed	2014
24	Sunil, Dhanya and Ranjitha, C and Murugappan, Rama and Pai, K S R	Oxazepine Derivative as an Antitumor Agent and Snail1 Inhibitor against Human Colorectal Adenocarcinoma.	International Journal of Innovative Research in Science, Engineering and Technology,	Indexed	2014
25	Sunil, Dhanya and Ranjitha, . and Balaji, S and Pai, KSR	(E)-1-(2,3-dimethoxyphenyl)-N-(4-methylpyridin-2-yl)methanimine as a potent anticancer agent against colorectal cancer	International Journal of Pharmaceutical Chemistry	Indexed	2014
26	Sunil, Dhanya and Ranjitha, C and Murugappan, Rama and Balaji, S	3-[(E)-(4-Hydroxy-3-methoxybenzylidene)amino]-2-thioxoimidazolidin-4-one as Snail1 Inhibitor with Anticancer and Anti-migratory Properties Against Colorectal Cancer.	Chemical Science Transactions	Indexed	2014
27	Kumari, Preethi P and Shetty, Prakash and Rao, Suma and Sunil, Dhanya	Corrosion inhibition and adsorption behaviour of (2E)-2-(3-hydroxy-2-methoxybenzylidene)hydrazinecarbothiamide on mild steel in 1M HCl.	Revue Roumaine de Chimie,	Indexed	2014
28	Rao, Amita S and Simon, Lalitha and Srinivasan, KK and Moorkoth, Sudheer and Haleem, Zarah A and Jadon, Shivender S and Matsa, Ram M and Sagiraju, Ravivarma	Synthesis and in vitro Antimicrobial Evaluation of 5'-Acetamido-2'-Hydroxy Chalcone derivatives	Research Journal of Chemical Sciences	Indexed	2014

29	Jayashree, BS and Kawade, Shishir and Venkatachalam, H	Anticancer Evaluation of some of the Novel Iminoflavones.	Research Journal of Chemistry and Environment	Indexed	2014
30	Nayak, Yogendra and Venkatachalam, H and Daroji, Vijay Kumar and Mathew, Geetha and Jayashree, BS and Unnikrishnan, MK	Antidiabetic activity of 3-hydroxyflavone analogues in high fructose fed insulin resistant rats.	EXCLI Journal	Indexed	2014
31	Nayak, Yogendra and Venkatachalam, H and Jayashree, BS and Unnikrishnan, MK	Antidiabetic activity of benzopyrone analogues in nicotinamide-Streptozotocin induced Type 2 diabetes in rats.	The Scientific World Journal	Indexed	2014
32	Namratha, B and Shetty, Nitinkumar S and Pednekar, Atmesh S and Gaonkar, Santosh L	Synthesis and characterization of novel 3-substituted-2-butyl-5-chloro-imidazol-4-carbaldehyde derivatives.	International Journal of Chemical and Pharmaceutical Sciences	Indexed	2014
33	Gaonkar, Santosh L and Ahn, Chuljin and Princia, . and Shetty, Nitinkumar S	Microwave-Assisted and Conventional Synthesis of Benzothieno [3,2-e] [1,3,4] triazolo[4,3-c]pyrimidines: A Comparative Study.	Journal of the Korean Chemical Society	Indexed	2014
34	Namratha, B and Gaonkar, Santosh L	Synthesis and Antimicrobial Screening of Novel 4-Substituted Phenyl-5-[1-(4-fluorophenyl)-1,3-dihydroisobenzofuran-5-yl]-2H-1,2,4-triazole-3-thiones.	International Scholarly Research Notices	Indexed	2014

National Journals (2014) - NilInternational Journals (2013)

#	Name of the Author(s)	Title of the Article	Name of the Journal/ Conference	Indexed/N on-indexed	Other Details
1	Ajithkumar, M P Yashoda, M P and Prasannakumar, S	Copolymerization of N-Vinyl pyrrolidone with methyl methacrylate by Ti(III)-DMG redox initiator.	Turkish Journal of Chemistry	Indexed	2013
2	Pushpanjali, M and Rao, Suma and Padmalatha,	Carica papaya seeds – Green Inhibitor for Corrosion Control of Aluminium in Acid Medium.	Journal of Applicable Chemistry.	Indexed	2013
3	Prabhu, Deepa and Padmalatha	Garcinia indica as an Environmentally Safe Corrosion Inhibitor for Aluminium in 0.5M Phosphoric Acid	International Journal of Corrosion	Indexed	2013
4	Prabhu, Deepa and Padmalatha	Corrosion inhibition of 6063 aluminum alloy by Coriandrum sativum L seed extract in phosphoric acid medium.	Journal of Materials and Environmental Science	Indexed	2013
5	Prabhu, Deepa and Padmalatha	Studies of Corrosion of Aluminium and 6063 Aluminium Alloy in Phosphoric Acid Medium.	International Journal of ChemTech Research, 5 (6).	Indexed	2013
6	Kumar, A and Ali, A and Vinod, K N and Mondal, A K and Hedge, A and Menon, A and Thimmappa, B H S	WO _x /ZrO ₂ : A highly Efficient Catalyst for Alkylation of Catechol with tert-butyl Alcohol.	Journal of Molecular Catalysis A: Chemical	Indexed	2013
7	Kumar, A and Raghunandana, K S and Ali, A and Menon, A and Thimmappa, B H S	Rapid Online Monitoring of a Heterogeneous Catalyst by a Pulsed Reactor Coupled to GC-MS.	Instrumentation Science & Technology, 41.	Indexed	2013
8	Thimmappa, B H S	Perspectives on Technology Enhanced Learning and Teaching for Exciting Learning Experience.	Bulgarian Journal of Science Education.	Indexed	2013
9	Thimmappa, B H S	Additional Perspectives to an Exciting Science Educational Experience -	Chemical Education Journal	Indexed	2013

		Part-II, -An Indian Context.			
10	Kumar, Ashok A V N and Sridevi, B and Srinivasulu, M and Chalapathi , P V and Potukuchi, D M	Inductive effect for the phase stability in hydrogen bonded liquid crystals, x-(p/m)BA:9OBAs.	Liquid Crystals	Indexed	2013
11	Bhagavath, Poornima and Mahabaleshwara, S and Bhat , Sangeetha G and Potukuchi, D M and Chalapathi , P V and Srinivasulu, M	Mesomorphic thermal stabilities in supramolecular liquid crystals: Influence of the size and position of a substituent.	Journal of Molecular Liquids	Indexed	2013
12	Bhagavath, Poornima and Bhat , Sangeetha G and Mahabaleshwara, S and Girish, S R and Potukuchi, D M and Srinivasulu, M	Induced Smectic-A phase at low temperatures through self-assembly.	Journal of Molecular Structure	Indexed	2013
13	Shubhalaxmi, S Hahne, A Jayarama, KS Bhat	Crystal Growth and Characterization of 1-(2, 4-Dichlorophenyl-2yl)-3-(4-hydroxyphenyl) prop-2-en-1-one	Chemical Science Transactions 2 (3)	Indexed	2013
14	Shubhalaxmi, S Hahne, C Zschille, A Jayarama, KS Bhat	Crystal Structure Studies and Thermal Characterization of Novel 4-Hydroxychalcone Derivative	Chemical Science Transactions 2 (3),	Indexed	2013
15	AN Prabhu, A Jayarama, KS Bhat, KB Manjunatha, G Umesh,	Physicochemical studies on thienyl chalcone derivative for nonlinear optical application	Indian Journal of Materials Science	Indexed	2013
16	AN Prabhu, V Upadhyaya, A Jayarama, KS Bhat	Synthesis, growth and characterization of π conjugated organic nonlinear optical chalcone derivative	Materials Chemistry and Physics	Indexed	2013
17	AN Prabhu, A Jayarama, KS Bhat, V Upadhyaya	Growth, characterization and structural investigation of a novel nonlinear optical crystal	Journal of Molecular Structure	Indexed	2013
18	CP Chandrappa, M Govindappa, NV Anil Kumar,	in vitro anti-inflammatory activity of carmona retusa (vahl.)	World journal of pharmacy and	Indexed	2013

	R Channabasava		pharmaceutical sciences		
19	CP Chandrappa, M Govindappa, ANV Kumar	In vitro antimetabolic, antiproliferative and DNA fragmentation assay of ethanol extract of <i>Carmona retusa</i> (Vahl.) Masam	Applied Cell Biology 2 (2)	Indexed	2013
20	S Dhanya, NVA Kumar, AS Nayak, US Raj, D Prabhu	Cytotoxicity studies of microwave assisted natural product extracts in HeLa and MCF-7 cell lines.	International Journal of Medicinal and Aromatic Plants 3 (1)	Indexed	2013
21	CP Chandrappa, M Govindappa, NVA Kumar, R Channabasava, ...	Evaluation of in vitro antioxidant activity of ethanol extract of <i>Carmona retusa</i> (Vahl.) Masam	International Journal of Scientific & Engineering Research	Indexed	2013
22	Shetty, Nitinkumar S and Gaonkar, Santosh L and Pai, Vivek V and Manvith, Sapna K	Synthesis and Antimicrobial Activity of Tricyclic Thienopyrimidines and 1, 3, 4-Triazole Fused Thienopyrimidines.	Journal of Chemical Science and Technology, 2 (1).	Indexed	2013
23	Musturappa, Pradeep K and Reddy, Venugopala KR and Kotresh, Harish M N and Basappa, Chidananda and Jayanna, Madhu B and Devendrachari, Mruthyunjayachari C and Fasiulla,	New Metallophthalocyanines Posture Pyridine Pendants Via 1,3,4-Oxadiazole Bridge: Synthesis, Optical and Electrical Studies	Chemical Sciences Journal	Indexed	2013
24	Fasiulla, . and Reddy, Venugopala KR and Keshavayya, J and Chandrashekhar, Kumar B	Synthesis, Characterization of Symmetrically Substituted Metal(II) Octa-1-(3-bromophenyl)methanimine Phthalocyanine.	Chemical Science Transactions, 2 (3)	Indexed	2013
25	Chandrashekhar, Kumar B and Reddy, Venugopala KR and Fasiulla	Synthesis, characterization and antimicrobial activity of some new 1,3,4-oxadiazoles and schiff bases bearing 5-chloroquinolin-8-ol moiety.	Journal of Chemical and Pharmaceutical Research, 5 (8)	Indexed	2013
26	Chandrashekhar, Kumar B and	Synthesis, characterization and antimicrobial activity	Journal of Pharmaceutical	Indexed	2013

	Reddy, Venugopala KR and Fasiulla,	of some new N1-substituted- pyrazol-4-carbaldehyde bearing 2, 4-dichloro phenyl moiety.	and Scientific Innvation.		
27	Chandrashekhar, Kumar B and Reddy, Venugopala KR and Fasiulla, . and Shridhara, A M	Synthesis, characterization and antimicrobial activity of some novel 2,3-disubstituted thiazolidin-4-one derivatives.	Journal of Chemical and Pharmaceutical Research, 5 (6).	Indexed	2013
28	Fasiulla, . and Reddy, Venugopala KR and Keshavayya, J and Chandrashekhar, Kumar B and Anitha, . and Rao, Vittala K.S	Synthesis, structural Investigations studies on symmetrically substituted metal (II) 1,3,8,10,15,17,22,24-octa-1-(3-nitrophenyl) methaniminephthalocyanine.	Journal of Chemical and Pharmaceutical Research,	Indexed	2013
29	Chandrashekhar, Kumar B and Reddy, Venugopala KR and Fasiulla,	Synthesis, Characterisation and Antimicrobial Screening on New 1,5-Disubstituted Pyrazoline Derivatives Bearing P-Methoxy-M-Chloro Phenyl Moiety.	International Journal of Scientific and Research Publications, 3 (5).	Indexed	2013
30	S Pramodini, P Poornesh, YN Sudhakar, MS Kumar	χ (3) and optical power limiting measurements of Polyaniline and its derivative Poly (o-toluidine) under CW regime	Optics Communications 293,	Indexed	2013
31	YN Sudhakar, M Selvakumar	Ionic conductivity studies and dielectric studies of Poly (styrene sulphonic acid)/starch blend polymer electrolyte containing LiClO ₄	Journal of Applied Electrochemistry 43 (1	Indexed	2013
32	YN Sudhakar, M Selvakumar, DK Bhat	LiClO ₄ -doped plasticized chitosan and poly (ethylene glycol) blend as biodegradable polymer electrolyte for supercapacitors	Ionics 19 (2),	Indexed	2013
33	MS M Natalia, Y N Sudhakar	Activated carbon derived from natural sources and electrochemical capacitance of double layer capacitor	Indian Journal of Chemical technology 20	Indexed	2013
34	Raval, Keyur and Sunil, Dhanya and Singhania, Sakshi and Deshpande,	Enhanced Bioavailability of 6-[3-(4-chlorophenyl)-1H-pyrazol-4-yl]-3-[(2-naphthyl)oxy]	International Journal of Innovative Research in	Indexed	2013

	Praful B	methyl][1,2,4] triazolo[3,4-b][1,3,4] thiadiazoleon C6 Cell Lines using Chitosan Encapsulation at Nano Scale.	Science, Engineering and Technology,		
35	Sunil, Dhanya and Isloor, Arun M and Shetty, Prakash and Pai, KSR	Toxicity Studies of Triazolo-Thiadiazoles in Ehrlich Ascitic Carcinoma Cells.	Research Journal of Pharmaceutical Sciences	Indexed	2013
36	Sunil, Dhanya and Upadhya, Sadhana H and Savitha, and Murugappan, Rama	Synthesis, Characterization and QSAR studies of some New 1, 3-oxazines as Potent Antimicrobial agents.	Research Journal of Pharmaceutical Sciences	Indexed	2013
37	Isloor, Arun M and Sunil, Dhanya and Shetty, Prakash and Malladi, Shridhar and Pai, KSR and Maliyakkal, Naseer	Synthesis, characterization, anticancer, and antioxidant activity of some new thiazolidin-4-ones in MCF-7 cell.	Medicinal Chemistry Research	Indexed	2013
38	Sunil, Dhanya and Isloor, Arun M and Shetty, Prakash and Nayak, Pawan G and Pai, K.S.R	In vivo anticancer and histopathology studies of Schiff bases on Ehrlich ascitic carcinoma cells.	Arabian Journal of Chemistry	Indexed	2013
39	Sunil, Dhanya and Kumar, Anil N V and Nayak, Anand Shivaram and Raj, Sachin and Prabhu, Deepa and Ravikiran	Cytotoxicity studies of microwave assisted natural products extracts in HeLa and MCF-7 cell lines.	International Journal of Medicinal and Aromatic Plants,	Indexed	2013
40	Sunil, Dhanya	Recent advances on Chitosan-Metal Oxide Nanoparticles and their biological Application.	Materials Science Forum	Indexed	2013
41	Simon, Lalitha and Shalini, S and Girija, CR and Srinivasan, KK	Synthesis and crystal structure analysis of 3-(4-methoxybenzyl)-2,3-Dihydro-4H-Chroman-4-One.	European Scientific Journal	Indexed	2013
42	Girija, CR and Simon, Lalitha and Srinivasan, KK	3-(3,4-Dimethoxybenzyl)chroman-4-one.	Acta Crystallographica Section E: Structure Reports	Indexed	2013
43	Simon, Lalitha	Rac -3-(4-	Acta	Indexed	2013

	and Srinivasan, KK	Hydroxybenzyl)chroman-4-one	Crystallographica		
44	Jayashree, BS and Chaturvedi, Piyush and Venkatachalam, H	Antioxidant and antibacterial activity of some newer flavone derivatives.	Indian Journal of Applied Research	Indexed	2013
45	Padmalatha, and Prabhu, Deepa	Coriandrum sativum L.— A novel green inhibitor for the corrosion inhibition of aluminium in 1.0 M phosphoric acid solution.	Journal of Environmental Chemical Engineering	Indexed	2013
46	Prabhu, Deepa and Padmalatha	A Novel eco-friendly inhibitor for corrosion control of 6063 aluminum alloy in 0.5 M phosphoric acid.	International Journal of Chemical and Environmental Engineering	Indexed	2013
47	Chandrappa, C P and Govindappa, M and Kumar, Anil N V	In vitro antimitotic, antiproliferative and DNA fragmentation assay of ethanol extract of Carmona retusa (Vahl.) Masam.	Applied Cell Biology	Indexed	2013
48	Namratha, B and Shetty, Nitinkumar S and D'souza, Janice N and Gaonkar, Santosh L	Synthesis and Characterization of a new Series of 2-(5-bromothiophen-2-yl)-5-substituted-1,3,4-Oxadiazoles.	Research Journal of Chemical Sciences	Indexed	2013

National Journals (2013) - Nil

International Journals (2012)

#	Name of the Author(s)	Title of the Article	Name of the Journal/Conference	Indexed/N on-indexed	Other Details
1	Bhat , Sangeetha G and Srinivasulu, M and Girish, S R and Padmalatha, * and Bhagavath, Poornima and Mahabaleshwara, S and Potukuchi, D M and Muniprasad, M	Influence of Moieties and Chain Length on the Abundance of Orthogonal and Tilted Phases of Linear Hydrogen-Bonded Liquid Crystals, Py16BA:nOBAs.	Molecular Crystals and Liquid Crystals,	Indexed	2012
2	Muniprasad, M and Srinivasulu, M and Chalapathi , P V and Potukuchi, D M	Influence of chemical moieties and the flexible chain for the titled smectric phases in linear hydrogen bonded liquid	Journal of Molecular Structure	Indexed	2012

		crystals with Schiff based pyridine derivatives.			
3	Muniprasad, M and Srinivasulu, M and Chalapathi, P V and Potukuchi, D M	Induction of Liquid Crystalline Phases and Influence of Chain Length of Fatty Acids in Linear Hydrogen-Bonded Liquid Crystal Complexes.	Molecular Crystals and Liquid Crystals	Indexed	2012
4	CP Chandrappa, M Govindappa, ANV Kumar	Phytochemical screening and antibacterial property of carmona retusa (VAHL.) masam	International Journal of Pharma Medicine and Biological Sciences 1 (2)	Indexed	2012
5	Gaonkar, Santosh L and Mahendra, M and Swamy, Nanjunda S and Shetty, Nitinkumar S	Synthesis and Crystal structure studies of Diethyl-(6-chloro-2-carbazolyl)Methyl malonate an intermediate in the synthesis of Anti-inflammatory drug Carprofen.	Research Journal of Pharmaceutical Sciences, 1 (1).	Indexed	2012
6	Prasad, Mahadeva T N and Gaonkar, Santosh L and Kapoor, Kamini and Gupta, Vivek K and Rajnikant, . and Shimizu, Hiroki and Sridhar, MA and Prasad, Shashidhara J	Synthesis and Crystal Structure of 4-[2-(Methylpyridin2-ylamino)ethoxy]-benzaloxime.	X-ray Structure Analysis Online	Indexed	2012
7	Anitha, . and Reddy, Venugopala KR and Rao, Vittala K.S and Chidananda, B and Pradeep, K.M and Fasiulla, .	Synthesis, Characterization and Antifungal Activity of Metal (II) Complexes of a Novel Bisazo Dye 2, 21 [benzene-1, 3-diyl di (E) diazene 2, 1-diyl] bis (4-toluidine).	International Journal of Chemical and Analytical Science, 3 (8).	Indexed	2012
8	Fasiulla, . and Reddy, Venugopala KR and Khan, Moinuddin M H and Keshavayya, J	Synthesis, Spectral, Magnetic Susceptibility and Antifungal Studies On Symmetrically Substituted Metal (II) Octafuryl methanimine Phthalocyanine.	Scholars Research Library, 3 (2)	Indexed	2012
9	MS Y.N. Sudhakar	Miscibility of chitosan and poly(ethyleneglycol) blends in buffer solution	e-Polymers 12 (1),	Indexed	2012
10	YN Sudhakar, Sowmya, M	Miscibility studies of chitosan and starch blends	Journal of Macromolecul	Indexed	2012

	Selvakumar, DK Bhat	in buffer solution	ar Science, Part A 49 (12)		
11	M Selvakumar, DK Bhat	Microwave synthesized nanostructured TiO ₂ -activated carbon composite electrodes for supercapacitor	Applied Surface Science 263	Indexed	2012
12	YN Sudhakar, M Selvakumar	Lithium perchlorate doped plasticized chitosan and starch blend as biodegradable polymer electrolyte for supercapacitors	Applied Surface Science 263	Indexed	2012
13	Venkatachalam, H and Nayak, Yogendra and Jayashree, BS	Evaluation of the Antioxidant Activity of Novel Synthetic Chalcones and Flavonols.	International Journal of Chemical Engineering and Applications	Indexed	2012
14	Jayashree, BS and Chaturvedi, Piyush and Venkatachalam, H and Chaudary, PVR and Nayak, Yogendra	Antiglycation and anticancer activity of some newer synthetic flavones.	Der Pharma Chemica	Indexed	2012
15	Venkatachalam, H and Nayak, Yogendra and Jayashree, BS	Synthesis, Characterization and Antioxidant Activities of Synthetic Chalcones and Flavones.	APCBEE Procedia	Indexed	2012

National Journals (2012) - Nil

* **Number of papers published in peer reviewed journals (national/international)**

International- 97, National- Nil

- * **Monographs** – Nil
- * **Chapters in Books** – Nil
- * **Edited Books** – Nil
- * **Books with ISBN with details of publishers** – Nil
- * **Number listed in International Database (Scopus, Sci. Search, Google scholar, Chemical Abstracts, Global Chemistry Citation Index, Biological abstracts, Science direct etc.,)**
- * **Citation Index** average 261.37*
- * **SNIP** Nil
- * **SJR** Nil

- * **Impact Factor** range/average 0.57
 - * **h-index** average 7.62*
- * Data taken from google scholar, average of 8 faculty with PhD are considered

23. Details of patents and income generated Nil

24. Areas of consultancy and income generated:

Oil & Instrumental analysis

Income generated: Rs. 30,000

25. Faculty selected nationally/ internationally to visit other laboratories in India and abroad

Dr. Nitinkumar Shetty was awarded with research excellence fellowship offered by University of Santiago de Compostela, Spain)

26. Faculty serving

- a) National committees b) International committees c) Editorial Boards d) any other (please specify):

Faculty serving as reviewers for International Journals

1. Dr M. P. Yashoda : a. J. Applied Polymer Chemistry
b. RSC Advances
c. Journal of Material Chemistry-B
d. Journal of Macromolecular Symposia
2. Dr. Santhosh Gaonkar: a. European Journal of Medicinal Chemistry
b. Journal of Heterocyclic Chemistry
c. Medicinal Chemistry Research
3. Dr. Subrahmanya Bhat K: a. Journal of Natural Fibres
b. European Journal of Medicinal Chemistry

27. Faculty recharging strategies–

1. In-house training in lab experimentation conducted on March 15, 2012,
2. Laboratory safety lecture delivered on 7 October, 2012.
3. “Microscale experiments in Chemistry” workshop was held on September 12th, 2012.

28. Student projects : Nil

29. Awards/recognitions received at the national and international level by Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any

- Faculty : Nil
- Doctoral / post-doctoral fellows : Nil
- Students: Nil

30. Seminars/Conferences /Workshops organized and the source of funding (national / international) with details of outstanding participants, if any

#	Title of Seminar/Workshop/Conference	Source of funding	details of outstanding participants
1	National Symposium on Chemistry and Humanity (NSCH -2011) which was held on 11-12 July, 2011	Council of Scientific and Industrial Research, New Delhi	Dr Surendra U Kulkarni – Senior Director R&D, CTO – Dow India Dr Anand B Halgeri – Director – Poornaprajna Institute of Scientific Research Bangalore Dr A S Radhakrishna, Senior Manager – GE Global Research ,Whitefield Road, Bangalore Dr V VGiridhar – Scientist, Electrodeics and Electrocatalysis Division, Karaikudi Dr Sandeep Kumar – Scientist, Raman Research Institute, Bangalore Dr MuraliShastry – Tata Chemicals Innovation Centre, Pune
2	20 th National conference on Liquid Crystals (NCLC- 2013) Which was held on 16-18 th , December, 2013	Dept. of Science & Technology, Govt. of India	Katalin Fodor-Csorba, Budapest, Hungary. K.A. Suresh, Bangalore Nador Eber, Budapest, Hungary Sandeep Kumar, Bangalore Satyendra Kumar, Kent, USA Shri Sing, Varanasi V.S.S. Sastry, Hyderabad
3	Perspectives in Science Education and their Relevance for Technology (PSERT) in March, 2013.	Sponsored by BRNS & Industries	1.Dr M I Savadatti, Dharwad, Dr.L.Sudershan Reddy, M.R.I.T., Bangalore 2. Dr.A.M.Khan, Mangalore University 3.Dr.D.Ravindranath, ISRO-MCF, Hassan 4. Dr.Gopal Vaidyanathan, B'lore

31. Code of ethics for research followed by the departments -

The role and responsibilities of ethics committee (EC)

The basic responsibility of an EC is to ensure a competent review of all ethical aspects of the project proposals received and execute the same, free from any bias and influence that could affect their objectivity. EC should provide advice to the researchers on all aspects of welfare and safety of the research participants after ensuring the scientific soundness of the proposed research through appropriate Scientific Review Committees. In smaller institutions the EC can up the dual responsibility of Scientific and Ethical Review.

The responsibilities of an EC can be defined as follows:

1. To protect the dignity, rights and well-being of the potential research participants
2. To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs
3. To assist in the development and the education of a research community responsive to local health care requirements.

32. Student profile course-wise: -

Since chemistry is the supporting department, it is not applicable to our department

33. Diversity of students:

Since Dept. does not have independent course, it is not applicable.

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Data is not available

35. Student progression

NA

36. Diversity of staff assessment

Percentage of faculty who are graduates	
of the same university	Nil
from other universities within the State	74%
from universities from other States	26%
from universities outside the country	Nil

37. Number of faculty who were awarded PhD, DSc. and DLitt during the assessment period.

2 (PhD)

38. Present details of infrastructural facilities with regard to

a) Library – Department Library –	87 books
b) Internet facilities for staff and students -	Available
c) Total number of class rooms –	2
d) Class rooms with ICT facility –	1
e) Students’ laboratories –	5
f) Research laboratories –	1

39. List of doctoral, post-doctoral students and Research Associates**a) From the host university**

1. Mr Sudhakar
2. Mr Ajith Kumar M P
3. Mr. John Dominic
4. Mrs. Shubhalaxmi
5. Ms. Rama
6. Mrs. Namratha
7. Mr. Hemanth Hegde
8. Ms. Pooja R. Kamath

b) External Candidates (Regular):

1. Mr. Sankappa
2. Mr. Shivaprasad
3. Mr. Mahabaleshwara

c) From other universities: Nil**40. Number of post graduate students getting financial assistance from the university**

21

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology Nil**42. Does the department obtain feedback from**

- a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes, feedback is used to improve the quality of syllabus, used to update the curriculum & Infrastructure facilities.

- b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Feedback is used to improve the quality of teaching-learning interactions, in strengthening the teaching material and incorporating new teaching aids (if any).

- c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

Yes. Implementation of quality parameters in overall improvement.

43. List the distinguished alumni of the department (maximum 10):

#	Name of the Distinguished Alumni	Year of Passing
1	Dr. Ajith Kumar M.P, Post doc. fellow at Mahatma Gandhi University, Kottayam	2014
2	Mr. Raghavendra Rao, Scientist, Syngene limited	2011
3	Mr. Shailesh Kamath, Scientist, Syngene limited	2011
4	Mr. Manvith Kumar, Patent analyst, Sequent Pvt. ltd Mangalore	2011
5	Mr. Harshendra Dayananda, Chemist, Mangalore	2011
6	Mr. Allan Pinto, MRPL, Mangalore	2011

44. Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts.

- * **‘Green Chemistry and Industry’** by Dr. A. S. Radhakrishna (Adjunct Professor, Dept. of Chemistry MIT) on the topic on 21st November, 2014
- * **‘Semiconducting Plastics for Harvesting Solar Energy’** by Prof. Sathish A. Patil (IISc., Bangalore) on 8th August, 2014.
- * **‘Microscale experiments in Chemistry’** by Dr. Murugan Subrahmanyam (Rtd. Professor S. T. Hindu College Nagercoil, TN) on 12th September, 2012.

45. List the teaching methods adopted by the faculty for different programmes

- Chalk and Talk method
- Power point presentations
- Multimedia learning solutions
- Lateral learning materials
- Lab experiment demonstrations

- 46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?** We do not have independent programme, however continuous feedback obtained from relevant stakeholders.

47. Highlight the participation of students and faculty in extension activities. Active participation in workshops, symposium and demonstrations.

- * Faculty in their respective research fields actively participating in workshops/seminars as resource persons.
- * Faculty involving demonstration of science experiments for INSPIRE programme for high school students.
- * Our PG students doing summer internships in industries.
- * Our Faculty guiding IAESTE student Internships.

48. Give details of “beyond syllabus scholarly activities” of the department.

In – house training programme and workshop on microscale experiments.

49. State whether the programme/ department is accredited/graded by other agencies? If yes, give details. Nil

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

1. Department facilitates publishing papers with journals having impact factor which receives good citations
2. Sensitize faculty members to file their innovations as patents

51. Future plans of the department. –

1. To start PG programme in new stream
2. Expand the research activity in specialized areas of chemistry. Some of the focused area are material chemistry, corrosion studies, natural products chemistry and synthetic organic chemistry, bio-organic and medicinal chemistry.

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths

- (i) Qualified and experienced faculty members.
- (ii) Well-equipped laboratories.
- (iii) Strategic research in topical areas.

Weaknesses

- (i) Inadequate industrial tie-up
- (ii) Locational disadvantage for consultancy work

Opportunities

- (i) Expansion of research activities in other frontier fields of chemistry
- (ii) Scope for interdisciplinary research activity and industrial collaboration

Challenges

- (i) Maintenance and upgradation of infrastructure facilities.
- (ii) Attracting competent research scholars.

1. Name of the Department: Civil Engineering

2. Year of Establishment: 1957

3. Is the department part of a school/Faculty of the University?

Department is part of Manipal Institute of Technology, Manipal

4. Courses/Programmes and subject combinations offered

Under Graduate Programme	
1	B.Tech in Civil Engineering
Post Graduate Programmes	
1	M.Tech in Construction Engineering and Management,
2	M.Tech in Structural Engineering,
3	M.Tech in Environmental Engineering
Ph. D in Civil Engineering	

5. Interdisciplinary courses and departments involved

#	Details of Programme	Name of the course	Name of the Department offering the course
1	B.Tech	Engineering Mathematics III and IV	Mathematics Department
		Engineering Economics and Essentials of Management	Humanities Department
2	M.Tech [Structural Engineering].	Research Methodology and Technical Communication	Humanities Department
		Advanced Engineering Mathematics and Optimization	Mathematics Department
3	M.Tech [Environmental Engineering].	Research Methodology and Technical Communication	Humanities Department
		Computational Methods and Optimization Techniques	Mathematics Department
4	M.Tech [Construction Engineering and Management].	Research Methodology and Technical Communication	Humanities Department
		Statistics, Probability and Reliability	Mathematics Department

6. Courses in collaboration with other universities, industries, foreign institutions, etc.

Nil

7. Details of programmes/courses discontinued, if any, with reasons.

M Tech. Astronomy and Space Engineering discontinued since 2008

Reason: Shifted to Instrumentation and Control Department

8. Annual/semester/choice based credit system

Semester Based 10-point Credit System

9. Participation of the department in courses offered by other departments.

Introduction to Finite Element Method of Analysis, Introduction to Remote Sensing and GIS, Strength of Materials, Advanced Mechanics of Solids, Environmental Management, Contract Management, and Advanced Fluid Dynamics – open elective for all B.Tech Programmes

Advanced Strength of Materials, Non-destructive testing of Materials and Energy and Environment - open electives for M.Tech Programmes.

10. Number of teaching post sanctioned and filled (Professor/Associate Professor/Assistant Professor)

Post	Sanctioned	Filled
Professor	9	9
Associate Professor	12	12
Assistant Professor	42	42
Total	63	63

11. Faculty Profile with name, qualification, designation and specialization (DSc/DLitt/PhD/ MPhil, etc.)

#	Name	Designation	Qualification	Specialisation	Number of years of experience	Number of PhD students guided for the last 4 years
1	Dr Narayana Shenoy K.	Professor and HoD	PhD	Ground water	25	1
2	Dr Krishnamoorthy	Professor	PhD	Geotechnical Engineering	28	3
3	Dr Gicy M Koor	Professor.	PhD	Hydrology Water Resources	34	1
4	Dr Narayana Sabhahit	Professor	PhD	Geotechnical Engineering	26	1
5	Dr H N Udayashankar	Professor	PhD	Engineering Geology and Remote Sensing	29	2
6	Dr Mohandas Chadaga	Professor	PhD	Hydrology and Water Resources/Remote sensing and GIS	26	-

7	Dr Balakrishna Rao K	Professor	PhD	Marine Structures	26	-
8	Dr Kiran Kamath	Professor	PhD	Marine Structures	20	-
9	Dr Kiran Kumar Shetty M.	Professor	PhD	Structural Engineering	15	-
10	N S Ananda Rao	Assoc. Professor (Selection Grade)	M.E	Hydrology and Water Resources	27	-
11	B H V Pai	Assoc. Professor (Selection Grade)	MTech	Industrial Structures	26	-
12	B Prakash Rao	Assoc. Professor (Senior Scale)	MTech	Marine Structures	27	-
13	V Srinivasa Raghavan	Assoc. Professor	MTech	Construction Engineering and Management	28	-
14	B. Srinivasa Prabhu	Assoc. Professor	MTech	Hydrology and Water Resources	27	-
15	K Phaniraj	Assoc. Professor	M.E	Structural Engineering	28	-
16	Dr K. Balakrishna	Assoc. Professor	PhD	Environmental Geochemistry	21	2
17	Dr Jagadeesha Pai B	Assoc. Professor	PhD	Remote Sensing and GIS	7	-
18	Dr Purushotham G Sarvade	Assoc. Professor	PhD	Geotechnical Engineering	27	-
19	Dr Asha U. Rao	Assoc. Professor	PhD	Industrial Structures	15	-
20	Dr.Gopinatha Nayak	Assoc. Professor	PhD	Structural Engineering	11	-
21	Dr.Sutapa Hazra	Assoc. Professor	PhD	Geotechnical Engineering	7	-
22	Ravindranatha	Asst. Professor (Selection Grade)	MTech	Marine Structures	24	-
23	Ganesh Kini	Asst. Professor (Selection Grade)	MTech	Construction Engineering and Management	26	-
24	Shambhavi Kamath	Asst. Professor (Selection Grade)	MTech	Environmental Engineering	23	-
25	Shilpa S Rathnoji	Asst. Professor (Senior Grade)	MTech	Environmental Engineering	13	-
26	Lathashri	Asst. Professor (Senior)	MTech	Hydrology and Water Resources	8	-

		Grade)				
27	Balakrishna S Maddodi	Asst. Professor (Senior Grade)	M.Sc, M.Phil	Geology	18	-
28	Raghavendra Holla	Asst. Professor (Senior Grade)	MTech	Construction Technology and Management.	11	-
29	Girish M.G	Asst. Professor	MTech	Transportation Engineering	6	-
30	Anup W Sebestian	Asst. Professor	MTech	Construction Engineering and Management.	8	-
31	Sridevi H	Asst. Professor	MTech	Environmental Engineering	5	-
32	Arun Kumar Y M	Asst. Professor	MTech	Structural Engineering	4	-
33	Sugandhini H K	Asst. Professor	MTech	Construction Engineering and Management	3	-
34	Laxman Kudva	Asst. Professor	MTech	Construction Engineering and Management	3	-
35	Nivedita K Ramesh	Asst. Professor	MTech	Structural Engineering	3	-
36	M Prasanna Kumar	Asst. Professor	MTech	Structural Engineering	3	-
37	Suja T P	Asst. Professor	MTech	Marine Structures	5	-
38	Chaitra M	Asst. Professor	B.E	Civil	3	-
39	Akshaya	Asst. Professor	MTech	Structural Engineering	3	-
40	Udaya Kumar K S	Asst. Professor	B.E	Civil	27	-
41	Deepak Nayak	Asst. Professor	B.E	Civil	10	-
42	Avinash A. R	Asst. Professor	MTech	Structural Engineering	3	-
43	Dhanalakshmi	Asst. Professor	MTech	Structural Engineering	2	-
44	Radhika Bhandari	Asst. Professor	MTech	Geotechnical Engineering	8	-
45	Shriharsha	Asst. Professor	MTech	Construction Technology & Management	7	-
46	Vidya Dodwad	Asst. Professor	M.Tech	Transportation Engineering & Management	5	-
47	Madhusudan G Kalibhat	Asst. Professor	M.Tech	Structural Engineering	4	-
48	Sandeep G.S	Asst. Professor	M.Tech	Industrial Structures	3	-

49	Mr. Sandesh Upadyaya	Asst. Professor	M.Tech	Structural Engineering	< 1	-
50	Ms. Ramya R. Pai	Asst. Professor	M.Tech	Structural Engineering	< 1	-
51	Ms. Ashwini P.R.	Asst. Professor	M.Tech	Structural Engineering	< 1	-
52	Ms. Sumaraj	Asst. Professor	M.Tech	Environmental Engineering	< 1	-
53	Ms. Sowmya Rao	Asst. Professor	M.Tech	Construction Technology & Management	< 1	-
54	Mr. Kiran Bhat P	Asst. Professor	M.Tech	Structural Engineering	1	-
55	Mr. Ramesha Nayaka	Asst. Professor	M.Tech	Construction Technology & Management	1	-
56	Mr. Praveen Kumar P	Asst. Professor	M.Tech	Transportation Engineering	< 1	-
57	Shreelakshmi P	Asst. Professor	PhD	Structural Engineering	3	-
58	Mr. Vishnu Unnikrishnan	Asst. Professor	M.Tech	Construction Technology & Management	< 1	-
59	Mr. Poornachandra Pandit	Asst. Professor	PhD	Structural Engineering	1	-
60	Ms. Teena Thomas	Asst. Professor	M.Tech	Transportation Engineering	< 1	-
61	Ms. Indu Nair	Asst. Professor	M.Tech	Transportation Engineering	< 1	-
62	Mr. Rahul Naralanka	Asst. Professor	M.Sc	Civil	< 1	-
63	Mrs. Sheeka Subramani	Asst. Professor	M.Tech	Chemical Engineering	2	-

12. List of senior visiting fellows, faculty members, adjunct faculty members, emeritus professors

Adjunct Faculty Members				
#	Name / Designation	Area of specialization	Organization	Address
1	B Swamy, Technical Manager	Highways	STUP	Beverly, No. 14, Lalbagh Road, Bangalore – 560 027 Ph.: 0802126559, 2126560, 9448130815, 9845394509 @ Fax 2126558 E-mail: bceom-stup@eth.net India Office: N- 118, Panchasheel Park, New Delhi – 110 017. Ph.: +91-11-2649 5288/98/99 Fax +91-11-2649 5297 E-mail – bceomind@vsnl.com
2	K. Ganesha Raj, Scientist – SF	National Natural Resources Management	ISRO	ISRO, ISRO Head quarters AntharikshBhavan New BEL Road, Bangalore – 560 094. INDIA.

		System/ Earth Observations System		Ph.: 91-080-3072448 Fax: 3413806 E-mail: ganeshraj@hotmail.com
3	V Hari Prasad, In-charge	Water Resources Division,	Indian Institute of Remote Sensing	Indian Institute of Remote Sensing (National Remote Sensing Agency) Department of Space, Government of India P.B. No. 135, 4, Kalidas Road, Dehra Dun – 248 001. India Ph.: (O) 91-135-744518 Extn: 2419 ® 741465, 744340. Fax: 0135 – 741987, 748041 E-mail: prasad@iirs.gov.in, vhphari@yahoo.com
4	K H V Durga Rao, Scientist//Engi neer,	Water Resourc e Group	National Remote Sensing Agency (NRSA)	Balanagar, Hyderabad – 500 037, Ph.: (O) 040 – 23884251, 52, 53 E-mail: khvdrao@hotmail.com///durgarao@iirs.g over
5	Dr V.S.S. Kumar,	Construction Management	ARS(USA)	Associate Professor, Department of Civil Engineering, University College of Engineering, Osmania University, Hyderabad – 500007
6	Sri Yashavanth A	Construction Engineering	Sylone Inc.	Project Management Consultant (Construction) Rajajinagar, Bangalore.
7	Rajiv Nehru, Director	Construction Engineering	NICAMAR,	25/1, Balewadi, N.I.A. Post Office, PUNE – 411 045
8	Balasubramany am C.J Design Manager, Civil	Engineering Construction - Contract Division	L & T, Ltd.,	No. – 19 Kumara kripa Road, Bangalore E-mail: cjbs@Intecc.com
9	Dr J.K Dattatreya Scientist,	Concrete Composite, Structural Engineering	SERC	Concrete Composite Laboratory, Structural Engineering Research Centre CSIR Campus, Taramani, Chennai – 600 113, India Ph.: 2541735 (044)
10	Dr N.P Rajamani, Assistant Director	Concrete Composite, Structural Engineering	SERC	Concrete Composite Laboratory, Structural Engineering Research Centre CSIR Campus, Taramani, Chennai – 600 113, India
11	Dr C.S Vishwanatha, Chief Consulting Engineer,	Structural Engineering	TORSTEEL:	Torsteel Research Foundation in India ¼, APE Trust Building, 2 nd Floor Bull Temple Road, Bangalore – 560 019. Ph.: 080 – 6612908/6508833 Fax. 080 – 6616524 Mobile: 98440 – 92977 E-mail: torsteel@hotmail.com
12	Col B.V Ramachandra (Retired) General	Cement Business Marketing	GRASIM	Grasim Industries Ltd., Industry House, 5 th floor, Fairfield layout, 45, Race course Road, Bangalore – 560 001.

	Manager (TASC)			Ph.: 080 – 2250748, 2250749, 2266225 Fax: 080 – 2204839 Mobile: 98440 – 46487 E-mail: colbvzamachandra@adityabirla.com
13	Mr S Raja, Scientist	Structural Engineering	National Aerospace Laboratories	Structure s Division National Aerospace Laboratories (NAL) Bangalore– 560 017.
14	Dr P Bhattacharya, Scientist,	Structural Engineering	National Aerospace Laboratories	Structure s Division National Aerospace Laboratories (NAL) Bangalore– 560 017.
15	Dr.S.Sidharmorthy, Scientist F and Deputy Director	Structural Engineering	National Aerospace Laboratories (NAL)	Structures Division NationalAerospaceLaboratories (NAL) Bangalore– 560 017.
16	A.R Santhakumar	Civil Engineering projects		22, PrakashMudali Street T. Nagar, Chennai – 600 017. Ph.: 044 28269610 E-mail: santhaar@hotmail.com
	Dr Ranganatha R.V Asst. Professor,	Civil Engineering projects	BMS College of Engineering	PG Section, Civil Engineering Department, BMS College of Engineering, Bull Temple Road, Bangalore.
17	P K Dash, Senior Project Engineer,	Civil Engineering projects	Bobba Power Projects,	(A Division of Bobba Aviation Services (P) Ltd.) D. No. V-71(1), Kesargadde Post, Belvai Village, Mangalore Taluk – 574 123. Tel: (O) 08258 – 716983-4 ® 08258 – 738247 E-mail: veeraswamybobba@rediffmail.com
18	Dr Prabir C Basu, Director, Civil and Structural Engineering Division	Structural Engineering	Atomic Energy Regulatory Board	Atomic Energy Regulatory Board Government of India, NiyamakBhavan Anushankhnagar, Mumbai – 400 094, India. E-mail: pcb@aerb.gov.in
Visiting Fellow				
19	Mr.Murlidhar Kini, C.A	Economics and Accountancy	Private consultant	Murlidhar Kini C.A, Manipal
20	Mr. Andre Dienst	Manufacturing and construction	Private consultant	General manager, KEF infrastructure,India pvt ltd. No. 34, GF, Embassy Diamante, Vittal mallya road, Bangalore - 560001

13. Percentage of class taken by temporary faculty-programme-wise information

NIL

14. Programme-wise student to teacher ratio:

a.	B.Tech Programme: 1:15 (As per AICTE Norms)
b.	M.Tech Programme: 1: 12 (As per AICTE Norms)

15. Number of academic staff (technical) and administrative staff:

Academic support staff	Sanctioned	Filled
Technical		
Asst. Engineer (Lab)	3	3
Sr. Technician	2	2
Technician	4	4
Lab assistant	1	1
Administrative		
Sr. Clerk	1	1
General Duty Worker	4	4
Housekeeping staff	2	2

16. Research thrust areas recognized by funding agencies

- Self-compacting concrete
- Pre-cast concrete
- No aggregate concrete
- Geochemistry

17. Number of faculty with on-going projects from a) National b) international funding Agency: 2 faculty members

National funding Agency					
#	Project title	Funding Agency	Period of research	Amount of research grant	Principle investigator
1	Study of Self Compacting Concrete Composition for Accelerator Shield; Location: Manipal Institute of Technology, Manipal	Funding agency: BRNS, Department of Atomic Energy	2009-2012	Rs.41,47,000	Prof. BHV Pai
2	Temporal and spatial variability of dissolved trace	Ministry of Environment and Forests, Government of India	2008-2012	Rs 25,00,000	Dr. K.Balakrishna

	metals and organic carbon in the river Nethravati, Southwest coast of India; Funding agency				
3	Environmental geochemistry of two tropical rivers along the Southwest coast of India	Manipal University	2011-2013;	Rs. 2,00,000	Dr. K.Balakrishna
4	Comparative study of Adobe bricks made using industrial by-products	Manipal University	2013	Rs. 1,75,000	Prof. Jagadeesh Pai
5	No Aggregate concrete	M/s. Ecocarbon Pvt. Ltd. Vishakhapattanam	2014	Rs. 2,50,000	Prof. Gopinatha Nayak
6	Assessment of water and carbon cycles, rock weathering and river water pollution using stable isotopes: Nethravati and Svarna river catchment as a case study, southwest coast of India	Centre National de la RechercheScientifique (CNRS), Paris, France under the PICS (Project International de CoopérationScientifique) programme	2011-2014	Rs. 9,30,000	Dr. K.Balakrishna
International funding Agency					
1	Spatial and Temporal Variability of The Water Chemistry and Microflora of Svarna River and its estuary	European Commission, funded through Manipal Centre for European Studies	2010-2012	Rs. 9,50,000	Dr. K.Balakrishna
2	Assessment of water and carbon cycles, rock weathering and river water pollution using stable isotopes: Nethravati and Svarna river catchment as a case study, southwest coast of India	Centre National de la RechercheScientifique (CNRS), Paris, France under the PICS (Projet International de CoopérationScientifique) programme	2011-2014	Rs. 9,30,000	Dr. K.Balakrishna
3	Characterization of air pollution and its causative	International Training and Research in Environmental and	2011-2012	Rs.3,60,000	Dr. K.Balakrishna

health effects in Mangalore region	Occupational Health (ITREOH), University of Alabama, USA			
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18. Inter-Institutional collaborative projects and grants received

a. All India collaboration-

“Study of Self Compacting Concrete Composition for Accelerator Shielding”

Location: Manipal Institute of Technology, Manipal- Funding agency: BRNS, Department of Atomic Energy-2009-2012 - Rs. 41.47 Lakhs

b. International-

1. “Spatial and Temporal Variability of The Water Chemistry and Microflora of Svarna River and its estuary”- European Commission, funded through Manipal Centre for European Studies - 2010-2012 - Rs. 9,50,000
2. “Assessment of water and carbon cycles, rock weathering and river water pollution using stable isotopes: Nethravati and Svarna river catchment as a case study, southwest coast of India” - Centre National de la Recherche Scientifique (CNRS), Paris, France under the PICS (Projet International de Coopération Scientifique) programme - 2011-2014 - Rs. 9,30,000
3. “Characterization of air pollution and its causative health effects in Mangalore region” - International Training and Research in Environmental and Occupational Health (ITREOH), University of Alabama, USA - 2011-2012 - Rs.3,60,000

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE, DBT, ICSSR, etc.; total grants received– NIL

20. Research facility/centre with

- a. State recognition-NIL
- b. National recognition-NIL
- c. International recognition-NIL

21. Special research laboratories sponsored by///created by industry or corporate bodies: NIL

22. Research output in last 3 years

Details	2012	2013	2014
Completed funded research projects	4	2	2
Completed non funded research projects	-	-	-

Completed PhD research projects		-	2	1
Completed PG research projects		61	57	57
Completed UG research projects		44	42	43
Publications	International	8	14	25
	National	1	5	4
Books		-	-	-
Chapter in books		-	-	-
Conference publications	International	23	16	21
	National	77	54	9

Completed funded research projects : National funding Agency					
	Project title	Funding Agency	Period of research	Amount of research grant	Principle investigator
1	Study of Self Compacting Concrete Composition for Accelerator Shield; Location: Manipal Institute of Technology, Manipal	Funding agency: BRNS, Department of Atomic Energy	2009-2012	Rs.41,47,000	Prof. BHV Pai
2	Temporal and spatial variability of dissolved trace metals and organic carbon in the river Nethravati, Southwest coast of India; Funding agency	Ministry of Environment and Forests, Government of India	2008-2012	Rs25,00,000	Dr. K.Balakrishna
3	Environmental geochemistry of two tropical rivers along the Southwest coast of India	Manipal University	2011-2013;	Rs. 2,00,000	Dr. K.Balakrishna
4	Comparative study of Adobe bricks made using industrial by-products	Manipal University	2013	Rs. 1,75,000	Prof. Jagadeesh Pai
5	Assessment of water and carbon cycles, rock weathering and river water pollution using stable	Centre National de la Recherche Scientifique (CNRS), Paris, France under the PICS (Projet International de	2011-2014	Rs. 9,30,000	Dr. K.Balakrishna

	isotopes: Nethravati and Svarna river catchment as a case study, southwest coast of India	CoopérationScientifique) programme			
Completed funded research projects : International funding Agency					
1	Spatial and Temporal Variability of The Water Chemistry and Microflora of Suvarna River and its estuary	European Commission, funded through Manipal Centre for European Studies	2010-2012	Rs. 9,50,000	Dr. K.Balakrishna
2	Assessment of water and carbon cycles, rock weathering and river water pollution using stable isotopes: Nethravati and Svarna river catchment as a case study, southwest coast of India	Centre National de la RechercheScientifique (CNRS), Paris, France under the PICS (Projet International de CoopérationScientifique) programme	2011-2014	Rs. 9,30,000	Dr. K.Balakrishna
3	Characterization of air pollution and its causative health effects in Mangalore region	International Training and Research in Environmental and Occupational Health (ITREOH), University of Alabama, USA	2011-2012	Rs.3,60,000	Dr. K.Balakrishna

Details of Publications					
Author	Title	Journal	Vol.	Page	year
Krishnamoorthy, A	Factor of safety of a consolidating slope by finite element method	<i>Indian Geotechnical Journal</i>	vol. 40(2)	116-123.	2012
Krishnamoorthy A	Response of a bridge isolated with FPS to earthquake ground motion	<i>Journal of Structural Engineering</i>	Vol. 39(1)	113-124.	2012
Kiran K Shetty and Krishnamoorthy	Effect of isolation damping on the response of base isolated structure	<i>Asian Journal of Civil Engineering (Building and housing)</i>	Vol. 10(6)	701-716	2012
Kiran K Shetty and Krishnamoorthy	Response of space frame structure resting on non-linear base isolation system	<i>Electronic Journal of Structural Engineering</i>	Vol. 12(1)	52-62	2012
Kiran K. Shetty, Krishnamoorthy, GopinathNayak and Nivedita K. Ramesh	Dynamic Response Control of Base Isolated Plane Frame Structure Using Multiple Tuned Mass Dampers	<i>Bonfring International Journal of Industrial Engineering and Management Science</i>	Vol. 2 (4)	9-14	December 2012

Sarvade, P.G., and Shet, P.R	Geotechnical Properties of Problem Clay Stabilized with Crumb Rubber Powder	<i>Bonfring International Journal of Industrial Engineering and Management Science</i>	Vol. 2, No. 4	27-32	2012
Nayak, S., and Sarvade, P.G	Effect of cement and quarry dust on shear strength and hydraulic characteristics of lithomargic clay	<i>Geotechnical and Geological Engineering, Springer</i>	Vol.30, No.2	419-430	2012
Lambs, L., Balakrishna K and Moussa I	Response to comment on Tracing the sources of water using stable isotopes: first results along the Mangalore-Udupi region, south-west coast of India	<i>Rapid Communications in Mass Spectrometry</i>	vol. 26	876-878	2012
Kamath, K., Divya, N., and Rao, A. U	A Study on Static and Dynamic Behavior of Outrigger Structural System for Tall Buildings	<i>Bonfring International Journal of Industrial Engineering and Management Science</i>	Vol. 2, No. 4	15 – 20	2012
RajashekharSwamy HM, Krishnamoorthy, A, Prabhakara, DL and Bhavikatti, SS	Comparison of linear and non-linear, space frame-raft-soil interaction analyses	<i>International Journal of Structural Engineering</i>	Vol.4(3)	187-233.	2013
Krishnamoorthy, A.	Factor of safety of slope on consolidating soil with vertical drains by finite element method	<i>International Journal of Geotechnical Engineering</i>	Vol. 7(3)	225 – 231	2013
Gopinatha Nayak And Kiran K. Shetty	Sustainable construction using high volume flyash self-compacting concrete blended with recycled concrete aggregates	<i>International Journal of Earth Sciences and Engineering</i>	vol 6(4)	122-131	Aug-13
Raghavendra, K. Holla. B., Kiran Kumar Shetty, Laxman Kudva, P., And Vasudev Rao, A. S	Strategy of small contractors in bidding – a case study	<i>International Journal of Earth Sciences and Engineering</i>	vol 6	122-131	Aug-13
B.Prakash Rao, Pavan B	Role of Contractors in Green Industrial Projects-An overview of difficulties	<i>International Journal of Emerging Technology</i>	Vol. 3 no. 10	69-74	Oct-13

	challenged in green documentation	<i>and Advanced Engineering-online(IJETAE -ISO 9001-2008 certified journal)</i>			
James, S., Sarvade,P.G., And Sharma K.J	Influence of various treatment on strength behavior of coconut coir fiber reinforced soil	<i>International Journal of Multidisciplinary Research (IJMR) ISSN: 2277-9302</i>	Vol. 2	39-43	Jun-13
Ragatharani, A., And Sarvade,P.G., And Prabhu, B. S	Studies on durability of treated and untreated coconut coir fibers reinforced in black cotton soil	<i>International Journal of Multidisciplinary Research (IJMR) ISSN: 2277-9302</i>	Vol. 2	34-38	Jun-13
Anjan Kumar M U, Asha U Rao And Narayana Sabhahit	Reactive powder concrete properties with cement replacement using waste material	<i>International Journal of Scientific and Engineering Research</i>	Vol. 4(5)	203-206	May 2 013
Pandey, Rakesh., Tiwari, R.P., And Kirloskar, S.G.	Impact of municipal solid waste on subsurface water quality near the landfill site	<i>Int. Jr. Engg. Res & Tech., Vol. 2, 11,</i>	Vol. 2	11	Nov. 2013
B.H.V.Pai And Philip George	"Self-Compacting Concrete containing shell lime"	<i>International Journal of Engineering Research and Technology(International)</i>	Vol 9	62-68	Dec. 2013
B.H.V.Pai And Pramukh Ganapathy	Flexural behaviour of shell lime based pre-stressed self-compacting concrete	<i>International Journal of Engineering Research and Development(International)</i>	Vol 2	3208-3212	Dec. 2013
Amelneni Ragatharani , Purushotham G.Sarvade , B.Srinivas Prabhu	Studies on durability of treated and untreated coconut coir fibers reinforced in black cotton soil	<i>International journal of multidisciplinary research</i>	Vol. 2	34	Jun-13
A.Krishnamoorthy , Shashi Kumar	analysis of pile foundation on soft consolidating soil	<i>IOSR journal of mechanical and civil engineering</i>	Vol 2	74-77	2014
A.Krishnamoorthy , Anitha S	seismic effect of soil structure interaction on plane frame structure	<i>IOSR journal of mechanical and civil engineering</i>	Vol 2	55-60	2014

M.Tripti ,L.Lambs , T.Otto , G.P.Gurumurthy, R.Teisserenc, I.Moussa , K.Balakrishna, J.L.Probst	First assessment of water and carbon cycles in two tropical coastal rivers of south-west India- an isotopic approach	<i>Rapid Communications in Mass Spectrometry</i>	Vol. 27	1681-1689	Apr-13
V. Srinivasaraghavan, And Bhushan R. S	Evacuation patterns in High Rise Buildings- Changes after 9/11!	<i>Indian Journal of Applied Research, Indexed journal, Impact Factor: 0.8215</i>	Vol. 3	133-135	Feb-13
Bhushan R.S, and V. SrinivasaRaghavan	A relative study on CCPM And LOB Scheduling Technique	<i>Indian Journal of Applied Research, Indexed journal, Impact Factor: 0.8215</i>	Vol. 3	242-245	May-13
Bhushan R. S and V. SrinivasaRaghavan	Line Of Balance- A Contractor Friendly Scheduling Technique	<i>Indian Journal of Applied Research, Indexed journal, Impact Factor: 0.8215</i>	Vol. 3	162-163	Jun-13
Krishnamoorthy, A	Effect of soil-structure interaction for a building isolated with FPS	<i>Earthquakes and Structures</i>	Vol. 4 (3)	285-297	2013
Ananyasheth, Anirudhgoel, And B.H.V. Pai	Properties Of Concrete On Replacement Of Coarse Aggregate And Cementitious Materials With Styfoam And Rice Husk Ash Respectiely	<i>American Journal of Engineering Research</i>	vol 3	268 - 271	Jan. 2014
Govind M, Kiran K Shetty,K.Anil Hegde	Non Linear Static Pushover Analysis Of Irregular Space Frame Structure With And Without T Shaped Columns	<i>International Journal of Research in Engineering and Technology</i>	vol 3(3)	663-667	Mar. 2014
Gopinatha Nayak Kiran K. Shetty,Soltan Abdalla	Effect Of Depth To Thickness Ratio And Length To Depth Ratio On Hollow Section Aluminium Tubes Filled With Self Compacting Concrete	<i>International Journal of Research in Engineering and Technology</i>	vol 3	675-678	May-14
Kiran K Shetty , Gopinatha Nayak , Rahul Shetty K	Self Compacting Concrete Using Red Mud And Used Foundry Sand	<i>International Journal of Research in Engineering</i>	vol 3	708-711	May-14

		<i>and Technology</i>			
Kiran K Shetty , Gopinatha Nayak , Vipul Vijayan	Use Of Red Mud And Iron Tailings In Self Compacting Concrete	<i>International Journal of Research in Engineering and Technology</i>	vol 3	111- 114	Jun-14
Govind M, Kiran K Shetty,K.Anil Hegde	Seismic Evaluation Of High Rise Regular And Irregular Structure Using Pushover Analysis	<i>IOSR Journal of Mechanical and Civil Engineering</i>	Vol 3	14-19	2014
Kiran K. Shetty , Gopinatha Nayak , Vipul Vijayan	Effect Of Red Mud And Iron Ore Tailings On The Strength Of Self-Compacting Concrete	<i>European Scientific Journal</i>	vol 10	21	Jul-14
B.H.V.Pai , M.Nandy , A.Krishnamoorthy, P.K.Sarkar , Philip George	Comparative Study Of Self Compacting Concrete Mixes Containing Fly Ash And Rice Husk	<i>american journal of engineering research</i>	vol 3	150- 154	2014
Syed Moosa Khadir, Gurudatta P Nayak, Thariq Aziz , Samir Saurav, B.H.V.Pai	Evaluation Of Properties Of Self Compacting Concrete Specimenshaving Rice Husk Ash And Shell Lime Powder As Fillers	<i>American journal of engineering research</i>	vol 3	207- 211	2014
B.H.V.Pai , M.Nandy , A.Krishnamoorthy, P.K.Sarkar , Pramukh Ganapathy	Experimental Study On Self Compacting Concrete Containing Industrial By Products	<i>EUROPEAN SCIENTIFIC Journal</i>	vol 10	292	2014
B.H.Venkataram Pai , Maitreyee Nandy, A.Krishnamoorthy, Pradip Kumar Sarkar, C. Pramukh Ganapathy,Philip George	Development Of Self Compacting Concrete With Various Mineral Admixtures	<i>American journal of engineering research</i>	Vol 2(3)	96-101	May- 14
Prof. B.Prakash Rao , Joseph Camaron Culas	Review Article – Causes Of Delays In Construction Project – A Case Study	<i>International Journal of Current Research</i>	vol 6	7219- 7222	Jun-14
B.Prakash Rao, Narayan Suresh Jartarghar , Nagesh Ramamurthy	A Study On The Perception Of Clients, Contractors And Consultants Towards Precast Construction Technology	<i>International Journal of Emerging Technology and Advanced Research</i>	vol 4	291	May- 04
G.P.Gurumurthy, K.Balakrishna,	Geochemical Behaviour Of	<i>Environmental Science and</i>	Vol 21	5098- 5120	2014

M.Tripti, Stephane Aundry , Jean Riotte , J.J. Braun , H.N.Udaya Shankar	Dissolved Trace Metals In A Monsoon-Dominated Tropical River Basin, Southwestern India	<i>Pollution Research</i>			
K Balakrishna , G.P.Gurumurthy , A M Shiller , G Mugeraya , B.R. Manjunatha And B. S. Srinivasa Prabhu	Impact Of Paper Mill Effluents On The Chemistry Of Large Tropical River, India	<i>International Journal of Earth Sciences and Engineering</i>	vol 7	651-657	Apr-14
B.R.Manjunatha , D.Venkat Reddy , K.N.Krishnakumar , K.Balakrishna, H.V.Manjunatha , G.P.Gurumurthy	Selection Criteria For Decorative Dimension Stones,	<i>International Journal of Earth Sciences and Engineering</i>	vol 7	408-414	Apr-14
Shyam Bhat M , N.A.Premanand Shenoy , Asha U Rao	Earthquake Behaviour Of Buildings With And Without Shear Walls	<i>IOSR Journal of Mechanical and Civil Engg (IOSR – JMCE)</i>	Vol 3	20-25	2014
M. Ravindranatha, Mr.N.Kannan, Mr.Likhit.M.L	Effect Of Bacteria On Partial Replacement Of Concrete With Fly-Ash And GGBS	<i>International Journal of Research in Engineering & Technology</i>	vol 3	660-662	2014
Ravindranatha , Tauseef M Honnyal , Shivananda S.M , H.Suresh	A Study Of Seismic Pounding Between Adjacent Building	<i>International Journal of Research in Engineering & Technology</i>	vol 3	795 – 799	May-14
M.Ravindranatha , N Kannan , Likhit M.L	Self – Healing Material Bacterial Concrete	<i>International Journal of Research in Engineering & Technology</i>	vol 3	656	May-14
Kiran Kamath , Avinash A.R , Sandesh Upadhyaya K	A Study On The Performance Of Multi-Outrigger Structure Subjected To Seismic Loads	<i>IOSR journal of mechanical and civil engineering</i>	Vol 2	27-32	2014
Kiran Kamath ,Madhusudhan G Kalibhat , Prasad S.K , Ramya R Pai	Seismic Performance Of Soft Storey Rc Frames At Different Storey Levels From Pushover Analysis	<i>IOSR journal of mechanical and civil engineering</i>	Vol 3	07-13	2014
Madhusudhan G Kalibhat ,Kiran Kamath , Prasad S.K , Ramya R Pai	Seismic Performance Of Concentric Braced Steel Frames From Pushover Analysis	<i>IOSR journal of mechanical and civil engineering</i>	Vol 2	67 – 73	2014
Madhusudhan G Kalibhat ,Arun	Seismic Performance Of R.C.Frames With	<i>IOSR journal of mechanical</i>	Vol 2	61-66	2014

Kumar Y.M , Kiran Kamath , Prasad S.K , Shrinath Shet	Vertical Stiffness Irregularity Frames From Pushover Analysis	<i>and civil engineering</i>			
Purushotham G.Sarvade And Sitaram Nayak	Studies On The Utilization Of Quarry Dust To Improve The Geotechnical Properties Of Lithomargic Clay	<i>International journal of advanced structures and geotechnical engineering</i>	vol 3	55-60	Jan-14
Mr.Poornachandra Pandit , Dr.Katta Venkataramana , Dr.K.S.Babunaryan	Experimental And Numerical Investigation Of Flexural Behavior Of Accelerated Corroded Beams	<i>journal of civil engineering technology and research</i>	vol 2	429-440	2014
Ms. Sowmya Rao G.S , Prof. V.Srinivasa Raghavan	Construction Risk Identification And Assessment	<i>Indian Journal of Applied Research</i>	vol 4	388	May-14
Prof. B.Prakash Rao , Shivakumar B , H S Suresh	Waste Minimisation Of Construction Industry	<i>Indian Journal of Applied Research</i>	vol 4	23-26	Jun-14
Ravindranatha , Dr.M N Sridhar Babu , Nishanth S K	Status Study On Human – Elephant Conflict In And Around Savandurga State Forest	<i>Indian Journal of Applied Research</i>	vol 4	243	Jul-14

Publications:

- * **Monographs - NIL**
- * **Chapters in Books – NIL**
- * **Edited Books - NIL**
- * **Books with ISBN with details of publishers – NIL**
- * **Number listed in International Database**

Year	Web of Science	Scopus	Google Scholar
2012	30	34	52
2013	14	15	27
2014	12	9	28

- * **Citation Index – range / average - 2**
- * **SJR - 0.17 to 0.84**
- * **Impact Factor – range / average : 0.1 to 9.12**
- * **H-index - 01**

23. Details of patents and income generated

NIL

24. Areas of consultancy and income generated

- a. Areas of consultancy-Civil engineering material testing, concrete mix design, strength of materials, soil testing, surveying, environmental lab, non-destructive testing and structural engineering lab. Individual consultancy by the faculty related to design and analysis of civil engineering structures.
- b. Income generated: 65 lakh

25. Number of faculty selected to visit other laboratories in India and abroad - Two**26. Faculty serving in:**

National committees	International committees	Editorial boards	Any other
-	-	Dr A Krishnamoorthy Scientific & technical committee member of 12 th International conference (IACMAG)	-
-	-	Dr. Narayana Sabhahit Scientific & Technical Committee member of 12 th International conference (IACMAG)	-
-	-	-	Dr Kiran Kumar Shetty 1.Reviewer for earthquakes and Structures(in 2012) 2.International Journal of Earth Sciences and Engineering (in 2013) 3.Reviewer for international journal Structural Engineering and Mechanics(in 2013)
-	-	-	Dr K Balakrishna Reviewer of i)Science of the Total Environment (Elsevier publications) ii)Environmental Monitoring and Assessment (Springer) iii)Journal of Earth System Science (Springer) iv)Applied Geochemistry (Elsevier Publications)
-	-	-	Dr Kiran Kamath Reviewer for International journals (Ocean Engineering journals – 2012) 2.Reviewer for International journals (Coastal Engineering journals – 2013) 3. Reviewer for International Conference International Conference On Water Resources, Coastal And Ocean Engineering (ICWRCOE 2015)- for publication in AQUATIC PROCEDIA (ELSEVIER)

27. Faculty Recharging strategies:

Year	Programme	National /International
2012	CCERP – Contemporary civil engineering research and practices	National level
	IS – 800 workshops	National level
	Induction programme for new faculty	Departmental and Institute level
	4 Nos. participation in International Conferences	International Level
2013	NHCE – New Horizons in Civil Engineering	National Level
	Induction programme for new faculty	Departmental and Institute level
	43 Nos. participation in National Conferences	National level
	11 Nos. participation in International Conferences	International Level
2014	Induction programme for new faculty	Departmental and Institute level
	6 Nos. participation in National Conferences	National level
	10 Nos. participation in International Conferences	International Level

28. Student projects:

Year	Total number of Project students	In – house(Numbers)	Off – campus (Numbers)	In-house %	Off campus %
2011 – 2012	72	42	30	58.33	41.67
2012 – 2013	79	49	30	62.03	37.97
2013 – 2014	83	52	31	62.65	37.35

29. Awards///Recognitions received at the national and International level by:

- a. Faculty:
 - i. Dr. K Balakrishna, Associate Professor, received Prof. Satish Dhawan state award for young engineers – Karnataka State Government on 24th January 2013.
 - ii. Mr. B. H. V. Pai, Associate Professor- Selection Grade, received Best Teacher award M.I.T. Manipal for the year 2012.
 - iii. Mr. V Srinivas Raghavan, Associate Professor- Selection Grade, received Best Teacher award M.I.T. Manipal for the year 2013.
 - iv. Mr. Raghavendra Holla, Assistant Professor- Senior Grade, received Best Teacher award M.I.T. Manipal for the year 2014.

b. Doctoral//Post-Doctoral fellows:

NIL

c. Students

- i. Spoorthi B S (MTech Structures), 1st prize in National Conference on “Recent Trends in High Rise Buildings”, Organized by Civil Engineering Department, Kautilya Institute of Technology and Engineering, Jaipur, February 04 – 05, 2012.
- ii. Sharon D’Souza won the first place in poster titled “Acidulation and Saponification of Dairy Waste Water” at International Conference on Recent Developments in Environmental Impact Assessment and Integrated Approach for Carbon Management - Solutions, Technology Development and Pollution Abatement during March 28 - 30, 2012.
- iii. Nikitha Balakrishan secured 1st prize in technical session-1 of “ChemIgnite 2k12, National level symposium on sustainable development- issues and challenges”, organised by Manipal Institute of technology, Manipal, September 07-08, 2012.
- iv. M.S Priyanka Yadav, Best student paper award for the paper “ Evaluation of ambient air quality within 10 km radius buffer of a proposed industrial area – A case study” at National conference on Mathematical modelling in Civil Engineering, organised by Sri Krishna College of technology, Coimbatore.
- v. Pranamya K, Best paper award for “Comparative study of nonlinear static pushover analysis of space frame with different diaphragms”, at ICETE-13 organised by NMAM institute of technology, Nitte, May 15-16, 2013.
- vi. Rahul Sinha, Special mention award (UNGA) in VIT Model United Nations 2014, held from 26-28 September 2014 at VIT University.
- vii. Ananya Singh, secured 2nd position in the event Curtain Call at Echoes 2014, annual cultural fest at IIM Kozhikode.

30. Seminars/Conferences//workshops organized and source of funding(National and International) with details of outstanding participants, if any

Sl. No.	Name of the Workshop/Seminar /Conference	Sponsored By	Year	No. of Participants	Outstanding participation
1	National Conference on Contemporary Civil Engineering Research and Practices (CCERP - 2012)	Council of Scientific and Industrial Research	2012	200	<p>1. Prof. Madhav R. Madhira Professor Emeritus, J. N. T. University, Hyderabad & Visiting Professor, IIT Hyderabad</p> <p>2. Prof. K. S. Babu Narayan Associate Professor, Department of Civil Engineering, National Institute of Technology Karnataka, Surathkal,</p>

					<p>Mangalore, India.</p> <p>3. Prof. Arkal Vittal Hegde Dept. of Applied Mechanics and Hydraulics, National Institute of Technology Karnataka, Surathkal. Mangalore. Karnataka. India.</p>
2	National Conference on New Horizons in Civil Engineering (NHCE-2013)	Department of Civil Engg. M.I.T Manipal (Unibild Engineering & Construction Co.Pvt.Ltd. NewDelhi & M.D. Associates, Udupi)	2013	120	<p>1. Prof. N Kalidas Director, Institute for Solid Waste Research & Ecological Balance (INSWAREB), Visakhapatnam.</p> <p>2. Prof. N Bhanumathidas Director General Institute for Solid Waste Research & Ecological Balance (INSWAREB), Visakhapatnam</p> <p>3. Prof. G. L. Sivakumar Babu Department of Civil Engineering Indian Institute of Science Bangalore.</p> <p>4. Prof. G. S. Dwarakish Professor, Department of Applied Mechanics & Hydraulics, National Institute of Technology Karnataka, Surathkal.</p>

31. Code of ethics for research followed by the Department

The basic responsibility of an EC is to ensure a competent review of all ethical aspects of the project proposals received and execute the same free from any bias and influence that could affect their objectivity. EC should provide advice to the researchers on all aspects of welfare and safety of the research participants after ensuring the scientific soundness of the proposed research through appropriate Scientific Review Committees. In smaller institutions the EC can up the dual responsibility of Scientific and Ethical Review.

The responsibilities of an EC can be defined as follows:

1. To protect the dignity, rights and well-being of the potential research participants
2. To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs
3. To assist in the development and the education of a research community responsive to local health care requirements.

32. Student profile course-wise:

Name of the Course (refer to question number 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
2011-12 B.Tech. (Civil)	Admission is being done as per	81	06	81.48	100

2012-13 B.Tech. (Civil)	the Manipal University Admission Policy	65	14	89.23	100
2013-14 B.Tech. (Civil)		77	7	94.81	100

Name of the Course (refer to question number 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
2011-12					
Construction Engineering and Management	Admission is being done as per the Manipal University Admission Policy [Refer data from Admission Data, Manipal University]	14	4	100	100
Structural Engineering		20	5	100	100
Environmental Engineering		8	10	100	100
2012-13					
Construction Engineering and Management	Admission is being done as per the Manipal University Admission Policy [Refer data from Admission Data, Manipal University]	15	3	100	100
Structural Engineering		19	6	94.74	100
Environmental Engineering		10	5	100	100
2013-14					
Construction Engineering and Management	Admission is being done as per the Manipal University Admission Policy [Refer data from Admission Data, Manipal University]	15	2	93.33	100
Structural Engineering		20	3	100	100
Environmental Engineering		14	4	85.71	100

33. Diversity of students

Name of the Course (refer to question number 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
PG Details -2012				
Construction Engineering and Management	NIL	88.9	11.1	NIL
Structural Engineering	NIL	76	24	NIL
Environmental Engineering	NIL	44.4	55.6	NIL
PG Details -2013				
Construction Engineering and Management	5.55	66.67	22.23	5.55
Structural Engineering	4	72	24	NIL
Environmental Engineering	NIL	44.44	44.44	11.12
PG Details -2014				
Construction Engineering and Management	NIL	94.12	NIL	5.88
Structural Engineering	NIL	62.5	37.5	NIL
Environmental Engineering	5.55	66.67	27.78	NIL

34. How many students have cleared civil services and defence services examinations, NET, SET, GATE and other competitive examinations? Give details category wise.

Sl. No	Year	Examination Body	Name of Examination	No. of Successful Students
1	2014-15	UPSC	UPSC-Indian Statistical Services-Jun-2014	1
2	2013-14	UPSC	UPSC-Indian Statistical Services-Jun-2013	1
3	2014-15	State Public Service Commission	LUCKNOW METRO RAIL CORPORATION-May-2015	1
4	2014-15	Others	BPSC-Jun-2014	1
5	2014-15	State Public Service Commission	Junior Engineer(civil)-Nov-2015	1
6	2014-15	State Public Service Commission	RDPR-Jun-2015	1

35. Student progression

Student progression	Percentage against enrolled
UG to PG	1%
PG to MPhil	NIL
PG to PhD	1%
PhD to Post-Doctoral	NIL
Employed Campus selection Other than campus recruitment	2012: 55.7% 2013: 31% 2014: 35% NIL
Entrepreneurs	16.25%

36. Diversity of staff

Percentage of faculty who are graduates	
Of the same university	13.5%
From other universities within the state	88.1%
From universities from other states	11.86%
From universities outside the country	NIL

37. Number of faculty who were awarded PhD, DSc. and D.Litt. during the assessment period: Faculty members awarded with PhD: 05

38. Present details of infrastructure facilities with regard to

a	Library- Total number of books available	258 (Dept.)
b	Internet facilities for staff and students	Wi-Fi enabled Campus
c	Computers available total	86 Nos.
d	Total number of class rooms	9 Nos.
e	Classroom with ICT facility	available in all 9 rooms
f	Students laboratories	9 labs
g	Research laboratories	1 lab (PG/research Environmental lab)

39. List of doctoral and post-doctoral students and research associates

- From the host university -2(Doctoral)
- From other university -3(Doctoral)

Name of the faculty	Title / Topic	University	Guide	Year
Dr.Gopinath Nayak	Strength and durability of self compacting high volume fly ash concrete mixes	NITK, Surathkal	Dr. M C Narasimhan	2012
Dr. Guru Murthy	Major ion trace element and organic carbon geo chemistry of river Nethravathi, South west coast of India	Manipal University	Dr. K Balakrishna	2013
Dr. Poornachandra Pandit	Effect of corrosion on reinforced concrete beam	NITK, Surathkal	Dr.Kata Venkataramana	2014
Dr. Srilakshmi	Studies on performance	NITK,	Dr. Subhash Yaragal	2014

Prashanth	enhancement by recurring of thermally deteriorated concrete and appraisal of plaster composition as heat sheilds	Surathkal	Dr. Babu Narayan	
Dr.Tripathi	Geochemical studies on swarna river and its estuary, South west coast of India.	Manipal University	Dr. K Balarishna	2014
Mr. B H V Pai	Development of appropriate mixes of self compacting concrete for neutron shielding	Manipal University	Dr.MaitreyeeNandy Dr. Krishamoorthy	
Mr. Balakrishna S Maddodi	Geoinformatics and Geo evaluation of Udyavara river basin, South west coast of India	Manipal University	Dr. H N Udayashankar	
Ms.Shilpa S Rathnoji	Sustainability & Vulnerability of surface and ground water quality of Bellary nala of Belgaum taluk Karnataka	NITK, Surathkal	Dr. A Mahesh	
Mr.Raghavendra Holla	Factors shaping the biding behaviour of Indian construction Industry	Manipal University	Prof. A S Vasudev Rao Dr.Kiran Kumar Shetty	
Ms Minal Milind Gune	Impact of atmospheric pollution on soil and waters around Nandikur, southwest coast of India	Manipal University	Dr. K Balarishna	
Mr Derrick Ian Joshua	Detection of selected antibiotics and antibiotic resistant genes in Nethravathi River, Karnataka State, South India	Manipal University	Dr. K Balarishna	
Ms.Radhika Bhandary P	Stability Analysis of embankments on soft consolidating Soils using Genetic algorithm and Finite Element Method	Manipal University	Dr.A.Krishnamoorthy Dr.Asha Uday Rao	
Mr. Prasanna	Analysis of space frame structure constructed on soft consolidating soil.	Manipal University	Dr.A.Krishnamoorthy	

40. Number of post graduate students getting financial assistance from the university

a. From 2012 to 2014-31 students

M.Tech. Assistantship 2012-2014		
Sl. No.	Reg. No.	Name of the students
M.Tech. Assistantship 2012		
Structural Engineering		
1	120918007	Ms. Ashwini P.R.
2	120918024	Ms. Ramya R. Pai

3	120918012	Mr. Sandesh upadhyaya K.
4	120918026	Mr. Shyam Bhat
5	120918003	Mr. Pramukh
Construction Engineering And Management		
1.	120914012	Mr. K.S. Sreekumar
2.	120914015	Pranam B.
3.	120914010	Sowmya Rao G.S.
4.	120914011	Mr. Pramod M.
Environmental Engineering		
1.	12095008	Ms. Malavika Korlhalli
2.	120950001	Ms. Nikitha Balakrishna
3.	120950002	Mr. Mathew Varghese
4.	120950007	Mr. Khwairakpam charanjit
II Year	Structural Engineering	
1.	110918021	Nourin Nafisa P M
2.	110918004	Karthik K Nayak
3.	110918016	Roopesh Acharya
Construction Engineering And Management		
1.	110950004	Prabha Sankar V P
2.	110950002	Iyanee Faroza Siddique
M.Tech. Assistantship 2013		
Structural Engineering		
1.	120918024	Ms. Ramya R. Pai
2.	120918012	Mr. Sandesh Upadhyaya K.
3.	120918003	Mr. Pramukh Ganapathi
Environmental Engineering		
1.	120950002	Mr. Mathew Varghese
M.Tech. Assistantship 2014		
Structural Engineering		
1.	130918023	Mr. Shashikumar Rao
2.	130918017	Sachin Vijaya Kuckian
3.	130918015	Sathvika T Shetty
4.	130918008	Ranga Swamy
5.	130918014	Kirana Kumara S Sangapura
Environmental Engineering		
1.	130950008	Mr. Kanaka Raj
2.	130950013	Ms. Saira G Chandy
3.	130950015	Mrs. Nishita Jevita D'Souza
4.	130950018	Ms. Laila Jaseela A
Construction Engineering And Management		
1.	130914009	Ms. Bhagyashree
2.	130914016	Ms. Varsha Kamath
3.	130914015	Mr. Prasanna P
4.	130914004	Mr. Biju Sudheer

41. Was any need assessment exercise undertaken before the development of new programme? If so methodology?

Yes, Based on Inputs from industry, academicians and other stakeholders over a period of time.

42. Does the department obtain feedback form?

- a. **Faculty members on curriculum** –will be discussed during department curriculum committee meetings, suggestions/revision approved by BoS/Senate will be implemented
- b. **Students on staff**-will be discussed in class committee meetings and then presented to DCC for further recommendations
- c. **Alumni and employers of programme offered**-Alumni feedback also used for updating Lab and theory courses

43. List the distinguished alumni of the Department

- a. Er. M M Kamath,(1960),Retired Chief Engineer, N M P T Mangalore,
- b. Dr B Upendra Kamat, (1961) Retired Director, National Institute of Oceanography, Goa
- c. Prof U D Kamath, Retired Professor, MIT Manipal,
- d. Er. Ratnakar Shenoy, (1961), Retired Chief Engineer, P.W.D.
- e. Er. N Nagaraj Ballal (1977), Managing Director-Ballal Construction Company Pvt Ltd, Pooja, Vadiraj Road, Udupi.
- f. Er.Nagesh Nayak, (1978), Partner - 'Chandrakant and Nayak', Bangalore.
- g. Er. T Chendil Kumar(1978), Chief Catalyst - C.K Consultants, Bangalore.
- h. Dr Joseph V Thanikal, (1984), Principal, Kumaraguru College of Technology, Coimbatore, Tamil Nadu.
- i. Er. Rahul Anil Nerurkar, (1985), Senior Executive at Capgemini India Pvt Ltd, Mumbai
- j. Er. SatishTantry (1986), Premier, Constructions Pvt Ltd.
- k. Mr Suryajyothi Neogi, (1997), Avenue De Vaudagne 29, 1217 Meyrin, Switzerland.
- l. Faizal Kottikollon(1987), Chairman, Founder and Chief Executive officer, KEF Holdings Limited, United Arab Emirates

44. Give details of student Enrichment programmes (special lectures//workshops/seminars) involving external experts.

- a. Special Lectures:
 - i. “ENVIRONMENTAL PROTECTION” by NiranjanKhatri – GM – Welcomenviron Initiatives of ITC hotels.-on 30 January 2012.
 - ii. “STABILITY OF STRUCTURES”- DR D L Prabhakar, (Director, Sahyadri Educational Institutions). On 26 March 2012.
 - iii. ”Leadership and Motivation” by Dr Lewlyn L. R. Rodrigueson12 April 2012.
 - iv. “ROADS -GOOD OR BAD? YOU CHOOSE” – Dr Narasimha Bhat, (CEO, Manipal, DOT NET Pvt Ltd, Manipal) on 20 December 2012.

- v. "Save water"- K.B.Rabadia, Superintending Engineer, MIC Nadiad,Gujarat on 06 feb 2013
- vi. "Technical Talk Professional life of a practicing Civil Engineer" Er: Premanand Shenoy on 18th September 2013
- vii. "Technical talk Bridging the gaps"- Dr. Babu Narayan, Professor NITK, Suratkal on 28 september 2013.
- viii. "Technical talk on Tall structures"- Dr. Babu Narayan, Professor NITK, Suratkal on October 2013
- ix. "Talk on Tunneling on Sirasu soil"-Dr.Kitamura on 12 october 2013
- x. "Total station and Concrete mix design"- Dr. Subhash C Yaragal Professor NITK, Suratkal on 26th October 2013
- xi. "Technical talk on Special concrete"- Siddesh R. Kamat Mahamai, 6th March 2014
- xii. "New Generation Concrete Materials and Mix Design" –Dr. M.C.Nataraja,Professor, civil engineering Department, SJCE, Mysore, on 21 August 2014.

45. List the Teaching methods adopted by the faculty for different programmes.

- a. PPT with LCD
- b. OHP
- c. Use of Models
- d. Site/Industrial visit
- e. Tutorials
- f. Case studies
- g. Assignments
- h. Quiz
- i. Problem based learning

46. How does the Department ensure that programme objectives are constantly met and learning outcomes are monitored?

- 1) Feedback from faculty members, students, alumni and employers
- 2) Result analysis after examinations which includes counselling of under achievers
- 3) Regular revision of syllabus
- 4) Inputs from placement cell

47. Highlight the participation of students and faculty in extension activities.

- a. Participation in Social organizations – Volunteer Service Organization, Rrotract, IE Civil – Student chapter etc.
- b. Different student clubs and faculty clubs

48. Give details of “beyond syllabus scholarly activities” of the department.

- a. Department is running a IE Chapter(Civil)(66 students)

49. State whether the programme/Department is accredited//graded by other agencies? If yes, give details.

Yes. The Department is recognized as QIP centre for PhD programmes in Civil Engineering.

NBA accredited for 5 year from 2008. Reaccreditation process in progress.

50. Briefly highlight the contributions of the Department in generating new knowledge, basic or applied.

- a. National Conference on Contemporary Civil Engineering Research and Practices (CCERP),-20-21April 2012.
- b. Earth Day Celebration, "DHARANI" was organized by the Dept. of Civil Engineering, funded by the Ministry of Earth Sciences, New Delhi – 22 April 2012.
- c. Workshop on 3D ware house to Civil UG Student, January 2013
- d. Workshop on Edifice V2.0, April 2013
- e. National conference on New Horizons in Civil Engineering, 12-13 April 2013
- f. Workshop on ETAB Software, March 2014
- g. 6 PhD Students are pursuing research in-house and five students have completed in 2012-2014.
- h. Projects Ongoing – 01
Completed – 08

51. Future plans of the department.(for five years)

- a. Encourage more students and faculty to pursue PhD degree.
- b. To conduct knowledge enriching exercises like organizing faculty development programmes, workshops, invited lectures, National and International Conferences.
- c. Building association with neighbouring institutions/ universities to participate in joint/ inter disciplinary research.
- d. Attract sponsorship and support from industries to create special lab facilities in identified research thrust areas of the department.
- e. Starting a new PG course in Geotechnical Engineering.

- f. Publication of research papers in indexed Journals.
- g. Enhancing the research facilities in collaboration with partners from industry/ other funding agencies to upgrade it as recognised centre for testing by the regulatory bodies.
- h. Motivate students and faculty to identify and carry out research in the new areas of Civil Engineering so as to innovate and increase the opportunities for patents.

52. Detail any five strengths, Weaknesses, Opportunities and Challenges (SWOC) of the Department.

a. Strengths:

- (i) Well established department with adequate infrastructure and state of the art lab facilities.
- (ii) Experienced, well qualified and motivated faculty and dedicated supporting staff
- (iii) Well disciplined, motivated students with good intellectual and communication skills.
- (iv) Focused cohesive team working in conducive atmosphere for teaching learning process and to carry out research.
- (v) Quality consultancy service.

b. Weaknesses:

- (i) Difficulty in retaining students for in-house research.
- (ii) Lack of multidisciplinary research.
- (iii) Fewer industry interface during teaching and learning process.

c. Opportunities:

- (i) Very strong alumni base that may be tapped for institutional growth.
- (ii) Availability of funds from various agencies.
- (iii) Ample scope for overall development of persona for students and faculty.
- (iv) Demand for Civil engineers in the current market.

d. Challenges:

- (i) To attract research grants from government/ reputed funding agencies.
- (ii) To develop research bent of mind in students and faculty.
- (iii) Establish infrastructure facility for the new areas of research.
- (iv) Build collaboration with other departments/ institutes/ industry for research as well as exchange of knowledge.

1. **Name of the Department** : **Computer Science and Engineering**
2. **Year of establishment** : 1989
3. **Is the Department part of a School/Faculty of the university?**
Part of Manipal Institute of Technology, Manipal University
4. **Names of Programmes / Courses offered (UG, PG, MPhil, PhD, Integrated Masters; Integrated PhD, etc.)**

B.Tech in Computer Science and Engineering

M.Tech in Computer Science and Engineering

M.Tech in Computer Science and Information Security

Ph.D (Computer Science and Engineering)

5. **Interdisciplinary courses and departments involved :**

UG:

Sl. No.	Interdisciplinary Course	Department involved
1.	Engineering Mathematics I	Mathematics
2.	Communication Skills in English	Humanities and Management
3.	Mechanics of Solids	Civil Engineering
4.	Mechanical Engineering Sciences	Mechanical and Manufacturing
5.	Engineering Physics	Physics
6.	Basic Electronics	Electronics and Communication
7.	Engineering Mathematics II	Mathematics
8.	Environmental Studies	Civil Engineering
9.	Basic Electrical Technology	Electrical and Electronics Engineering
10.	Engineering Chemistry	Chemistry
11.	Engineering Graphics	Mechanical and Manufacturing
12.	Engineering Mathematics III	Mathematics
13.	Engineering Mathematics IV	Mathematics
14.	Essentials of Management and Engineering Economics	Humanities and Management
15.	Biology for Engineers	Bio-Technology
16.	Open Electives	Different departments and constituent Institutions of MU.

PG:

Sl. No.	Interdisciplinary Course	Department involved
1.	Probability, Random Variables & Stochastic Processes	Mathematics
2.	Research Methodology & Technical Communication	Humanities and Management
3.	Open Electives	Different departments of M.I.T.

6. Courses in collaboration with other universities, industries, foreign institutions,

Sl. No.	Course	Industry
1.	Building Enterprise Applications	Infosys
2.	Business Intelligence (BI) and its Application	Infosys
3.	Essentials of IT (Open Elective)	Infosys
4.	Essentials of Industrial Computing (Open Elective)	Infosys
5.	Data Mining and Business Analytics	Infosys
6.	Storage Device Technology	EMC ²
7.	Information Storage and Management	EMC ²
8.	Multicore Programme Optimization	Intel
9.	Advanced Computer Networks	Cisco
10.	Mobile Application Development	Infosys

7. Details of programmes / courses discontinued, if any, with reasons: Nil

8. Annual/ Semester/Choice Based Credit System : Semester Based 10 Point Credit System

9. Participation of the department in the courses offered by other departments:

Sl. No.	Interdisciplinary Course	Department involved
1.	Computer Data Processing	Printing and Media Engineering
2.	Advanced Techniques in Computer Graphics	Printing and Media Engineering
3.	Open Electives	Different departments

10. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Assistant Professors)

Details	Sanctioned	Filled
Professor	8	9
Associate Professors	16	5
Assistant Professors	35	51
Total	59	65

11. Faculty profile with name, qualification, designation and specialization (DSc/DLitt/ PhD/MPhil, etc.) :

Sl No	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of PhD students guided for the last 4 years
1	Dr Renuka A	BE, MTech, PhD	Professor and Head	Mobile Ad hoc Networks	23 years	2(On going)
2	Dr N V Subba Reddy	BE, MTech, PhD	Professor	Artificial Intelligence, Pattern Recognition, Object Oriented Systems	30	2+3(On going)
3	Dr Prema KV	BE, MTech, PhD	Professor	Soft computing, Computer Networks/ Security	23.5	2+ 2(On going)
4	Dr U Dinesh Acharya	BE, MTech, PhD	Professor	Pattern Recognition	26	1+7 (On going)
5	Dr Krishnamoorthi Makkithaya	BE, MTech, PhD	Professor	Data Mining and Network Security	25	2+ 7(On going)
6	Dr N GopalakrishnaKini	BE, MTech, PhD	Professor	High Performance Computing	24 years	1(On going)
7	Dr AshalathaNayak	BE, MTech, PhD	Professor	Model Based Testing	22 years	3(On going)
8	Dr Geetha M	MSc, MPhil, MTech, PhD	Professor	Data Mining	23 years	2(On going)
9	Dr Harish S V	BE, MTech, PhD	Professor	Autonomic Computing	24 years	Nil
10	Dr Vivekananda Bhat K	MTech, PhD	Associate Professor	Information Security	16 years	Nil
11	Dr P C Siddalingaswamy	BE, MTech, PhD	Associate Professor	Computer Graphics and Image Processing	12 years	1(On going)

12	Dr. Srikanth Prabhu	BE, MTech, PhD	Associate Professor	Medical Imaging	12 years	1
13	Dr. Mamatha Balachandra	BE, MTech, PhD	Associate Professor	Wireless Ad hoc Networks	18 years	-
14	Dr. R Vijaya Arjunan	BE, MTech, PhD	Associate Professor	Image Processing and Image Denoising	Industry :2yrs, Teaching :13 years	-
15	Dr. Manjula Shenoy	BE, MTech	Assistant Professor – Selection Grade	Semantic Web	20 years	-
16	Ms Hemalatha S	BE, MTech	Assistant Professor – Selection Grade	Information Security	20 years	-
17	Mr Shivaprasad G	BE, MTech	Assistant Professor – Selection Grade	Web Usage Mining	15 years	-
18	Mr Narendra V G	BE, MTech	Assistant Professor – Selection Grade	Image Processing and Computer Vision	15 years	-
19	Mr Giridhar N S	BE, MTech	Assistant Professor – Selection Grade	Computer Science and Engineering	15 years	-
20	Mr Manamohana K	BE, MTech	Assistant Professor – Selection Grade	Computer Networks Linux and Unix	17 years	-
21	Mr Rajesh G	BE, MTech	Assistant Professor – Selection Grade	Pattern Recognition	14 years	-
22	Ms Suma D	BE, MTech	Assistant Professor – Senior Scale	Computer Science and Engineering	16 years	-
23	Mr Chidananda Acharya	BE, MTech	Assistant Professor – Senior Scale	DBMS and Networks	29 years	-
24	Mr Praveen Pai T	BE, MTech	Assistant Professor – Senior Scale	Software Engineering	16 years	-
25	Mr Ashwath Rao B	BE, MTech	Assistant Professor – Senior Scale	Computer Science and Engineering	11 years	-

26	Mr Ahamed Shafeeq B M	BE, MTech	Assistant Professor – Senior Scale	Data Mining	12 years	-
27	Mr Dasharathraj K Shetty	BE, MBA, MPhil, MTech	Assistant Professor – Senior Scale	Computer Science and Engineering	10 years	-
28	Mr Govardhan Hegde	BE, MTech	Assistant Professor – Senior Scale	Computer Science and Engineering	14 years	-
29	Ms P B Shanthi	BE, MTech	Assistant Professor – Senior Scale	Computer Science and Engineering	10 years	-
30	Mr B Kishore	BE, MTech	Assistant Professor – Senior Scale	Computer Science and Engineering	11 years	-
31	Mr Roshan David Jathanna	BE, MTech	Assistant Professor – Senior Scale	Software Engineering and DBMS	Industry : 6.5 years, Teaching : 4 years	-
32	Ms C Anitha Marx	BE, MTech	Assistant Professor – Senior Scale	Network Engineering	5 years	-
33	Mr Gururaj	BE, MTech	Assistant Professor – Senior Scale	Computer Science and Engineering	Industry : 9 Months, Teaching : 13 years	-
34	Mr Yusuf Haider M	BE, MTech	Assistant Professor – Senior Scale	Computer Science and Engineering	11 years	-
35	Ms Tanuja Shailesh	BE, MTech	Assistant Professor – Senior Scale	Computer Science and Engineering	11 years	-
36	Ms Archana Praveen Kumar	BE, MTech	Assistant Professor – Senior Scale	Computer Science and Engineering	12 years	-
37	Mr Prakash K Aithal	BE, MTech	Assistant Professor – Senior Scale	Computer Science and Engineering	7 years	-
38	Ms D Cenitta	BE, ME	Assistant Professor – Senior Scale	Computer Science and Engineering	8.4 years	-
39	Mr. Manoj R.	BE, MTech	Assistant Professor – Senior Scale	Computer Science and Engineering	7 years	-
40	Ms Anjana S	BE, MTech,	Assistant Professor – Senior Scale	Computer Science and Engineering	8.5 years	-
41	Mr. Muralikrishna	M.Sc., M.Tech.	Assistant Professor –	Computer Science and	7.3 years	-

	S.N.		Senior Scale	Engineering		
42	Ms Rajashree Krishna	BE, MTech	Assistant Professor – Senior Scale	Networks	8 years	-
43	Ms Sucharitha Shetty	BE, MTech	Assistant Professor	Network Engineering	7 years	-
44	Ms Anita S Kini	BE, MTech	Assistant Professor	Network Engineering	Industry : 1 year 10 months, Teaching : 9.5 years	-
45	Ms Priya Kamath B	BE, MTech	Assistant Professor	Computer Science and Engineering	5 years	-
46	Ms Deepthi S	BE, MTech	Assistant Professor	Computer Science and Engineering	5.7 years	-
47	Ms Shwetha Rai	BE, MTech	Assistant Professor	Computer Science and Engineering	4 years	-
48	Ms Roopashri Shetty	BE, MTech	Assistant Professor	Computer Science and Engineering	4.5 years	-
49	Ms Jyothi Upadhy	BE, MTech	Assistant Professor	Computer Science and Engineering	15 years	-
50	Ms Radhika Kamath	BE, MTech	Assistant Professor	Software Engineering	6 years	-
51	Mr Karanth Shyam S	BE, MTech	Assistant Professor	Computer Science and Engineering	Industry: 1 years, Teaching : 5.5 years	-
52	Ms Vidya V	BE, MTech	Assistant Professor	Computer Science and Engineering	3 years	-
53	Ms.Ancilla Juliet Pinto	BE, MTech	Assistant Professor	Computer Science and Engineering	3.5 years	-
54	Ms.Praseeda	BE, MTech	Assistant Professor	Computer Science and Engineering	Industry 1 yr. 8 months Teaching 2 years	-
55	Mr.Ganesh Babu C.	BE, MTech	Assistant Professor	Computer Science and Engineering	Industry 5 yrs. Teaching 2 years	-
56	Mr.Siva Selvan	B.Tech, MTech	Assistant Professor	Computer Science and	3 years	-

				Engineering		
57	Ms.Jashma Suresh P.P.	BE, MTech	Assistant Professor	Computer Science and Engineering	2 years	-
58	Ms.Janani M.	BE, MTech	Assistant Professor	Computer Science and Engineering	1 year	-
59	Ms.Vidya Pai	BE, MTech	Assistant Professor	Computer Science and Engineering	1 year	-
60	Ms.Vyshali Rao K.P.	BE, MTech	Assistant Professor	Computer Science and Engineering	1 year	-
61	Ms.Josephine. Veena D.	BE, MTech	Assistant Professor	Computer Science and Engineering	1 year	-
62	Ms.Jimcymol James	BE, MTech	Assistant Professor	Computer Science and Engineering	1 year	-
63	Mr.Bhargav Bhatkalkar	BE, MTech	Assistant Professor	Computer Science and Engineering	1 year	-
64	Ms. Praseetha M	BE, MTech	Assistant Professor	Computer Science and Engineering	1 year	-
65	Ms. Anu Jose	B.Tech., MTech	Assistant Professor	Computer Science and Engineering	1 year	-

12. List of senior Visiting Fellows, faculty, adjunct faculty, emeritus professors:

List of external DAC (Doctoral Advisory committee) members

1. Dr. Niranjana N. C , Principal NMAMIT Nitte
2. Dr. Annappa , Professor & Head , CS&E Dept NITK Surathkal
3. Dr. Ananthanarayana , Professor , IT Dept NITK Surathkal
4. Dr. Shanthi Thilagam, Professor, CS&E Dept NITK Surathkal
5. Dr. Madhu Kumar , Professor CS&E Dept NIT Calicut
6. Dr. Vijaya Raj Purohit, Professor & Head IT Dept KLE Belagaum
7. Dr. Mohit Tahiliani, Professor, CS&E Dept NITK Surathkal

The DAC members meet once in six months to monitor the progress of concerned research scholar of the department.

13. Percentage of classes taken by temporary faculty – programme-wise information: Nil

14. Programme-wise Student Teacher Ratio: – UG 1:15, PG : 1:12

15. Number of academic support staff (technical) and administrative staff: sanctioned - 18 and filled - 17

Sl No	Technical Staff	Sanctioned	Filled
1	Assistant Engineer	3	3
2	Junior System Executive	2	2
3	Junior Engineer	3	3
4	Technician- II	3	2
5	Senior Clerk / Clerk	2	2
6	Sr General Duty Worker/GDW	5	5

16. Research thrust areas recognized by funding agencies: Natural language processing, Soft computing, Image processing, machine learning.

17. Number of faculty with on-going projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise. :

Sr. No.	Project Name	Principal Investigator	Funding Agencies	Budget Approved	Total Grants Received (INR)
1.	Developing Dependency Treebank for Kannada	Mr. Ashwath Rao B, Dept of CSE	Dept. of Electronics and Information Technology(DeitY)	81.14 Lakhs	23.28 Lakhs

18. Inter-institutional collaborative projects and grants received :

a) All India collaboration b) International

Sl. No	Title of the Project	Collaborative Institute	Grant received
1	An Intelligent Prediction model for Drug Repurposing using soft Computing Techniques- Philips Medical Systems	KMC Manipal	Applied
2.	Design and implementation of an Interoperable, Privacy Preserving framework for Health Records	KMC Manipal	Non-funded
3	Adverse Drug Event Triggering Tool	MCOPS Manipal	Non-funded

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received. :

- Dept. of Electronics and Information Technology(DeitY), Total grants received: Rs. 23.28 Lakhs, Budget Approved Rs. 81.14 lakhs for the period 2013-2016.
- AICTE RPS Project for Rs 5.75 lakhs (AICTE funded project) for the period 2008-2010

In addition to this,

1. PG and UG students undergo internship with stipend at industries such as MICRSOFT, GOOGLE, INTEL, IBM, ORACLE, EMC², CISCO, PHILIPS, GE Healthcare, Honeywell.
2. IAESTE students go abroad and execute live projects with scholarship in various countries such as Germany, Korea, Thailand, Singapore, France, Vietnam .
3. IAESTE students coming from abroad work on projects similar to mentioned in 2 above.

20. Research facility / centre with

- state recognition :
- national recognition :
- international recognition :

Manipal University Technology Business Incubator (MUTBI) - a central facility for the institute is funded by state government, central government, and Manipal University to identify and support potential business ideas. It provides office space, support for setting up a start-up and seed money are provided to entrepreneurial students.

21. Special research laboratories sponsored by / created by industry or corporate bodies : Nil

22. Research output in last 3 years:

Details		2012	2013	2014
Completed funded research projects		-	-	1 (Applied)
Completed non-funded research projects		-	-	-
Completed PhD research projects		-	-	4
Completed PG research projects		3	4	4
Completed UG research projects		78	78	54
Publications	International	36	21	24
	National	-	-	-
Books		1	-	-
Chapters in books		1	-	-
Conference presentations	International	16	20	24
	National	6	4	2

Completed funded research project (s)

Investigator (s)	Project title	Amount of research grant
Dr. Prema K.V. Professor & Dr.Siddhaling Urolagin	Design of an Intelligent System using Soft Computing Models	Rs. 5.75 Lakhs

International Journal:**2014**

1. Vijayalaxmi, and Adiga, Chandrashekara S and Joshi, Harish G and Harish, S V *Digital Circuits Optimization: An Intelligent Approach - A Simulation Study*. International Journal of Electronics and Computer Science Engineering, 3 (4). pp. 360-365. ISSN 2277-1956 - 2014
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6. Bhat, Ganapathi and Kini, Gopalakrishna N and Ray, Siddharth and Prabhu , Srikanth and Hegde, Govardhan *Parallelization of Sieve of Eratosthenes*. International Journal of Scientific Research in Computer Science Applications and Management Studies, 3 (5). ISSN 2319 – 1953 - 2014
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15. Hemalatha, S and Acharya, Dinesh U and Renuka, A and Kamath, Priya R A Secure Image Steganography Technique Using Integer Wavelet Transform. In: World Congress on Information and Communication Technologies. (2012)
16. Kini, Gopalakrishna N Study on Molecular Structure Analysis using High Performance Computing. In: 22nd International Conference on Chemistry Education - 11th European Conference on Research in Chemical Education (ICCE-ECRICE-2012), 16-20, July 2012, University of Rome, Italy. (2012)

* Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.):

Google Scholar: 167

Scopus: 68

- * **Citation Index – range / average -**
 Google Scholar: [0 – 155] / 16.6
 Scopus: [0 – 113] / 4.5
- * **SNIP -** 0.779 (average)
- * **SJR -** 0.453 (average)
- * **Impact Factor – range / average :** [0 – 2.77] / 0.94
- * **h-index -**
 Google Scholar: 1.16
 Scopus: 0.5

23. Details of patents and income generated :

1. Dr Siddhaling Urolagin & Dr P.C. Siddalingaswamy - Voice Based Addition of Contact Number in Real Time Mobile Conversation – US \$200
2. Dr Krishnamoorthi Makkithaya “Method and System for Efficient Stereo Matching”, Indian Patent Application Number: 89/CHE/2014 filed on 8th Jan 2014.
3. “Multiple Objects Detection and Tracking for Augmented Reality” Received Invention Award from Intellectual Ventures, June 2014- US \$250
4. “Hybrid Correlation for Illumination Invariant Stereo Matching” Received Invention Award from Intellectual Ventures, September 2013- US \$200.

24. Areas of consultancy and income generated :

Funding agencies recognized areas like Natural language processing, Soft computing and department would like to concentrate more on these areas to generate income through consultancy.

Department also has plans to start consultancy in research areas such as Data analytics and Health informatics.

Income generated: Nil

25. Faculty selected nationally/ internationally to visit other laboratories in India and abroad :

Dr. Geetha M., Professor -Short term teaching assignment on Advanced data base system at EFREI, France during 22-11-2014 to 22-12-2014

26. Faculty serving in

- a) **National committees** b) **International committees** c) **Editorial Boards** d) **any other** (please specify) :

National committees

Sl No	Name of the Faculty	Committee and Role	Period
1	Dr N V Subba Reddy	i) Member of Directorate of Technical Education Govt of Sikkim ii) Member of BOS Sikkim Manipal University iii) Chairman of BOS & Senate Modi University laxmingar, Jaipur	2010 2010 2010-2014
2.	Dr. Prema K V	Member of BOS & Senate Modi University laxmingar, Jaipur	2010-2014
3.	Dr. Renuka A	Member of BOS , MCA Dept NMAMIT Nitte	2014 Onwards
4.	Dr. Dinesh Acharya U	Member of BOS , CSE Dept NMAMIT Nitte	2012-13
5.	Dr. Ashalatha Nayak	Member of BOS , CSE Dept NMAMIT Nitte	2013-14

Editorial Boards

Sl No	Name of the Faculty	Journal and Role	Period
1.	Dr. Prema K V	i) International Journal of soft computing, Member of the Editorial board ii) International journal of communication technologies special issue on security issues & trust management in the digital word, Editor	2010 Onwards June 2011- Dec 2011
2.	Dr. Dinesh Acharya U	ICTCACT Journal on Image and Video processing, Member of the Editorial board	2013 Onwards

27. Faculty recharging strategies:

- Faculty members attend the short-term courses and faculty development programmes organized by other departments/ institutions
- Faculty members are encouraged and supported with financial assistance (Maximum Rs 50000 each year) to attend the conferences and present papers in India & abroad.
- Faculty members are trained through train the trainer programmes & webinar conducted by various industries on recent technologies
- Institute sponsors Faculty members to pursue PhD in premier institutions.

28. Student projects

- Percentage of students who have done in-house projects including inter-departmental projects
 1. UG - 31
 2. PG - 12
- Percentage of students doing projects in collaboration with other universities / industry / institute
 1. UG - 69
 2. PG - 88

29. Awards / recognitions received at the national and international level by

❖ Best Paper Award:

1. Mr. R. Vijaya Arjunan presented a paper titled “ Image Denoising using Multiple Wavelet Decomposition with Bicubicinterpolation” in 4th International Conference on Signal and Image Processing .(ICSIP 2012) (Springer) at Dr. N.G.P. Institute of Technology, Coimbatore, 2012.
2. Mr. Kishore B. & Mr. Govardhan Hegde K. presented a paper titled “The need, use, analysis and efficiency of Intrusion Detection System in Web-Based Environment” at the International Conference on Computer Science and Mechanical Engg. (ICCSME) held at Vizag on 13th July 2014.
3. Raghavendra U, Krishnamoorthi Makkithaya and Karunakar A. K, "Illumination Invariant Stereo Data Cost Using Modified Census Transform", IJCA Proceedings on National Conference on Recent Advances in Information Technology NCRAIT (2):38-41, February 2014. Published by Foundation of Computer Science, New York, USA.

❖ Most Authoritative paper award :

Dr. Srikanth Prabhu, Mr. Dasharathraj K.Shetty and Mr. Manjunath K. Vanahalli presented paper titled “ Face Recognition System using Template Method” awarded Most Authoritative paper award Information System and Engineering at International Conference, ASCENT 2014, the Scholarly Conference on Emerging Technologies for Information Systems and Business Management held on April 23 and 24, 2014 at FTMS College, Bukit Jalil Campus, Technology Park Malaysia, Kaula Lumpur, Malaysia. Award from Andrew Chambers, World authority in Corporate Governance.

❖ Best Paper Certificate:

Dr. Srikanth Prabhu: “Retinal Bio-metrics, towards Healthcare Management” during the 3rd World Conference on Applied Sciences, Engineering and Technology (WCSET 2014) at Hotel Manang, Kathmandu. NEPAL on 28th September, 2014.

- Doctoral / post-doctoral fellows : Nil

➤ Students : Best Student Award from TCS in 2011, 2013, 2014.

GE Foundation scholarship amounting to 2.5 lacs in INR -2012, 2013, 2014

30. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.

Department conducted following faculty development programmes:

- i. Organized a Workshop on Mastering the Art and Science of Teaching Engineering and Research [MASTER] 11 - 12 March 2008 in collaboration with HEWLETT-PACKARD, UNIVERSITY RELATIONS INDIA
- ii. International Colloquium in Computer Science and Engineering 6 - 7 April 2010 at MIT, Manipal in collaboration with Lancaster University, UK
Name of the delegates from Lancaster University
 1. Prof Garik Markarian
 2. Prof Bahram Honary
 3. Dr Paul Coulton
 4. Dr Mila Mohaylova
- iii. A workshop on “Faculty Development Programme on Soft Skills” was organized by Department of Computer Science and Engineering, MIT in association with Infosys Campus Connect on 22 September, 2010. Resource person: Mr Sreekanth Shenoy, Member of Professional Skills Development Team, Infosys, Bangalore.
- iv. Workshop on RAD (Rapid Application Developer) for students and faculty in collaboration with IBM from 7-10 October 2010
- v. A workshop on “Database Management Systems” was organized by Department of Computer Science and Engineering, MIT in association with IIT, Mumbai from 13-23 December 2010 - IIT, MUMBAI, Rs 2,00,000/-.
- vi. Android Workshop in collaboration with Robosoft Technologies on 8 January 2011 for faculty of CSE, I and CT and MCA
- vii. Two day Workshop on “Indian Mobile Initiative (IMI) - Boot Camp – Android Programming Workshop Department of Computer Science and Engineering, MIT in collaboration with Google and MIT, US as a part of Indian Mobile Initiative (IMI) workshop for the students of electrical streams from 3 – 4 August, 2011 (batch 1) and 5 – 6 August, 2011 (batch 2).
- viii. Cloud Computing and Windows Azure Workshop on 17 September 2011 and 24 September 2011 in collaboration with Infosys Technologies. Resource Persons: Mr Suryanarayana V : Principal – Education and Research, Infosys and Mr Deepak RanjalShenoy : Lead – Education and Research, Infosys

- ix. Talk titled “Game Development” by Arvind Raja Yadav, Pyrodactyl Games, former student of MIT on 14 November 2011.
- x. Organized National Conference on Advances in Computer Science and Information Security (ACSIS’12) at Department of CSE, MIT, Manipal on 6–7 January 2012–CSIR, NEW DELHI,
Key Note Address:
1. Dr. Narasimha Bhat, CEO , DotNet Manipal.
 2. Dr. Kunkuam Garg , Director MIT Manipal.
- xi. Talk regarding higher education opportunities at EPITECH by Ms Ksenia Andreeva, Head of International Office, EPITECH on 26 March 2012.
- xii. DB2 workshop by IBM held from 6 – 8 April 2012 at CSE department MIT, Manipal.
- xiii. ILMT Tree Bank Workshop in association with International Institute of Information Technology, Hyderabad from 13 - 18 April, 2012 at CSE department MIT, Manipal
Resource persons:
1. Dr. Deepthi Mishra , Professor & Head LTRC IIIT Hyderabad
 2. Dr. Malthr Kuulkarni , Professor Humanities Dept IIT Mumbai
 3. Dr. Mashidas Bhattacharya , Professor, Language Centre Jadhavapur University West Bengal
- xiv. Two day workshop in association with AMD SRM University on Heterogeneous Computing from 26 – 27 July, 2012.

2013

1. National Workshop on “Computer Applications based On Modern Algebra” Organized by Dept. of Maths and Dept. of CSE during 3rd January – 5th January 2013.
2. Workshop on Deep Dive Faculty Enablement Program on "Mobile Application Development using Android”. A five day Deep Dive Faculty Enablement Program (DDFEP) on Mobile Application Development using Android was successfully organized by Campus Connect Team, Mangalore at Manipal Institute of Technology, Manipal from 2nd to 6th Dec 2013. The workshop witnessed an active participation of 40 faculty members from 14 Campus Connect partnering colleges attached to Bangalore, Mangalore and Mysore DCs. Resource persons Kavya Gopi, Lead, E&R, Mangalore Development Center, Infosys. Hari S, Lead, E&R, Trivandrum Development Center, Infosys.
3. One day guest lecture on “Clouds as the Core and Central IT Infrastructure for the Envisioned Smarter Planet” on 14th of September 2013 by Dr. Pethuru Raj, Infrastructure Architect, IBM Global Cloud Center of Excellence, Bangalore.

4. Ms. Ali Spivak, Product Manager, Mozilla Corporation, San Francisco, USA and Mr. Vikash Agrawal, Mozilla Rep (our Alumni) gave a talk on Mozilla Firefox OS and Mozilla Developer Network(MDN).
5. Mr. Rajendra Chaudhary IT Specialist , IBM India Pvt Ltd came as a resource person and delivered talk on “Wide Knowledge of Software Engineering and Management”. (SDLC, Agile Process, Jazz Team Server, RTC Installation, Project Planning, Setting up a built system and Managing , Report Generation and Process Customization) conducted on 12th to 15th October 2013.

2014:

1. Workshop on “ Business Process Simulation” by Prof. D.S. Broca, XLRI Jamshedpur on February 24, 2014.
2. Two Week ISTE Main Workshop on Computer Networking Under the National Mission on Education through ICT, MHRD, New Delhi, June 30th, 2014 to July 5th, 2014.
3. Talk on “Cloud, PaaS and Bluemix” by Mr. Rajendra H. Kamath, Senior Manager (Technical) IBM India Pvt. Ltd., Bangalore on 20th September, 2014.
4. Workshop on “Big Data Analytics and Cloud Computing” on November 18-19, 2014.

31. Code of ethics for research followed by the departments

As per Manipal University guidelines

The basic responsibility of an EC (Ethical Committee) is to ensure a competent review of all ethical aspects of the project proposals received and execute the same free from any bias and influence that could affect their objectivity. EC should provide advice to the researchers on all aspects of welfare and safety of the research participants after ensuring the scientific soundness of the proposed research through appropriate Scientific Review Committees. In smaller institutions the EC can up the dual responsibility of Scientific and Ethical Review.

The responsibilities of an EC can be defined as follows:

1. To protect the dignity, rights and well-being of the potential research participants
2. To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs

To assist in the development and the education of a research community responsive to local health care requirements

32. Student profile course-wise:

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage (in first attempt)
		Male	Female	
2011-12 - B.E. (CSE)	Admission is being done as per Manipal University admission policy	187	60	M 80.74 - F 76.66
2012-13 – B.Tech (CSE)		170	60	M 77.01 - F 87.71
2013-14 – B.Tech (CSE)		184	59	M 75.10 - F 84.48
Name of the Course (refer to question no. 4)	Applications received	Selected Male	Selected Female	Pass percentage (in first attempt)
2011-12 - MTech (CSE)	Admission is being done as per Manipal University admission policy	12	10	Male=100 Female=100
2011-12 - MTech (CSIS)		9	7	Male=100 Female=100
2012-13 - MTech (CSE)		20	4	Male=100 Female=100
2012-13 - MTech (CSIS)		13	5	Male=100 Female=100
2013-14 - MTech (CSE)		24	1	Male=100 Female=100
2013-14 - MTech (CSIS)		12	5	Male=100 Female=100
2014-15 - MTech (CSE)		16	9	Male=100 Female=100
2014-15 - MTech (CSIS)		11	6	Male=100 Female=100

33. Diversity of students

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
MTech (Computer Science and Engineering)	Nil	41.7	58.3	Nil
MTech (Computer Science Information Technology)	Nil	44.4	55.6	Nil

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Sl No	Year	GATE	GRE	CAT	UPSE
1.	2012-13	-	6	2	
2.	2013-14	6	26	7	1
3	2014-15	-	11	6	1

35. Student progression:

Student progression	Percentage against enrolled
UG to PG	7% - 2014 16.04%-2013 3.3% -2012
PG to MPhil	-
PG to PhD	2.3% 2014 - 1
PhD to Post-Doctoral	Nil
Employed	
Campus selection	85%
Other than campus recruitment	5%
Entrepreneurs	1%

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	9.37
from other universities within the State	67.18
from universities from other States	21.95
from universities outside the country	1.50

37. Number of faculty who were awarded PhD, DSc and DLitt during the assessment period :

Sl No	Faculty & Dept	Title of Research Topic	Institute/University	Guide and Co-guide (if applicable) and their affiliation	Year of completion, (if applicable)
1	Dr. N Gopalakrishna Kini, 050900067	Enhancement of Speed & Capacity of Parallel Processing System	MIT, Manipal University	Dr.M.Sathish Kumar, MIT, Manipal	10-02-2010
2	Dr.Renuka A.	Key Management Issues in Mobile Adhoc Networks	NITK, Surathkal	Dr. K.C. Shet, NITK	8-3-2010
3	Dr.Ashalatha Nayak	Automatic Synthesis of Test Cases with some UML Behavioral Models	IIT, Kharagpur	Dr.Debasis Samantha, IIT,	15-1-2010

				Kharagpur	
4	Dr.Geetha M.	Some Efficient Data Mining Algorithms for Frequent, Closed Frequent and Maximal Frequent Item sets Based on Abstractions	NITK, Surathkal	Dr. R.J. D'souza, 90NITK	1-3-2010
5	Dr. Harish S.V.	An Intelligent Controller Approach Towards Autonomic Computing Systems	NITK, Surathkal	Dr. K. Chandrasekharan, NITK, Surathkal	10-6-2011
6	Dr. Vivekananda Bhat	Digital Watermarking of Audio Signals using Quantization	IIT, Kharagpur	Dr.IndranilSengupta, Dr.Abhijit Das, IIT, Kharagpur	3-7-2010
7	Dr.Siddhaling Urolagin 050900059	Design of an intelligent system for pattern recognition using soft computing models	Manipal University	Dr.Prema K.V., MIT, Manipal,	20-07-2010
8	Dr. P C Siddalingaswamy 050900061	Registration and Fusion of Retinal Images for Early Detection of Visual Abnormalities	Manipal University	Dr.GopalakrishnaPrabhu MIT, Manipal,	24-09-2011
9	Dr. Srikanth Prabhu	Retinal Biometric Pattern Analysis System	IIT Kharagpur	Dr. R.N Banerjee. Dr A.K. Ray	15-07-2013
10	Dr. Vijaya Arjunan R	Novel framework for image and video denoising.	Sri Chandrasekarendra Saraswathi Viswa Maha Vidyalaya University	Dr. V.Vijaya Kumar	4-10-2013
11	Mrs. Smitha Suni Kumaran Nair	Knowledge Based System for Biological Sequence Analysis Using Soft Computing Models	Manipal University	Dr. N.V.Subba Reddy	17-02-2014
12	Ms. Mamatha Balachandra, 080900039	Enhancing the Efficiency of Manets by Improving the Routing Technologies and QOS Parameters	Manipal University	Dr. Prema K.V.	26-02-2014
13	Ms.Smitha N. Pai, 0909000014	Energy Conservation Protocols For Wireless Sensor Networks	Manipal University	Dr. K.C.Shet	22-05-2014
14	Mrs. Manjula Shenoy K., 090900018	New Approaches for Ontology Mapping with Security and Accuracy	Manipal University	Dr. K.C. Shet	10-10-2014

38. Present details of infrastructural facilities with regard to

a) Library

(i) Central Library caters to the needs of all the departments

(ii) Department has its own library to cater to the immediate needs of faculty members and students. The department also has online digital library facility for the faculty members, Postgraduates and PhD students in particular.

Total number of books: 164 + 113 (donated by m/s Infosys)

b) Internet facilities for staff and students: All faculty members and UG, PG Students; Wi-Fi Enabled Campus

c) Total number of classrooms: 10

d) Class rooms with ICT facility

The department has 10 state-of-the-art classrooms and one seminar hall with audio-visual (LCD) facility. Faculty members use website resources and content developed by the faculty, which forms add-on learning apart from regular programme.

e) Students' laboratories

Laboratory facilities:

- Database Systems Lab
- Software Engineering Lab
- Project Lab
- Operating Systems Lab
- Network Technology Lab
- Language Processors Lab
- Computer Graphics Lab
- PG and Research Lab
- Digital Systems Lab
- Programming Lab

A total of 414 computers are available to cater to the department computational requirements.

Four Servers Configured as: PostgreSQL database Server, Departmental Webserver, Linux File Server, Database Server.

Software Available:

MATLAB software, MS Visual Studio, Oracle server , Rational Rose, Aneka Cloud

Operating Systems like Ubuntu Linux, Debian Linux to cater the Computing needs.

Typically lab facility is to conduct the lab with a batch of 35 to 38 students.

Department also has other facilities like LCD, OHP and Internet access.

f) Research laboratories: Research lab

39. List of doctoral, post-doctoral students and Research Associates

a) From the host university (Part Time)

Sl. No.	Faculty & Dept	Title of Research Topic	Guide and Co-guide (if applicable) and their affiliation
1	Mr.Rajesh G, 070900013	Multilingual Script Identification System using Hybrid Architectures	Dr. N.V. Subba Reddy
2	Mr. Shivaprasad G., 090900035	Knowledge-Based System for Behavioral Pattern Identification using Web Usage Repository : A Novel Machine Learning Approach	Dr. N.V. SubbaReddy
3	Mr. Manamohana K 090900021	Design and Development of Dynamic Intelligent Network Security System for Mitigation of Denial of Service Attacks	Dr. Nagesh H.R.
4	Mr. Giridhar N. Shakarad 090900022	Design and Development of an Efficient Knowledge Based System for Web Text Mining	Dr. Prema K.V.
5	Mr. Narendra V.G. 090900029	Design of an Intelligent Grading System for Agricultural and Food Products Using Soft Computing Models	Dr. Haresha K.S.
6	Mrs.Hemalatha S., 110900013	Techniques For Optimizing Capacity And Security In Steganography	Dr. U. Dinesh Acharya
7	Mr.B.V.Ravindra 110900007	Knowledge Decision Support Medical System Using Data Mining Framework	Dr. N. Sriraam (Guide) Dr. Geetha M. (Co-guide)
8	Mr. Ahmed Shafeeq B.M. 120900005	Design and Development of Intelligent Clustering Algorithm for Spatial Data Using Soft Computing Techniques	Dr. Haresha K.S.
9	Mr. Dasharathraj K. Shetty, 120900037	Analysis and Design of Soft Computing Based Computer Vision System for Automatic Post Harvest Quality Grading of Agricultural Produce With an Emphasis on Quality Grading of Dry Chilli	Dr.U.DineshAcharya, MIT
	Mrs. Suma D.,	Efficient structure and content	Dr.U.Dinesh

10	120900046	based approaches for clustering XML Documents	Acharya, MIT
11	Mr.Gururaj, 130900002	Computationally Efficient Multi – View Video Coding	Dr.Karunakar A Kotegar
12	Mrs.P.B.Shanthi 130900023	Cytological image analysis for detection of cervical cancer using soft computing techniques	Dr.Hareesha K.S.
13	Mr. Muralikrishna S.N. 130900057	Human action and activity recognition for video surveillance assistance	Dr.Balachandra, (Guide) Dr.Dinesh Acharya U. (Co-guide)

b) from other universities

Sl. No.	Name of the Research Scholar	Title of Research Topic	Guide and Co-guide (if applicable) and their affiliation
1	Mr.Vinay S., 080900031	Evaluation and Enhancement of the Effectiveness of the Goal Oriented Requirements Engineering Methodology	Dr. ShridharAithal
2	Mr. P Venkatramana Bhat, 080900032	Effect data communication in large scale mobile sensor network	Dr. ShridharAithal
3	Ms.Sumana 100900020	Design and Development of Techniques in Privacy Preserving Data Mining	Dr. Hareesha K.S.

c) Full Time

Sl.No.	Name of the Research Scholar	Title of Research Topic	Guide and Co-guide (if applicable) and their affiliation
1	Mrs.Sandhya Parasnath Dubey 120900109 (Full Time)	Genome Sequence Analysis by Harnessing the Power of High Performance Computing	Dr. N. GopalakrishnaKini
2	Mr.Shreyas Suresh Rao	Enterprise mashup software to enhance collaborative intelligence in enterprise 3.0 through interoperability with Web	Dr.Ashalatha Nayak
3	Mr. Rudresh Deepak Shirwaikar	Data mining framework for prediction of apnea and drug dosage of caffeine and Aminophylline in Neonates	Dr.U.Dinesh Acharya Dr. Krishnamoorthi Makkithaya (Co-Guide)

40. Number of post graduate students getting financial assistance from the university:2010: 2, 2011:5, 2012: 4 2013:5 2014: 4

2010

Sl. No	Name	Reg. No.
1.	MR. DEEPAK L.S	100913007
2.	MR.PAVAN KUMAR	100913017

2011

Sl.No	Name	Reg. No.
1.	SHATANANDABHAT P	110913004
2.	ASHWIN T.S.	110913024
3.	MAHESHA B L	110948011
4.	ANCILLA JULIET PINTO	110948014
5.	B ADITHYAN	110948016

2012

Sl.No	Name	Reg. No.
1.	PRASHANTH NAYAK	120913001
2.	RAGHAV N	120913025
3.	SHRUTHI K	120948013
4.	NIKITHA N	120948023

2013

Sl.No	Name	Reg. No.
1.	ABHAY R KUDWA	130948002
2.	HARSHITHA DINESH	130948009
3.	AKSHATHA S	130948010
4.	BASAVARAJ N BHUSANI	130913023
5.	JALA SURENDAR	130913017

2014

Sl.No	Name	Reg. No.
1.	HARDIK KUMAR DIYORA	140913023
2.	LINGARAJ S. PATEL	140913017

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Input received from industries, academicians and other stakeholders over a period of time. Information Security Education and Awareness Project (ISEA) [1] have initiated an awareness to develop information security issues, mainly being cyber security. There were

guidelines on requirements for the course as well as on the awareness for technical institutes to appropriately include such courses.

It is observed that there are many research problems addressing cyber security, role based access controls, database security and network security issues. However, we found that in the existing M. Tech curriculum, there was no scope to introduce Information Security Courses.

Then we initiated a survey of technical institutions [2] and tried to explore opportunities for introducing a new MTech programme. After surveying, we referred to ACM Computing Curricula[3] which offers the guidelines on different UG and PG programs of Computing and related areas such as Computer Engineering, Computer Science, Information Systems, Information Technology and Software Engineering. Based on this, we set the new course structure to reflect both computer science courses as well as information security courses and named it as M. Tech in Computer Science and Information Security to teach both background aspects of computer science and advanced topics.

1. Information Security Education and Awareness Project (ISEA), Department of Information Technology, Ministry of Communications and Information Technology, Government of India - <http://isea.gov.in/isea/education/mtechcourse.jsp>
2. National Institute of Technology Suratkal – Course contents (PG & R) - <http://www.nitk.ac.in/dl/ac/NITK-PG-CourseContents-2006.pdf>
3. ACM – Computing Curricula 2005 - http://www.acm.org/education/curric_vols/CC2005-March06Final.pdf

42. Does the department obtain feedback from

- a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?
 - (i) Class Committees are formed for each semester comprising faculty members as well as student representatives, which meet to discuss the teaching-learning process and also the result analysis of the sessional and the end semester examinations. Based on the inputs given by the faculty members the counselling of weaker students is taken up.
 - (ii) Department Curriculum Committee looks after the curriculum and takes inputs from the faculty members and if any minor change in the curriculum is required, the same will be put forth in the DCC meetings and if approved will be put forth in the BoS meeting for approval

- b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Feedback on the performance of faculty members is collected from the students at the end of each semester and the same is used to counsel the faculty members if they are weak.

Since student representatives are part of the class committee, they put forth their feedback on the curriculum, which is taken up by the DCC.

- c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

Alumni feedback is used for updating lab and theory courses.

43. List the distinguished alumni of the department (maximum 10):

1. Mr Saurabh Verma, 1995, BE (CSE), - Board Member at Literacy Council of Northern Virginia and Senior Director, Global services at Acumen solutions, 21748 Tottenham Hale CT, Sterling, Virginia, USA.
2. Dr Niranjan Chiplunkar, 1991, MTech (Computer Science), Principal, NMAMIT, Nitte 574 110
3. Mr Gautam Aggarwal, 1999, BE (Computer Science), Sr. Manager - Global Product Strategy, Rearden's Online business, Philadelphia, PA.
4. Mr Rohit Pai, 1989, BE (Computer Science), Vice President, Strategic Corporate Development, Applied Micro Circuits Corporation, 215 Moffett Park Drive, Sunnyvale, CA 94089.
5. Sreekumar Sukumaran. B.E 1990 (Computer Science), Managing Director and Founder Hobitute Bangalore
6. Varun Mayya , 2014 B.Tech (Computer Science), CEO Jobspire Bangalore
7. Sandesh Kini , 2014 B.Tech (Computer Science), COO Jobspire Bangalore

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

- i. Workshop on RAD (Rapid Application Developer) (students and faculty members) in collaboration with IBM from 7-10 October 2010
- ii. Two day Workshop on “Indian Mobile Initiative (IMI) - Boot Camp – Android Programming Workshop. Department of Computer Science and Engineering, MIT in collaboration with Google and MIT, US as a part of Indian Mobile Initiative (IMI) workshop for the students of electrical streams from 3 - 4 August, 2011.

- iii. DB2 workshop by IBM held from 6 – 8 April, 2012 at CSE department MIT, Manipal
- iv. Talk on “Winning the Innovation Challenge” by Dr Ashok N Prabhu, USA on 28 September 2012.
- v. Talk on “Enterprise Computing using Systemz” by Mr Joydeep Banerjee from IBM on 20 October, 2012
- vi. A Seminar by Prof Nicholas, EFREI, Paris, France, on “Innovative Solutions for Medical Care and Treatments: IT Research for E-Health” at CSE Seminar Hall on 25 February, 2013.
- vii. One day guest lecture on “Clouds as the Core and Central IT Infrastructure for the Envisioned Smarter Planet” on 14th of September 2013 by Dr. Pethuru Raj, Infrastructure Architect, IBM Global Cloud Center of Excellence, Bangalore.
- viii. Ms. Ali Spivak, Product Manager, Mozilla Corporation, SanFrancisco, USA and Mr. Vikash Agrawal, Mozilla Rep (our Alumini) gave a talk on Mozilla Firefox OS and Mozilla Developer Network (MDN).
- ix. Workshop on “ Business Process Simulation” by Prof. D.S. Broca, XLRI Jamshedpur on 24-2-2014.(for M.Tech students).
- x. Talk on “Cloud, PaaS and Bluemix” by Mr. Rajendra H. Kamath, Senior Manager (Technical) IBM India Pvt. Ltd., Bangalore on 20th September, 2014
- xi. Dr Nicolas Sicard, Faculty - Computer Science at EFREI delivered a guest lecture on 'Research in Information Technology' on 27th October 2014.
- xii. Workshop on “Big Data Analytics and Cloud Computing” on November 18-19, 2014.

45. List the teaching methods adopted by the faculty for different programmes.

Teaching methods adopted: Black board, Power Point Presentations, case studies, assignments, problem- based -learning

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

1. Feedback from faculty members, students, alumni, and employers
2. Result analysis after examination which includes counselling of underachievers
3. Regular revision of the syllabus
4. Inputs from the placement cell

47. Highlight the participation of students and faculty in extension activities.

- Participation in Voluntary Service Organization
- Participation in different student clubs and faculty clubs of the Institute.

48. Give details of “beyond syllabus scholarly activities” of the department.

Student Chapter of IE (CSE)

The Institution of Engineers Computer Science and Engineering (IE-CSE) is the official club for Computer Science and Information Technology students in Manipal Institute of Technology. IE CSE is officially registered with the Department of Computer Science, Manipal Institute of Technology. The club started on 16 September 2008 and there has been various achievements since then and there has been no looking back.

What IE CSE has is a plethora of events lined up for each semester ranging from coding workshops to hackathons and competitions for students which test their knowledge, skill and efficiency. IE CSE holds most number of events under the Cryptoss Category of Techatva 2012.

Linux Users Group

LUG is Linux Users Group is a group whose members share knowledge of Free and Open Source Software for free. The group conducts workshops and events. Last year the group conducted the following workshops.

1. Python
2. Qt
3. Game development using JAVA
4. Web Development
5. OpenCV

49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details.

UG programme accredited by NBA in 2007 for three years. The department has already submitted the Self-Assessment Report (SAR) and is currently waiting for the visit of NBA committee for renewal of accreditation.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied. :

- Strong International student exchange programme
- Formation of Research Groups in the core areas namely:

High Performance Computing Systems (HPCS)
Computer Networks and Security (CN&S)
Software Engineering (SE)
Computer Vision (CV)
Knowledge Engineering (KE)

51. Future Plans of the Department:

1. Department wishes to enhance the research capability of the department, which further enhances research potential in terms of quality publications by faculty. Plan is to achieve this by encouraging faculty members to register for PhD, taking up collaborative multidisciplinary funded projects
2. Department further plans to enhance industry – institute interaction and set up centre of excellence laboratories.
3. Department also wishes to increase the student/faculty exchange programmes with reputed international Institutes.

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:

- (i) Most preferred department by the students.
- (ii) Experienced and qualified faculty members.
- (iii) Large student base.

Weaknesses:

- (i) High attrition rate among the faculty.
- (ii) Difficulty in retaining students for in-house research activities.
- (iii) Away from industrial hub.

Opportunities:

- (i) Excellent campus recruitment.
- (ii) Availability of multidisciplinary and interdisciplinary ambience.
- (iii) International academic collaborations with institutions of repute.

Challenges:

- (i) Retention of quality faculty members.
- (ii) To keep pace with the faster obsolescence due to rapid changes in technology.

1. Name of the Department: **Department of Computer Applications**
2. Year of establishment: 1998
3. Is the Department part of a School/Faculty of the university: Yes
Manipal Institute of Technology, MANIPAL UNIVERSITY, Manipal
4. Names of Programmes/Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)

Name of Programme	Course Offered
UG	NA
PG	Master of Computer Applications
PhD	PhD

5. Interdisciplinary courses and departments involved:

#	Interdisciplinary courses	Department Involved
1	Accounting and Financial Management	Department of Commerce
2	Additional Mathematics	Department of Mathematics
3	Probability, Statistics and Queuing	Department of Mathematics
4	Discrete Mathematics	Department of Mathematics
5	Communication and Management	Department of Humanities and Management
6	Computational Mathematics	Department of Mathematics

6. Courses in collaboration with other universities, industries, foreign institutions, etc.

Sl. No.	Course	Industry
1.	Information Storage and Management	EMC ²

7. Details of programmes/courses discontinued, if any, with reasons - NIL
8. Annual/Semester/Choice Based Credit System - Semester Based 10-point Credit System
9. Participation of the department in the courses offered by other departments:
Handling computer subjects of other Departments/Institutions of the University

Sl. No	Interdisciplinary Course	Department/Institution involved
1.	Computer Graphics & Multimedia	Printing and Media Engineering- BTech
2.	Advanced Techniques in Computer Graphics	Printing and Media Engineering- MTech
3.	System Simulation and Modelling	Mechatronics - BTech
4.	Electronic Publishing Technology	Printing and Media Engineering- BTech
5.	Computer Networks and Communication Protocols	Mechatronics- BTech
6.	Introduction to Linux Scripting	Open Elective-BTech(6 th Sem)
7.	Introduction to Data Analytics	Open Elective-BTech(6 th Sem)
8.	Fundamentals of Computers & programming	School of Allied Health Science (SOAHS)-MSc MRP
9.	Introduction to Computers	Manipal College Of Nursing (MCON) – BSc Nursing
10.	Introduction to Computers	Manipal College Of Nursing (MCON) – MSc Nursing
11.	Introduction to Computers	Manipal College Of Nursing (MCON) –PBBS Nursing
12.	Computer Science	School of Allied Health Science (SOAHS)- HHIM I Sem.
13.	Database Management System	School of Allied Health Science (SOAHS)- HHIM II Sem.
14.	Computers in Nursing	Manipal College Of Nursing (MCON)- Diploma Nursing
15.	Computers and It's Applications	School of Allied Health Science (SOAHS)
16.	Fundamentals of Computers & Computer Applications	School of Allied Health Science (SOAHS) – BSc MRT
17.	Computers in Nuclear Medicine	School of Allied Health Science (SOAHS)-MSc. NMT
18.	Computer Science	Manipal College of Pharmaceutical Sciences (MCOPS)-I B. Pharm

10. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)

Teaching Posts	Sanctioned	Filled
Professor	02	01
Associate Professors	04	01
Asst. Professors Senior Scale	10	10
Asst. Professors		04
Total	16	16

11. Faculty profile with name, qualification, designation and specialization (DSc/DLitt/PhD/MPhil, etc.)

#	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students guided for the last 4 years
1	Dr Hareesha K S	BCA, MCA, PhD.	Associate Professor and Head	Digital Image Processing, Artificial Intelligence, Data Mining and Bio informatics	14 years 4 months	05 – Guide 03– Co-guide
2	Dr Karunakar A Kotegar	MCA, PhD.	Professor	Multimedia Computing and Communication	16 Years 5 Months	05 – Guide
3	Mr Tojo Thomas	MCS	Assistant Professor Senior Scale	Software engineering, Web technologies, Surveys	15 years 4 months	-
4	Dr. Poornima PK	MCA, PhD	Assistant Professor Senior Scale	Knowledge Management and System Dynamics	15 years 11 Months	1 Co-Guide
5	Mr Nirmal Kumar Nigam	MCA, MTech, (PhD)	Assistant Professor Senior Scale	Networks, Databases, Data Mining	Teaching Experience 15 Years 4 Months & 2 Years Industry experience	-
6	Mr. Ajitha shenoy	M.Sc., MTech, PhD	Assistant Professor Senior Scale	Algorithm, Evolutionary Computation, Optimization.	Teaching Experience 12 years 6 Months	-
7	Ms Anuradha Rao	MCA, MTech	Assistant Professor Senior Scale	Programming languages, Image Processing, Operating systems	Teaching Experience 7 years 4 months 14 years (programmer)	-

8	Mr. Murali Krishna	MSc Comp Science MTech (PhD)	Assistant Professor Senior Scale	Image Processing, Pattern recognition, Effective computing & Computer Networks	Teaching Experience 5 years 4 Months	-
9	Mr Vinayak Mantoor	MCA, MTech	Assistant Professor Senior Scale	Database System, Image Processing	Teaching Experience 15 years 8 months	-
10	Ms Archana H	MCA, (PhD)	Assistant Professor Senior Scale	Data Mining	Teaching Experience 10 years 11 months	-
11	Ms Rohini R Rao	MCA, MPhil, (PhD)	Assistant Professor Senior Scale	Research area Health Informatics Areas of specialization: Data Mining	Teaching Experience – 10 years 11 months Industrial Experience – 3 years	-
12	Mr Ganapathi Nayak K	MSc, PGDC A, MCA (PhD)	Assistant Professor Senior Scale	Digital Electronics	Teaching experience 21 years 8 months ,Industrial Experience 8 years 1 month	-
13	Ms Linda Varghese	MCA, (PhD)	Assistant Professor	Ontology based process control	Teaching Experience 7 Years 11 months	-
14	Mr Akshay Bhat	MCA, (PhD)	Assistant Professor	Programming languages(C, C++ and Java), Web applications and Scalable Video Streaming	Teaching experience 5 Years 4 months	-
15	Ms Meghana	MCA	Assistant Professor	Programming Languages, Software Engineering	Teaching experience 5 years and 4 months	-
16	Mr SK SS Shameem	MCA (PhD)	Assistant Professor	OS, Programming Languages (C, C++), SE, Video CODEC	Teaching experience 4 years 4 months	-

12. List of senior Visiting Fellows, faculty, adjunct faculty, emeritus professors : 01

Sl.No.	Position	Name	Designation	Company
1.	Adjunct Faculty	Mr. Narayan Rao	Principal, Education & Research	Infosys, Mysore

**13. Percentage of classes taken by temporary faculty v/s programme-wise information :
NIL**
14. Programme-wise Student Teacher Ratio : 1: 12 As per AICTE norms
15. Number of academic support staff (technical) and administrative staff: sanctioned and filled

Staff	Sanctioned	Filled
Administrative staff	01	01
Support staff	02	02
General Duty Worker	02	02

16. Research thrust areas recognized by funding agencies

Research Thrust Area	Faculty	Funding Agency	Funding Amount
Scalable Medical Video Transmission over Wireless Networks for Telemedicine Application	Dr. Karunakar A Kotegar	Manipal University	6,00,000 (in Rs.)
Quantification of Spinal Deformities using 3D Reconstruction from Biplanar Radiographs	Mr. Sampath Kumar, Dr. Prabhakar Nayak, Dr. Hareesha K.S.	DST, New Delhi	10,26,000 (in Rs.)
Post-Doctoral Fellowship grant for the duration(16 Months) on “Scalable Video delivery over peer-to-peer network”	Dr. Karunakar A Kotegar	Athlone Institute of Technology, Athlone, Irelands	35,90,000 (in Rs.)
Natural Language Processing-Development of Dependency Tree Banks for Indian Languages(Kannada)	Mr. MuraliKrishna S N.	DeitY(Department of Electronics & Information Technology) & IIT Hyderabad	80,00,000 (in Rs.)
Mobility Fund (Stipend amount given to MCA students during their internship at Brazil)	Pritham Bhora (Reg. no: 110919022)	EBANX Ltd., Curitiba, Brazil Ltd. Through AIESEC’s Youth global internship programme	Rs. 3,02,400/

	Thejas Bhat (Reg. no: 110919024)	Bolsa de Produtos S.A., located at São Paulo, Brazil. AIESEC is an International Association of Students.	Rs. 8,77,500
	Binay Rana (Reg. no: 110919003)	Grupo Cielo telecom Ltd.	Rs. 1,94,400
	Wung Mathing (Reg. no: 110919035)	EBANX Ltd.	Rs. 4,05,000

17. Number of faculty with on-going projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise. –

Number of faculty with on-going projects

a) National - 03

b) International – NA

c) Total grants Received - Rs. 96,26,000

Sl.No.	Project Title	Faculty	Funding Agency	Grant Received
1.	Scalable Medical Video Transmission over Wireless Networks for Telemedicine Application	Dr. Karunakar A Kotegar	Manipal University	Rs. 6,00,000
2.	“Quantification of Spinal Deformities using 3D Reconstruction from Biplanar Radiographs”	Mr. Sampath Kumar, Dr. Prabhakar Nayak, Dr. Hareesha K.S.	DST, New Delhi	Rs. 10,26,000
3.	Natural Language Processing- Development of Dependency Tree Banks for Indian Languages(Kannada)	Mr. MuraliKrishna S N.	DeitY(Department of Electronics & Information Technology) & IIT Hyderabad	Rs. 80,00,000

18. Inter-institutional collaborative projects and grants received –

a) All India collaboration -01

b) International - NIL

Sl.No.	Project Title	Faculty	Funding Agency	Grant Received
1.	Natural Language Processing- Development of Dependency Tree Banks for Indian	Mr. MuraliKrishna S N.	DeitY(Department of Electronics & Information	Rs. 80,00,000

	Languages(Kannada) By the Consortium of 5 Institutes with IIIT Hyderabad as Consortium leader		Technology)	
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19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received.

Sl.No.	Project Title	Faculty	Funding Agency	Grant Received
1.	Quantification of Spinal Deformities using 3D Reconstruction from Biplanar Radiographs	Mr. Sampath Kumar, Dr. Prabhakar Nayak, Dr. Hareesha K.S.	DST, New Delhi	Rs. 10,26,000
2.	Natural Language Processing- Development of Dependency Tree Banks for Indian Languages(Kannada)	Mr. MuraliKrishna S N.	DeitY (Department of Electronics & Information Technology)	Rs. 80,00,000

20. Research facility/centre with -

- * **state recognition** - NIL
- * **national recognition** – One recognised research facility- Natural Language Processing- Development of Dependency Tree Banks for Indian Languages(Kannada)
- * **international recognition** - NIL

21. Special research laboratories sponsored by/created by industry or corporate bodies-

Research Laboratory created by general funding by Manipal University

22. Research output in last three years

Details		2012	2013	2014
Completed funded research projects		-	-	-
Completed non-funded research projects		-	-	-
Completed PhD research projects		-	01	01
Completed PG research projects		01	02	02
Completed UG research projects		-	-	-
Publications	International	06	05	05
	National	01	-	-
Books		-	-	-
Chapters in books		04	01	-
Conference presentations	International	03	08	08
	National	01	-	-

Publications:

#	Authors	Title of the paper	Journal name volume, Year and page No.
1	Smitha Sunil Kumaran Nair, N. V. Subba Reddy and K. S. Hareesha	“Machine learning study of classifiers trained with biophysicochemical properties of amino acids to predict fibril forming peptide motifs, Protein PeptLett”	Pubmed Publisher, April, 2012.PMID: 22486618
2	Hareesha K.S Smitha Sunil Kumaran Nair, and N. V. Subba Reddy	“Motif mining: an assessment and perspective for amyloid fibril prediction tool”	The Journal of Bioinformation, 2012;Volume 8(2):70-4. Epub 2012 Jan 20, PMID: 22359438.(IF:1.15) January 2012
3	Smitha Sunil Kumaran Nair, KS Hareesha & NV Subba Reddy2	“AmylPepPred: Amyloidogenic Peptide Prediction Model”	Bioinformation (0973-8894), Volume 8(20), Oct 2012. [2012 Impact Factor: 1.15]
4	Karunakar A K and Manohara Pai M M	“Effective Temporal Scalability by Selective Update Operation for Wavelet Based Scalable Video Coding”	Journal of Electrical and Control Engineering, Vol. 2, No. 5, pp. 15-19, October 2012 American V-King Scientific Publishing, LTD, New York USA.
5	Zhao Liu, YuansongQiao, Karunakar A.K.,Brian Lee, Enda Fallon, Chunrong Zhang, Shuaijun Zhang	“H.264/MVC Interleaving for Real-time Multiview Video Streaming”	Springer Journal of Real Time Image Processing, October 2012 Springer-Verlag New York, Inc NJ, USA DOI 10.1007/s11554-012-0273-6. (Impact Factor: 1.02)
6	Ajitha Shenoy K B, Somenath Biswas and Piyush P Kurur	“Search Graph formulation and Hasting’s generalization of Metropolis algorithm for solving SVP”	International Journal Of Computer Information Systems and Industrial Management Applications, Volume – 5, ISSN 2150-7988, 2013.
7	Vinayak Mantoor and Krishnamoorthi Makkithaya Chandrakala	“Performance Evaluation of C-Fuzzy Decision Tree Based IDS with Different Distance Measures”	ICTACT Journal(National) on Soft Computing Volume 2 , January 2012 P- 276 – 279

	C.B		
8	Hareesha K.S, Smitha Sunil Kumaran Nair, N.V Subba Reddy, S Balaji	“A diverse assimilation of sequence and Structure dependent futures for amyloid plaque prediction using Random Forests”	Current proteomics (1570 – 1646) , Volume.10, No. 1, 2013 (in press) { Impact factor : 3.179}, April 2013
9	Poornima Panduranga K and Lewlyn L. R. Rodrigues	Dynamics of Organizational KMS Implementation and Adoption	Journal of Knowledge Management Practice Communicated ISSN 1705- 9232, TLA: INC. February, 2013
10	Prathap Nayak, Anuradha Rao, Ramakrishna Nayak	EDMS based workflow for Printing Industry	acta graphica 216 1–2, Page No-47–54, accepted: 24-02-2013
11	Yuansong Qiao, Shuaijun Zhang, Chunrong Zhang, Karunakar A.K., Brian Lee, Niall Murray	"SVDN - Packetization and Layer Synchronization for Scalable Video Delivery over Peer-to-Peer Networks",	Springer Multimedia Systems, DOI 10.1007/s00530-013-0336- y. (Impact Factor: 0.596) , 12th July 2013
12	Raghavendra U, Krishnamoor thi Makkithaya and Karunakar A K	“Anchor Diagonal Based Shape Adaptive Local Support Region for Efficient Stereo Matching”,	Springer Signal, Image and Video Processing, DOI: 10.1007/s11760-013-0524-4. (Impact Factor: 0.409), 30th June 2013
13	Hareesha K.S	Computer Vision System to Estimate Cashew Kernel (White Wholes)	Grade Color and Geometric Parameters. J Food Processing & Technology, Vol. 5, Issue 6, doi: 10.4172/2157- 7110.1000336, June 2014
14	Hareesha K.S	Privacy Preserving Naïve Bayesian classifier for Horizontal Partitioned	International Journal of Electronica and Electrical Engineering, Data, Vol.2, No.1., http://www.ijeee.net/index.php , March, 2014

15	Anitha H and Karunakar A K	Reliable and Reproducible Classification System for Scoliotic Radiograph using Image Processing Techniques,	Springer Journal of Medical Systems DOI: 10.1007/s10916-014-0124-z (Impact Factor: 1.372) , July 2014
16	Anitha H, Karunakar A K and Dinesh K V N	Automatic Extraction of Vertebral Endplates from Scoliotic Radiographs using Customized Filter, Biomedical Engineering Letters, Biomedical Engineering Letters –	Springer Vol. 4, No. 2, pp. 158-165. DOI: 10.1007/s13534-014-0129-z. (Yet to generate impact factor) May 2014
17	Raghavendra U, Krishnamoorthi Makkithaya and Karunakar A. K,	Structural Similarity Based Ranking of Stereo Algorithms for Dynamic Adaptation in Real-time object detection,	InderScience Journal of Computational Vision and Robotics Vol. 4, No. 4 pp. 281-293. 2014

Papers presented in National/International Conferences:

#	Authors	Title of the paper	Conference venue ,date
1	Narendra v g, Dasharathraj k shetty and dr. Hareesh k s	Computer Vision system for cashew kernel area estimation.	3 rd International Conference on Computing Communication & Networking Technologies (ICCCNT) SNS College of Engineering, Coimbatore, Tamilnadu.
2	Raghavendra U, Krishnamoorthi Makkithaya and Karunakar A K	“Entropy Based Log Chromaticity Projection for Real-time Stereo Matching”	2 nd International Conference on Communication, Computing and Security (ICCCS 2012) NIT Rourkela October 6th – 8th 2012 26-28 July, 2012
3	Raghavendra U, Krishnamoorthi Makkithaya and Karunakar A K	“Range Structural Similarity Index for Evaluation of Stereo Disparity under Radiometric Variations “	ERC Co-located workshop in ICVGIP 2012 IIT Bombay , Dec- 2012
4	Muralikrishna SN, Meghana Ajitha, Ajitha Shenoy	MSB Based new hybrid compression technique for wireless transmission	2nd International Conference on Digital Image Processing and Pattern Recognition DPPR-2012, Chennai, July 13 to 15 2012

5	Niall Murray, Yuansong Qiao,Brian Lee, Karunakar A K, Gabriel- Miro Muntean	Towards Perceived Olfactory and Visual Media Synchronization	ACM Multimedia Systems International Conference, February 26 - March 1, 2013, Oslo, Norway.
6	Dr. Hareesha K.S, Smitha Sunil Kumaran Nair, N.V Subba Reddy	Prediction of amyloid fibrillar aggregates of polypeptide sequences : A soft computing approach	Proceeding of the world congress on Engineering 2013 July, 3-5,2013 London U.K
7	Niall Murray, Yuansong Qiao,Brian Lee, Dr. Karunakar A K, Gabriel- Miro Muntean	Age and gender influence on perceived olfactory and visual media synchronization	IEEE International Conference on Multimedia and Expo, San Jose, California, USA, July 15 to 19, 2013.
8	Niall Murray, Yuansong Qiao,Brian Lee, Karunakar A K, Gabriel- Miro Muntean	Analyzing perceived olfactory and visual media synchronization	IEEE , International Conference on Multimedia and Expo (ICME 2013) San Jose, California, USA, July 15 to 19, 2013.
9	Rohini R Rao, & Krishnamoort hiMakkithaya	An Informal Method for Identifying Standards to enable meaningful Exchange of public Health records	2 nd International Conference on Advances in Computing Communications and Informatics (ICACCI 2013), SJCE, Mysore, August 22 nd 25 th 2013.
10	Raghavendra U, Krishnamoort hi Makkithaya and Karunakar A K	Modified Census Correlation Data Cost for Stereo Matching Under Non-Ideal Illumination	International Conference on Multimedia Processing, Communication and Information Technology, MPCIT 2013, India.
11	Anitha H, G K Prabhu, Karunakar A K and Dr. Dinesh K V	Segmentation of Anatomical Structures of Spine using Active Contour Models for Assessing Spinal Disorders	International Conference on Multimedia Processing, Communication and Information Technology” NMPCIT 2013, India
12	Akshatha K R, Anitha H, Karunakar A	Source Camera Identification Using Wavelet Feature Fusion Technique	International Conference on Multimedia Processing, Communication and Information

	K, Raghavendra U, Dinesh Shetty		Technology, MPCIT 2013, India
13	Hareesha K.S, Sumana	Privacy preserving naïve Bayesian classifier for horizontal partitioned data	International Conference on Advances in Electronics Engineering – ICAEE'14, held at Singapore, February 19-20, 2014
14	Hareesha K.S, Mr. Narendra V.G	Intelligent cashew kernel classification model using shape features	International Conference on Computer Science and Information Technology, (ICCSIT'2014), , Kuala Lumpur Malaysia pp No 52-57, February 19-20, 2014
15	Hareesha K.S, Mr. Ahamed Shafeeq	Exploratory analysis of regional economy and crimes in Indian states	International Conference on Computer Science and Information Technology, (ICCSIT'2014), , Kuala Lumpur Malaysia, February 19-20, 2014
16	Hareesha K.S, Mrs. Chandrakala K	Data Availability in MANETS by using Cluster Based Data Replication and Time Indexing	8 th International Conference on Communication Networks(ICCN-2014), Bangalore, INDIA, July 25 th to 27 th , 2014
17	Ramakrishna M and Karunakar A.K	Estimation of Scalable Video Adaptation Parameters for Media Aware Network Elements	IEEE 6 th International Conference on Communication System and Networks (COMSNETS), Bangalore 7 th to 10 th Jan 2014, Jan 2014
18	Raghavendra U, Krishnamoort hi Makkithaya and Karunakar A. K	Illumination Invariant Stereo Data Cost Using Modified Census Transform	IJCA Proceedings on National Conference on Recent Advances in Information Technology NCRAIT(2):38-41 Foundation of Computer Science, New York, USA. February 2014.
19	Rohini R Rao, Krishnamoort hi Makkithaya and Neha Gupta	Ontology based semantic representation for Public Health data integration	International Conference on Contemporary Computing and Informatics (IC3I) at SJCE, Mysore, 27 th to 29 th November, 2014
20	Poornima Panduranga K	Development and Analysis of a System Dynamics model of Organizational Knowledge Repository Utilization	International Social Sciences and Business Research Conference Kathmandu, Nepal, 4 th to 5 th December, 2014

- * Number of Paper published in peer reviewed journals (National/International): 20
(Indexed Journals)
- * Monographs: Nil
- * Chapters in Books– 05

#	Book Chapter	Book Title	Year	Publisher	ISBN
1.	Virtual Device: Media Service Fitness, Selection and Composition Considering Composition Interactivity and Synchronization	Mobile Multimedia Communications	2012	Springer	978-3-642-30418-7
2.	Scalable Video Delivery over Peer-to-Peer Network	Advanced Computing, Networking and Security	2012	Springer	978-3-642-29279-8
3.	Qualitative and Quantitative Evaluation of Correlation Based Stereo Matching Algorithms	Advanced Computing, Networking and Security	2012	Springer	978-3-642-29279-8
4.	Virtual Device: Media Service Fitness, Selection and Composition	Mobile Wireless Middleware, Operating Systems, and Applications	2012	Springer	978-3-642-30606-8
5.	MSB Based New Hybrid Image Compression Technique for Wireless Transmission	Advances in Computing and Information Technology	2013	Springer	978-3-642-31551-0

- * Edited Books – 01

SL.No.	Book Name	Year	Publisher	ISBN
1.	Scalable Video Coding Using Wavelet Transformation: Concepts and Complexity Reduction	2011	Lambert Academic Publisher (LAP), Germany	978-3-8433-8436-0

23. Details of patents and income generated:03 (Applied)

Faculty	Patent	Status
Dr. Karunakar A Kotegar	1. Image processing system and method, Publication Number: US 20110051814 A1. 2. "Scalable Video Delivery System", European Patent Application Number EP 11187580.3. 3. "Method and System for Efficient Stereo Matching", Indian Patent Application Number: 89/CHE/2014 filled on 8 th Jan 2014. (Patent Pending)	Applied

24. Areas of consultancy and income generated:

SI No.	Institutes to which Service is Rendered	Income Generated
1.	SOAHS	Rs.75,000/-
2.	MCON	Rs.36,000/-

25. Faculty selected nationally/internationally to visit other laboratories in India and abroad

Faculty:

SI No.	Faculty	National/ International laboratories visited	Domain of Work carried
1	Dr Karunakar A Kotegar	Athlone Institute of Technology, Athlone, Irelands, visited as a post-doctoral fellow.	Scalable Video delivery over peer-to-peer network
2	Dr. Hareesha K S	Fellowship from Federation University, Australia	-

Research Scholars:

Dr Karunakar A Kotegar has established research collaboration with

- Prof. Dr. Ing. Thorsten Herfet, Saarland University, Saarbrucken, Germany
- Prof. Dr. Ing. Holger Blume, Leibnitz University Hannover, Germany.

SI No.	Research Scholar	National/ International laboratories visited	Domain of Work carried
1	Mr Ramakrishna M	Visited Saarland University with funds from Saarland, Saarbrucken, Germany.	Video Communication
2.	Mr. Abhilash Pai	Visited Leibnitz University with funds from Leibnitz University Hannover, Germany.	Object Detection and Tracking

26. Faculty serving in

a) National committees : NIL

b) International committees: 10

Sl.No.	Name of Faculty	Committee/Organization	Role
1.	Dr. Hareesha K S.	Elsevier Journal	Reviewer
2		National Funded Projects, US Department of Agriculture, National Institute of Food and Agriculture, USA.	Evaluations Expert
3		WCSE-2012	Technical Committee Member
4		ICFCC-2012	Technical Committee Member
5		2 nd International Symposium on Pattern Recognition and Image Processing (PRIP - 2013)	Technical Committee Member
6		ICCEA-2013	Technical Committee Member
7		ICCSS-2013	Technical Program Committee Member
8.	Dr. Karunakar A K	International Conference on Computer Architecture, Networking and Applications, at NMAMIT, Nitte, Karnataka, 7th January 2011.	Program Committee Member
9.	Dr. Poornima P K	International Economics Development and Research Centre, Hongkong	Reviewer

c) Editorial Boards : NIL

27. Faculty recharging strategies –

- Institute conducts Faculty Development Programme (FDP) once a year.
- Financial support is provided for faculty members to attend Faculty Development Programme/Workshop organized by other departments/ institutions/Industry.

28. Student projects

- percentage of students who have done in-house projects including inter-departmental projects:13.7%
- Percentage of students doing projects in collaboration with other universities/industry/institute:

Batch	Departmental Projects	Company Projects
2011	05	51
2012 Regular	07	52
2013 Lateral	06	66

29. Awards/recognitions received at the national and international level by

Faculty

Faculty Name	Fellowship	Details
Dr. Karunakar A. Kotegar	DAAD Germany sponsored	Selected for DAAD Germany sponsored "Science Tour: Living in Digital World" from 19 th Jan 2014 to 25 th Jan 2014 in Germany.
Dr. Karunakar A. Kotegar, Raghavendra U, Krishnamoorthi Makkithaya	Best paper award in National Conference on Recent Advances in Information Technology	Best paper award in National Conference on Recent Advances in Information Technology NCRAIT for the title "Illumination Invariant Stereo Data Cost Using Modified Census Transform",
Dr. Karunakar A. Kotegar , Mr. Ramakrishna	Best Poster Award with Cash Prize Rs. 10,000/-	Best Poster Award with Cash Prize Rs. 10,000/- for the title "Estimation of Scalable Video Adaptation Parameters for Media Aware Network Elements" in 6 th International Conference Communication System & NETWORKS (COMSNETS) 7 th to 10 th Jan 2014 at The Chancery Pavillion, Residency Road,
Dr. Karunakar A. Kotegar	30 th Pearl Anniversary Edition of Marquis Who's Who, NJ, USA, June 2012.	Name is listed in 30 th Pearl Anniversary Edition of Marquis Who's Who, NJ, USA, June 2012.
Dr. Poornima P. Kundapur	Best Paper Award, December 2011	Best Paper Award in 2 nd international Conference on e-Business Management & economics (ICEME-2011), Dubai, 20-30 December 2011.

Post-doctoral fellows

SINo	Name	Title of Research Topic	Institute/University	Year of completion, (if applicable)
1	Dr Karunakar A Kotegar	Scalable Video delivery over peer to peer network	Athlone Institute of Technology, Athlone, Ireland	2011

30. Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any.

Sl.	Title of Seminar/Workshop/Conference	Date	Source of Funding	Details of Resource Person
1	"EXATA Wireless N/W Emulator Workshop", conducted by Nehon Communications	4-5 April 2012	MIT, Manipal	Bhargav Raman, Engineer, Nehon Communications Solutions
2	Tree-Banking in association with IIIT, Hyderabad	13-18 April 2012	MIT, Manipal	Dr. Deepthi Sharma, Prof. IIIT, Hyderabad
3	Seminar "The Computational Challenge of Protein Folding".	11 May 2012	MIT, Manipal	Dr. Somenath Biswas, Professor, Department of Computer Science and Engineering, Indian Institute of Technology (IIT), Kanpur.
4	Java Technologies	22 nd October, 2012	MIT, Manipal	Mr. Narayan Rao E&R, Infosys Mysore
5	Enterprise Resource Planning	17 th November, 2012	MIT, Manipal	Mr. Girish Bhat, Senior Manager, IBM, Bangalore
7	Motivational talk to Lateral Students of MCA.	12 th August, 2013	MIT, Manipal	Mr. Sreepada Hebbar, Project Manager, Robo Soft Technologies
8	Motivational speech for the new entrants of M C A	14-08-2013.	MIT, Manipal	Mr. Sandeep Patil, Applied Cognition System, LG-2, MIT Manipal,

9	Two day workshop on Project Management and concepts	5 th & 6 th October, 2013	MIT, Manipal	Mr. Sudhindeer P , Project Manager, Wipro Technologies, Bangalore
10	Demonstration of the SAP Lumira	5 th November, 2013	MIT, Manipal	Ms. Pranitha , Software Engineer, SAP Bangalore Mr. Jaideep Rao, Software Engineer, SAP Bangalore
11	Department organized Winter camp on student development programme	16 th to 24 th December 2013	MIT, Manipal	Dr. Neeta Inamdar, Professor and Head of the Department of European Studies, Mr. Dasharthraj Shetty, Assistant Professor - Senior Scale, Department of Computer Science & Engineering, Dr. Tungesh, Associate Professor, Department of Humanities & Management
12	Data Visualization & Android Programming (DVAP- 2014)	May 17 th - 19 th , 2014	MIT, Manipal	Ms. Pranitha, Software Engineer, SAP Bangalore. Mr. Gaurav Sinha, Freelance Android Programmer.
13	Soft Skills & Communication Activity based Learning Exercise	August to November 2014	MIT, Manipal	Dr. Poornima P. Kundapur, Dr. Ajita Shenoy, Ms. Meghana
14	IIT Online classes –Operating System	Jan-May 2014 2hours per week	Quality Enhancement in Engineering Education (QEEE)	Saurav Bansal, Assistant Professor, Department of Computer Science, IIT-

			Program is sponsored by MHRD, Govt. of India	Delhi
15	IIT Online classes –Data Structure	Aug-Nov 2014 2hours per week		Prof. Madhava Mukund , Professor, Chennai Mathematical Institute, Chennai

31. Code of ethics for research followed by the departments

- To protect the dignity, rights and well-being of the potential research participants.
- To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs.
- To assist in the development and the education of a research community responsive to local health care requirements.

32. Student profile course-wise:

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		M	F	M	F
MCA (2011-2014)	Admission is being done as per Manipal University admission policy	41	16	98%	100%
MCA – (2012-2015) Regular		46	13	100%	100%
MCA – (2013 – 2015) Lateral		43	29	100%	100%

33. Diversity of students:

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
MCA (2011 – 2014)	NIL	28 (49%)	29 (50.87%)	NIL
MCA (2012 – 2015)	NIL	35 (59.0%)	24 (40%)	NIL
MCA (2013 – 2015)	NIL	63 (85.5%)	9 (12.5%)	Epitech 07 (10.44 %) 2014 Epitech 16 (21 %) 2015

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
PhD (Full Time)	NIL	02 (50%)	02 (50%)	NIL
Part-Time PhD	03	02	03	NIL

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise:

NIL

35. Student progression

Student progression	Percentage against enrolled
UG to PG	NA
PG to MPhil	NIL
PG to Ph.D.	18.75% (03 - (01 in 2004, 01 in 2010, 01 in 2011 passed out))
Employed	46.4 % (2008–2011)
• Campus selection	56.25 % (2009-2012)
	36.2% (2010-2013)
	Average: 50 %
• Other than campus recruitment	Average: 50 %
Entrepreneurs	02
TOTAL	100% (considered only batches that passed out in 2011 and 2012)

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	04 (25%)
from other universities within the State	07 (37.5%)
from universities from other States	05 (37.5%)
from universities outside the country	NIL

37. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period : 01

#	Name	Year of completion, (if applicable)
1	Dr. Poornima Panduranga Kundapur	2013

38. Present details of infrastructural facilities with regard to

a) Central Library: 7055 book volumes under department

Department Library: 40

b) Internet facilities for staff and students

- Each faculty cabin is equipped with internet connectivity.
- All the laboratories are equipped with internet connectivity.
- Wi-Fi Enabled campus.

c) Total number of classrooms

Class Room: 02

Dimension: 60' X 24' and 54' X 24' each with seating capacity of 70 students

Seminar Hall – 01

Dimension: 38' X 18' with seating capacity of 50 students

d) Class rooms with ICT facility: 02

All classrooms are air conditioned and equipped with LCD.

e) Students' laboratories

Labs – 02

Both the labs are air conditioned and equipped with LCD.

Computing Lab 1

Dimension: 26' X 52'

Number of Computers: 39

Computing Lab 2

Dimension: 26' X 52'

Number of Computers: 40

Computer Configurations in Lab

Core i3 Lenovo, 4GB RAM, 250GB HDD: 20

Core 2Duo 3090 4GB RAM, 250GB HDD: 30

Core i3 HP 4GB RAM, 500 GB HDD: 10

Core i5 HP 4GB RAM, 500 GB HDD: 20

Server: 01

ML110G6, 4GB RAM, 250 GB X 2 HDD

Necessary Softwares are supported by Department of Information Systems, Manipal University

Research Lab Details –

Core i3 Lenovo, 4GB RAM, 250GB HDD: 08

Server: 01

ML110G7, 16GB RAM, 1 TB X 4 HDD

‘EXATA Wireless N/W Emulator’ Software

SAMSUNG P7500 Galaxy Tab

39. List of doctoral, post-doctoral students and Research Associates

#	from the host university		from other universities	
	Full Time Research Students	Part Time Research Students	Full Time Research Students	Part Time Research Students
1	Ms. Redkar Shweta Anand	Ms Archana H	NIL	NIL
2	Mr. Abhilash K Pai	Ms Linda Varghese		
3	Mrs. Smitha R	Ms Rohini R Rao		
4	----	Mr Akshay Bhat		
5	----	Mr. Nirmal Kumar Nigam		
6	-----	Mr. Ganapathi Nayak K		
7	----	Mr. SK S.S Shameem		

40. Number of postgraduate students getting financial assistance from the university:

#	Year	Number of Students
1	2012-13	47
2	2013-14	62
3	2014-15	82

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Input from industries, academicians and other stakeholders over a period of time.

IT industries were approached to assess the need of industry and to analyse their requirements. Inputs were taken from across the industries and institutions to realize the need of the programme.

The academic curriculum was designed to prepare aspiring graduates for a bright career as software professionals. The programme prepares the students in generic and cutting edge technologies and provides extensive theoretical and intensive practical knowledge so that they can be readily made available to work.

42. Does the department obtain feedback from

- Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Class committee (comprises of faculty members and student members) meeting reports are sent to the Department Curriculum Committee (DCC). Accordingly, DCC members will take decisions.

- b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Faculty members are counselled if their feedback goes below the Department average. Also, feedback is used to evaluate faculty members' performance (PMS) once a year.

- c. Alumni and employers on the programmes offered and how does the department utilize the feedback? Yes, feedback is assessed and discussed during Department Curriculum Committee meetings that deliberate on upgrading the existing curriculum through inclusion of add-on industry-specific subjects/courses .

43. List the distinguished alumni of the department (maximum 10)

#	Name of Alumni	Achievement	Company details
1.	Subbarao Devi Shetty (1998-2001)	Twice adjudged as the best employee	TCS, India
2.	Simith Nambiar (1999-2002)	They have started their own open source blog catering to Unix/Linux programmers. Going around the world as resource persons on topics as diverse as kernel hacking, antivirus development strategies	Senior Consultant at Capgemini Melbourne, previously with Intel
3	Amith Nambiar (1999-2001)		Senior Software Engineer at Group Capital UAE ,previously with Intel
4.	Chalamashetty Suresh Babu (2000-2003)	Given a five year contract with Intel India after his internship	Intel India
5.	Yashu Chaudhary	Worked as Director for a NGO iCongo	Business manager RBS foundation, Noida.
6.	Shwetha Rao and Roshan Kotian (2004-2007)	Joined for professional Joined Doctorate in Engineering programme.	TU/e Netherlands
7.	Preetham Choudhary (2005-2008)	Received a special letter of appreciation from the TCS Vice President for his tremendous grasping and debugging capability	TCS, India
8.	Nagarjuna Reddy (2007-2010)	Joined for MS programme with scholarships.	London School of Economics commencing from August 2010
9.	Hareesh (2008-2011)	Launched his own software firm.	Accolade Solutions, Mangalore
10.	Sandeep Bhakta (2008-2011)	Launched his own software firm.	Chipsy Information Technologies & Services

44. Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts.

#	Workshop	Date
1	"EXATA Wireless N/W Emulator Workshop", conducted by Nehon Communications	4-5 April 2012
2	Tree-Banking in association with IIIT, Hyderabad	13-18 April 2012
3	Seminar "The Computational Challenge of Protein Folding".	11 May 2012
4	Java Technologies	22 nd October,2012
5	Enterprise Resource Planning	17 th November,2012
6	Department organized One day workshop on Soft Skill Training	16 th March, 2013.
7	Project Manager, Robo Soft Technologies delivered motivational talk to Lateral Students of MCA.	12 th August , 2013
8	The department is organizing a motivational speech for the new entrants of M C A by Mr. Sandeep Patil, Applied cognition system, LG-2, MIT Manipal,	14-08-2013.
9	Department organized two day workshop on Project Management and concepts	5 th & 6 th October, 2013
10	Department organized the Demonstration of the SAP Lumira	5 th November, 2013
11	Department organized Winter camp on student development programme	16 th to 24 th December 2013
12	Data Visualization & Android Programming (DVAP- 2014)	May 17 th - 19 th , 2014
13	Soft Skills & Communication Activity based Learning Exercise	August to November 2014

45. List the teaching methods adopted by the faculty for different programmes.

- Using Blackboard
- Audio Visual aids
- Discussing case studies & conducting tutorials.
- For each course, teaching plan and teaching materials are developed by concerned faculty members and the same is given to students for their reference.
- Two internal exams, assignments (at least 3) and one end semester exam are conducted to grade the students in each course.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- Semester-wise feedback from students.
- Result analysis after examinations which includes counselling of under-achievers
- Regular revisions of the syllabus.
- Graduate survey at end of course.
- Input from the placement cell.

47. Highlight the participation of students and faculty in extension activities.

- Participating in social organizations -
 - Students participate in Blood Donation camps.
- Different students clubs and faculty clubs like:
 - RED-X and DISHA: Institute level student club for involving in social service activities
- Innovation Centre: Where students/Faculty members can offer new ideas, if the ideas are really good then they will be patented. Also students and faculty members can work on developing software and mobile apps.
- Music and Fine Arts :- Institute level student club for organizing cultural fest and activity
- College Editorial Board: To publish the annual college magazine and to manage all the *important college events*.

48. Give details of “beyond syllabus scholarly activities” of the department.–

- Open Source Club – Technical sessions with hands on experiences conducted by students/faculties
- Monthly Newsletter ‘Anwasha’ in which students can exhibit their article (Technical/Non-Technical) writing skills, poem writing, drawing, painting and crafts.
- Annual National Level Technical fest: Techno Melange.
- Encourage students to participate technical fests & competitions conducted by other Institutes & Organizations
 - Code-LeXia Hackathone organized by Infosys Technologies, Mangalore
 - National level Paper presentation “TechPrints 3.0” St. Joseph Engg. College, Mangalore.
 - Microsoft Appfest.

49. State whether the programme/department is accredited/ graded by other agencies? If yes, give details:

Seeking NBA recognition in the forthcoming year.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

- The syllabus is periodically revised and the faculty members are very committed about the latest updates as far as electives are concerned. Also, we have two tailor-made courses for the industry in the form of Information Storage Management and Selected Topics in Computer Applications and our labs are LINUX OS based. The faculty members involved in the Board of Studies and DCC take turns in modifying the syllabus periodically.
- Orientation and Faculty Development Programmes are held every year in addition to ISTE sponsored workshops and Mission 10X and Campus Connect workshops which are sponsored and conducted by Wipro and Infosys respectively. Staff attend these workshops to enhance their working knowledge on subjects they teach.
- The department has three research groups: Data and Knowledge Discovery, Multimedia Computing & Communication and Computer Vision. There are several research projects being undertaken in these areas. The department offers PhD program affiliated to Manipal University and currently there are ten research scholars doing their PhD. There are three university recognised guides. Students of the department are actively involved in these research projects.

51. Future plans of the department.

- Short Term Goals:
 - To establish a good research culture
 - To attract culturally diverse national/international students to inculcate the spirit of team work which is an essential quality of an a global IT professional
 - To admit students with consistently good academic performance
- Long Term Goal:
 - To aim at being consistently ranked within top five in the peer group.
 - To improve technical and soft skills of the students to make them industry ready.
 - To be the preferred destination for students looking for quality MCA course

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:

- (i) Academic autonomy/flexibility
- (ii) Qualified faculty with strong research culture
- (iii) Excellent infrastructure
- (iv) Strong alumni base

Weaknesses:

- (i) Less industry and academia interactions
- (ii) Attracting academically consistent students

Opportunities:

- (i) Greater affinity of aspiring students towards the course offered.
- (ii) Alumni support towards academic activities and campus placements.
- (iii) Introduction of integrated MCA course

Challenges:

- (i) Attracting greater number of students to the programme
- (ii) Placement in core companies
- (iii) To acquire external research funding
- (iv) Projecting MCA programme on par with other equivalent engineering programmes

Name of the Department: Electronics and Communication Engineering

1. **Year of establishment:** 1971
2. **Is the Department part of a School/Faculty of the university?**

Department in Manipal Institute of Technology, Manipal

3. **Names of Programmes/Courses offered (UG, PG, MPhil, PhD, Integrated Masters, Integrated PhD, etc.,)**

Course	Programme	Programme Name
U. G.	B. Tech	Electronics & Communication Engineering
P. G.	M. Tech	Digital Electronics and Advanced Communication
P. G.	M. Tech	Microelectronics
Research	PhD	Specializations: Signal / Image Processing and Applications, MEMS & NEMS Optical Fiber Communication Network Security Analog Signal Processing Biomedical Instrumentation Sensor networks Nano Technology

4. **Interdisciplinary courses and departments involved.**

U.G.

Sl. No.	Interdisciplinary Course	Department involved
1.	Engineering Mathematics I	Mathematics
2.	Engineering Physics	Physics
3.	Mechanics of Solids	Civil Engineering
4.	Basic Mechanical Engineering	Mechanical and Manufacturing
5.	Communication Skills in English	Humanities and Management
6.	Engineering Graphics I	Mechanical and Manufacturing
7.	Engineering Mathematics II	Mathematics
8.	Engineering Chemistry	Chemistry
9.	Biology for Engineers	Biotechnology
10.	Basic Electrical Technology	Electrical and Electronics Engineering
11.	Problem solving using computers	Computer Science Engineering
12.	Environmental Studies	Civil Engineering
13.	Engineering Graphics II	Mechanical and Manufacturing

14.	Engineering Mathematics III	Mathematics
15.	Engineering Mathematics IV	Mathematics
16.	Essentials of Management	Humanities and Management
17.	Engineering Economics & Financial Management	Humanities and Management
18.	Open Electives	Different departments and constituent Institutions of MU.

P.G.

Sl. No.	Interdisciplinary Course	Department involved
1.	Probability, Random Variables & Stochastic Processes	Mathematics
2.	Research Methodology & Technical Communication	Humanities and Management
3.	Open Electives	Different departments and constituent Institutions of MU.

5. Courses in collaboration with other universities, industries, foreign institutions, etc.

Courses Offered by IITs through QEEE such as Analog Circuits, Electromagnetic Waves, Computer Organization and Architecture, Control Systems, Machine Learning, Fiber Optic Communication, Digital Communication Systems, Wireless communication etc.

6. Details of programmes/courses discontinued, if any, with reasons

Nil.

7. Annual/Semester/Choice Based Credit System

Semester scheme with 10-point Credit System.

To appreciate the importance of knowledge existing in other domains, there is a provision

of open electives wherein students can opt a set of subjects offered by different departments / Institutions under MU. Some such courses offered by our department are:

- i) Consumer Electronics
- ii) MEMs Technology
- iii) Neural Networks and Fuzzy Logic etc

8. Participation of the department in the courses offered by other departments

U.G

Sl. No.	Course	Department
1.	Audio and Video Signals	Printing and Media Engineering
2.	Audio and Video Signals Lab	Printing and Media Engineering
3.	Communication Systems (Elective)	Printing and Media Engineering
4.	Open Electives	Different departments
5.	Embedded System and Design	Mechatronics Engg department.
6.	Electronics (MSc Radiation Physics)	KMC, Manipal

P.G

Sl. No.	Course	Department
1.	Open Electives	Different departments

9. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Assistant. Professors)

	Sanctioned	Filled
Professors	10	10
Associate Professors	18	9*
Assistant Professors	36	40
Total	64	59 **

*Based on seniority and completion of Ph.D, 11 more faculty who are currently Assistant Professor (Selection Grade) will be eligible.

** As on 31st December 2014, 5 vacancies to be filled have been informed to HR and will be filled before start of new academic year.

10. Faculty profile with name, qualification, designation and specialization (DSc/DLitt/PhD/MPhil, etc.,)

#	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of PhD students guided/guiding for the last 4 years
1	Dr Somashekara Bhat	BE, M.Tech, PhD	Professor and Head	MEMS	24	01+04 (guided)
2	Dr T G S Chandrasekharappa	BE, M.Tech, PhD	Professor	Network Security	39	-
3	Dr Kumara Shama	BE, M.Tech, PhD	Professor	Speech Processing	27	01+07
4	Dr Mruthyunjaya H S	BE, MS, PhD	Professor	Optical Fiber Communication	26	03+00
5	Dr Prabhakar Nayak K	BE, M.Tech, PhD	Professor	Bio-Signal Processing	35	01+04

6	Dr M Sathish Kumar	AMIE, ME PhD	Professor	Optical Fiber Communication	19	02+04
7	Dr.Dayananda Nayak	BE, M.Tech PhD	Professor	Bio Signal Processing	27	-
8	Dr D V Kamath	BE, ME PhD	Professor	Analog Signal Processing	27	-
9	Dr G Subramanya Nayak	BE, M.Tech, PhD	Professor	Bio-Signal analysis and recognition	25	-
10	Dr Kanthi M	BE, M.Tech, PhD	Professor	Biomedical Engg.	17	-
11	Professor Stanley O Maben	BE, M.Tech	Asso.Prof Sr. Scale	Computer Science Engineering	29	-
12	Professor Shankaranarayana Bhat M	BSc, BE, M.Tech	Asso.Prof. - Sr. Scale	Electronics Design and Tech	24	-
13	Professor T. K. Padmashri	BE, M.Tech	Asso.Prof. - Sr. Scale	Biomedical Engineering	28	-
14	Dr V H S Moorthy	MSc, M.Tech, PhD	Assoc. Prof.	Nano technology	21	02
15	Dr Bore Gowda S. B.	BE, M.Tech, PhD	Assoc. Prof	Sensor Networks	16	-
16	Dr Krishnamurthy Nayak	BE, M.Tech, PhD	Assoc. Prof	Biotechnology	14	-
17	Dr Pallavi R. Mane	BE, M.Tech, PhD	Assoc. Prof	Computer Network Coding	16	-
18	Dr Shounak De	BE, M.Tech, PhD	Assoc. Prof	Nano Electronics	10	01
19	Dr Anitha H	BE, M.Tech, PhD	Assoc. Prof	Biomedical Image Processing	09	01
20	Mr Vasanth Kumar P	BE, M.Tech	Asst. Prof.- Selection Grade	Microwave Electronics	24	-

21	Mr Vishnumurthy Kedlaya	BE, M.Tech	Asst.Prof.- Selection Grade	DEAC	14	-
22	Mr H Srikanth Kamath	BE, M.Tech	Asst.Prof.- Selection Grade	Digital Electronics	20	-
23	Ms Aparna U	BE, M.Tech	Asst.Prof.- Selection Grade	DEAC	16	-
24	Mr R B Jagadeeshchandra	BE, M.Tech	Asst.Prof.- Selection Grade	Digital Communication	15	-
25	Mr Prasanth M Prabhu	BE, M.Tech	Asst.Prof.- Selection Grade	DEC	13	-
26	Mr R Vinoth	BE, M.Tech	Asst.Prof.- Selection Grade	Bio Instrumentation	15	-
27	Mr Rajiv Mohan David	BE, MBA, ME	Asst.Prof.- Selection Grade	Applied Electronics	12	-
28	Mr Pramod Kumar	BE, M.Tech	Asst.Prof.- Selection Grade	Microwave Engineering	10	-
29	Mr Ananthakrishna T	M.Sc, M.Tech	Asst.Prof.- Selection Grade	Cognition Technology	13	-
30	Mr Shasi Kumar G S	BE, M.Tech	Asst.Prof.- Selection Grade	DEAC	15	-
31	Mr Vijay S.R	BE, M.Tech	Asst.Prof.- Senior Scale	DEAC	10	-
32	Mr Ravilla Dilli	B.Tech, ME	Asst.Prof.- Senior Scale	Applied Electronics	11	-
33	Mr Sampath Kumar	BE, M.Tech	Asst.Prof.- Senior Scale	Biomedical & Instrumentation	11	-
34	Ms Ramya S	BE, M.Tech	Asst.Prof.- Senior Scale	Microelectronics	10	-
35	Ms Supritha B S	BE, M.Tech 2001	Asst.Prof.- Senior Scale	Microelectronics	11	-
36	Mr Shailendra Kumar Tiwari	MSc, M.Tech	Asst.Prof.- Senior Scale	VLSI Design	07	-
37	Mr S Ramasamy	BE, ME	Asst.Prof.- Senior Scale	Applied Electronics	08	-
38	Mr Nakul Shetty	BE,	Asst.Prof.-	DEAC	06	-

	K	M.Tech	Senior Scale			
39	Mr Guruprasad	BE, M.Tech	Asst.Prof.-Senior Scale	DEC	05	-
40	Ms Shruthi K	BE, M.Tech	Asst.Prof.-Senior Scale	Microelectronics	05	-
41	Ms K. T. Navya	BE, M.Tech	Asst.Prof.-Senior Scale	DEAC	05	-
42	Mr A Gopalkrishna Pai	BE	Asst. Prof.	E and C	14	-
43	Ms Divya B	BE, M.Tech	Asst. Prof.	Signal Processing	04	-
44	Mr Om Prakash Kumar	BE, M.Tech	Asst. Prof.	VLSI Design	03	-
45	Mr Shreeharsha K G	BE, M.Tech	Asst. Prof.	DEC	03	-
46	Mr Suhas K	BE, M.Tech	Asst. Prof.	Control Systems	03	-
47	Dr Vinod Kumar Joshi	BSc, MSc M.Tech, PhD	Asst. Prof.	Solar Physics	03	-
48	Mr Suhas M.V	BE, M.Tech	Asst. Prof.	DEAC	03	-
49	Mr C Sivananda Reddy	B.Tech, M.Tech	Asst. Prof.	Electronic Design & Technology	03	-
50	Mr Roshan Ramakrishna Naik	B.E, M.Tech	Asst. Prof.	Digital Communication	07	-
51	Ms Aparna V	B.Tech, M.Tech	Asst. Prof.	Optoelectronics & Laser Technology	03	-
52	Mr Muralikrishna H	BE, M.Tech	Asst. Prof.	DEAC	04	-
53	Mr Prakash S Nayak	BE, M.Tech	Asst. Prof.	Microelectronics	03	-
54	Ms Akshatha K R	BE, M.Tech	Asst. Prof.	DEAC	03	-
55	Ms Shwetha D	BE, M.Tech	Asst. Prof.	DEAC	03	-
56	Dr Ujjwal	MS, PhD	Asst. Prof.	Image	< 01	-

	Verma			Processing		
57	Ms Karthi Pradeep	M.Tech	Asst. Prof.	Communication Systems	< 01	-
58	Ms Soumya S	M.Tech	Asst. Prof.	Communication Systems	< 01	-
59	Ms Mary Ann George	B.E	Asst. Prof.-(on contract)	E and C	< 01	-

11. List of senior Visiting Fellows, faculty, adjunct faculty, emeritus professors

#	Name	Adjunct Faculty
1	Dr U. C. Niranjana	Director of Research and Training, Manipal DoT Net Pvt Ltd., Manipal

12. Percentage of classes taken by temporary faculty members – programme-wise information

Nil

13. Programme-wise Student Teacher Ratio

#	Course	Faculty to Student Ratio as per AICTE norms
1	UG	1:15
2	PG	1:12

14. Number of academic support staff (technical) and administrative staff

#	Technical Staff	Sanctioned	Filled
1	Assistant Engineer	4	4
2	Junior Engineer	2	2
3	Senior Technician	1	1
4	Technician- II	8	8
5	Senior Clerk / Clerk	2	2
6	General Duty Worker	4	4

15. Research thrust areas recognized by funding agencies

Biosensors, MEMS, Nano Technology, Image Processing.

16. Number of faculty with on-going projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise.

Sl. No.	Project Name	Principle Investigator	Funding Agencies	Grant received on (Month and year)	Total Grants Received (INR)
1	Low cost Fabrication of Nano scale patterns using soft Lithography	Dr Shounak De	VGST	2014-15	4 Lakhs
2	Quantification of spinal deformities using 3D reconstruction from biplanar radiographs	Mr Sampath Kumar	SERB	2013	10.26 Lakhs
3	Development of Nano Material and Optically enabled, front surface and back contact tailored, enhanced efficiency amorphous silicon solar cells	Dr V H S Moorthy	DST	2012-16	9 Lakhs

17. Inter-institutional collaborative projects and grants received

Collaborative non funded projects such as Bio-signal Processing on clinical and nonclinical data, Radiation study on animals at School of Life Sciences; Gait analysis, Scoliosis study, 3D reconstruction using 2D data, Diabetic retinopathy, Design of compact Electro larynx in association with Kasturba Medical College, Manipal; Electronic interface for dental implants in association with College of Dental Sciences, Manipal. These are a few collaborative inter-institutional projects undertaken by the department.

18. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received.

Please refer to the details provided in Point number 17.

In addition to this,

1. PG students undergo internship with stipend at industries such as INTEL, IBM, STMicroelectronics, WIPRO GE Healthcare, Honeywell, Infineon, Broadcom in the domains of Processor architecture design and validation, System on Chip, Power Optimization, Wireless sensor networks etc.
2. IAESTE students go abroad and execute live projects in industries or institutes with scholarship in various countries such as Germany, Korea, Thailand, Singapore

in domains of Signal processing, Embedded system design, Wireless communication etc.

3. IAESTE students coming from abroad work on MU funded projects in similar domains mentioned in 2 above.
4. Full time research scholars with internal funding by the University. They work in the areas of Nano electronics, Photonics, Signal Processing, Wireless Communication.

19. Research facility/centre with

- state recognition
- national recognition
- international recognition

1. MUTBI as central facility funded by state and central governments and Manipal University. Office space, support for setting up a start-up and seed money are provided to entrepreneurial students. To identify potential business ideas, the centre conducts provenance, an annual event.

2. Central Instrumentation Facility funded by Manipal University to meet the requirements of various research projects.

3. Department will be setting up “Building Automation Systems lab” in association with M/s Schneider Electric, Bengaluru for academic and research purpose.

20. Special research laboratories sponsored by/created by industry or corporate bodies

Sl. No	Course	Industry
1.	ATMEL AVR Microcontroller Unit centre (ATMEL AVR MCU) has been set up in one of our labs and the kits supplied are used for Laboratory courses and Research activities	ATMEL (India University program)
2.	MEMS Design Centre (INUP). The software tools are used for research activities.	IISc, Bangalore in Association with Innovation Centre, MIT, Manipal.
3.	Novoton Technology Corporation, Taiwan Centre has been set up in one of our labs and the kits supplied are used for academic and research activities	NOVOTON Technology Corporation, Taiwan
4.	Freescall Semiconductors (India University Programme) Centre has been set up in one of our labs and the kits supplied are used for academic and research activities	Freescall Semiconductors (University Programme)
5.	Naval Academy, Kerala, India (Academic exchange programme)	Indian Naval Academy

21. Research output in last three years

		2012	2013	2014
Completed funded research projects		01 in progress	02 in progress	03 in progress
Completed non-funded research projects		03	03	03
Completed PhD research projects		03	03	03
Completed PG research projects		39	44	47
Completed UG research projects		45 out of 245	48 out of 247	50 out of 227
Publications	International	21	13	22
	National	nil	nil	nil
Books		01	nil	01
Chapters in books		nil	nil	01
Conference presentations	International	19	11	21
	National	04	13	03

Publications:

Journal Publications:

2012:

Sl. No	Authors Name	Title	Journal / Volume
1	Rajiv Mohan David, Kumara Shama, K. Prabhakar Nayak	Digital Filter bank implementation using Multirate Techniques for Spreading codes and rate transition techniques in spread spectrum.	International Research Journal of signal Processing, ISSN:2249-6505, Vol.3, Issue-1, pp:445-453, February 2012
2	Shounak De, B. S. Satyanarayana, Mohan Rao, V. H. S. Moorthy.	Defect Density Estimation in Nanocluster Carbon Thin Films.	Romanian journal of Physics, Vol.57, No.3-4, pp.657-663, March 2012.
3	Rajiv Mohan David, Kumara Shama, K. Prabhakar Nayak	Improved Performance Evaluation of Frequency Hopped spread spectrum using QAM/FSK Modulation Techniques.	International Journal of Computer Applications, ISSN: 0975 – 8887, Volume 43– No.15, pp 14-18, April 2012
4	Boregowda S. B., Puttamadappa C. M., Mruthyunjaya H. S., Babu N V	Sector based Multi-hop Clustering Protocol for Wireless Sensor Networks.	International Journal of Computer Applications, Vol. 43, 13, pp 32–38, April 2012, ISSN: 0975: 8887.
5	Krishnamurthy Nayak, Supreetha B. S., Deccaraman M., Vijayashree Nayak	E-Nose System to Detect E-Coli in Drinking Water of Udupi District	International journal of Engineering Research and Development, Vol.1, ISSN No.:2278-067X, pp 58-64, July 2012
6	H. Srikanth Kamath Istvan Andras Nador	An Implementation of Decode-and-Forward Cooperative Strategy in NS-2 Simulator	Bonfring International Journal of Research in Communication Engineering, Vol.2, ISSN No. 2277-5080, pp 19-21, July 2012

7	Kevin Noronha, K. Prabhakar Nayak	A Review of Fundus Image Analysis for the Automated Detection of Diabetic Retinopathy	Journal of Medical Imaging and Health Informatics, Vol.2, No.3, ISSN No: 2156-7018, pp 258-265, July 2012
8	Krishnamurthy Nayak, Deccaraman M, Vijaysshree Nayak	Formulating a Mathematical Model for the E- nose application through Genetic Algorithm(GA)	International Journal of Computer Applications, Vol.51, No.1, ISSN No. 0975-8887, pp 7-13, August 2012
9	Pallavi R Mane, M. Sathish Kumar, Sudhakar G, Ghanashyama Prabhu	Throughput Analysis of WLAN using Network Coding	IACSIT-International Journal on Future Computer and Communication, Vol.2, ISSN No. 2010-3751, pp 23-26, August 2012
10	Shankaranarayana Bhat M, Yogitha Jahnavi	Universal Rotate Invert bus encoding for low power VLSI	International Journal of VLSI design & Communication Systems (VLSICS, Vol.3, No.4, DOI:10.5121/VLSICS.2012.340997, August 2012
11	Shankaranarayana Bhat M, Raju Suresh Kumar	Analysis of emotionality and locomotion in radio-frequency electromagnetic radiation exposed rats	Neurological Sciences Official Journal of the Italian Neurological Society, Springer, ISSN No.:1590-1874, August 2012
12	Dr Somashekar Bhat, Shetty Prashanth	Survey : Ultra low Power ECG Signal Pre-Amplification Techniques	International Journal of Computer Science and Management Research, Vol.:1, Issue : 2, ISSN No.: 2278-733X, pp 221-228, Sept. 2012
13	Dr G. Subramanya Nayak Dr Dayananda Nayak	Classification of ECG Signals using ANN with Resilient Back Propagation Algorithm	International Journal of Computer Applications Indexed by DOAJ, Goole Scholar, Informatics, NASA ADS, Vol.54, No.6, ISSN No. 0975-8887, pp 20-23, Sept. 2012
14	Kanthi M., Mruthyunjaya H S, V. I. George	Real time control of Active Ankle Foot Orthosis using Labview and Compact-Reconfigurable Input -Output	International Journal of Medical Imaging and Health Informatics, Vol.2, No.3, ISSN No. 2156-7018, pp 272-277, Sept. 2012
15	Mruthyunjaya H. S Smitha N Pai, K C Shet	Routing for Sensors with Parameters as used in Agricultural Field	ACEEE International Journal on Network Security, Vol.3, No.4, pp 24-28, Oct. 2012
16	Mruthyunjaya H.S, Smitha N Pai,	Energy Aware Path Search for Sensor with Parameters as	International Journal Adhoc, Sensors and Ubiquitous

	K C Shet	used in Agricultural Field	Computing, Vol.3, No.5, pp 1-12, Oct. 2012
17	Mruthyunjaya HS, Smitha N Pai, K C Shet	Energy Aware Path Establishment and Maintenance for Sensor with Parameters as used in Agricultural Field	International Journal Computer Applications, Vol. 57, No. 10, pp 30-37, Nov. 2012
18	H. Srikanth Kamath, Vinod K Madan	Diversity Multiplexing Trade-off in MIMO Systems	Special Issue of International Journal of Computer Applications (0975 – 8887) on International Conference on Electronics, Communication and Information Systems (ICECI 12), ISSN No. 0975-8887, pp 14-19, Nov. 2012
19	K. Prabhakar Nayak, Kevin Noronha, Acharya U R, Kamath S and Bhandary S V	Decision support system for diabetic retinopathy using discrete wavelet transform	International Journal of Engineering in Medicine, Vol. 227(3), DOI:10.1177/0954411912470240, pp 251-261, Nov.2012
20	Bore Gowda S B, Puttamadappa C Babu N V, Shivaraj S Davanakatti	An Optimized Weight Based Clustering Algorithm in Heterogeneous Wireless Sensor Networks	International Journal of Computer Science & Information Technology, DOI:10.5121/csit.2012.2516, pp 185-195, Dec. 2012
21	Anitha H, G K Prabhu	Automatic Quantification of Spinal Curvature in Scoliotic Radiograph using Image Processing	Journal of Medical Systems, Vol. 36(3) pp 1943-1951, 2012

2013:

Sl. No	Authors Name	Title	Journal / Volume
1	Navya K.T Dr K. Prabhakar Nayak Kevin Noronha	Support System for the Automated Detection of Hypertensive retinopathy using fundus images	IJCA Special issue on International Conference on Electronic Design & Signal Processing Published by Foundation of Computer Science, Newyork, USA, Vol.1, ISSN :0975-8887, pp 7-11, Feb. 2013
2	Dr G. Subramanya Nayak, Nikhil Agarwal	Microcontroller based Home Security System with Remote Monitoring	International Journal of Computer Applications Special Issue, Vol.3, ISSN:0975-8887,

			pp 38-41, Feb 2013
3	Ananthakrishna T, Rohan Pinto, Jennifer Saldanha	Cepstral Analysis of Speech for the Vocal fold Pathology Detection	International Journal of Computer Applications Special Issue, Vol.3, ISSN: 0975-8887, pp 14-18, Feb 2013
4	H. Srikanth Kamath, Vishwanath Bharadwaj	Statistical Properties of Amplify and Forward Relay Fading Channels	International Journal of Advanced Trends in Computer Science and Engineering, Vol.2, No.2, ISSN:2278-3091, pp 14-17, Feb 2013
5	Ravilla Dilli, Chandra Shekar Reddy Putta	Reduction of Control Traffic in Hybrid Routing Protocol for MANET'S	International Journal of Computer Networking, Wireless & Mobile Communication, Vol.3, Issue:1, ISSN : 2250-1568, pp 143-154, Apr.2013
6	Dr G. Subramanya Nayak, Nikhil Agarwal	Implementation of GSM- based home security monitoring system with LED touch screen	International Journal of Instrumentation Technology, Vol.1, No.2, ISSN:2043-7862, pp143-154, Apr.2013
7	H. Srikanth Kamath Krishna Chaitanya Marri	Energy aware cooperative routing in mobile ad-hoc networks	International Journal of Advanced Information Science and Technology (IJAIST), Vol.13, No.13, ISSN:2319:2682, pp 10-16, May 2013
8	H. Srikanth Kamath	Energy Efficient Routing Protocol for Wireless Sensor Networks	International Journal of Advanced Computer Research, Vol.3, Number 2, Issue 10, ISSN:2249-7277, pp 95-100, June 2013
9	H. Srikanth Kamath	Implementation of Co- Operative Communication Protocol	International Journal of Advanced Computer Research, Vol.3, Number 2, Issue 10, ISSN: 2249-7277, PP 163-171, June 2013
10	H. Srikanth Kamath	Performance of coopMAC Protocols over CSMA/CA 802.11 Protocols	International Journal of Advanced Computer Research, Vol.3, Number 2, Issue 10, ISSN:2249-7277, pp 187-192, June 2013.
11	Dr K. Prabhakar Nayak, Kevin Noronha, U. Rajendra	Automated classification of glaucoma stages using higher order cumulant features	ScienceDirect Biomedical Signal Processing and Control journal home page: www.elsevier.com/locate/bspc

	Acharya, Roshan Joy Martis, Sulatha V Bhandary		Nov. 2013
12	Dr K. Prabhakar Nayak, Kevin Noronha	Automated Diagnosis of Diabetes Maculopathy: A Survey	Journal of Medical Imaging and Health Informatics American Scientific Publishers, Vol.3, No.2, pp 1- 8, Nov.2013
13	Dr K. Prabhakar Nayak, Kevin Noronha	Automated Diagnosis of Maculopathy Stages Using Entropies and Hu's Invariant Moments	Journal of Medical Imaging and Health Informatics American Scientific Publishers, Vol.3, No.4, pp 1- 8, 2013

2014:

Sl. No	Authors Name	Title	Journal / Volume
1	Kanthi M V. I. George Mruthyunjaya H. S.	Control Design for Active Ankle Foot Orthosis with the Application of Fuzzy Logic	International Journal of Control Engg. and Technology (JCET), Vol.4, Issue 1, ISSN:2223-2036, PP 5057, Jan 2014
2	Kanthi M V. I. George Mruthyunjaya H. S.	Embedded System Design to Control Active Ankle foot orthosis	International Journal of Consumer Electronics Times (CET), Vol.3, ISSN:2304- 1846, pp 206-214, Jan 2014
3	Shounak De Sathyanarayana B. S. Srinivasulu	Band-Gap Measurement of Room Temperature Grown Clustered Carbon Films for Large area Microelectronics	Journal of Electron Devices, Vol.19, ISSN:1682 -3427, pp 1601-1607, 2014
4	D. V. Kamath	Bandwidth Enhancement of Inverting Amplifier using Composite CFOA block	International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering (IJIREEICE), Vol.2, No.4, ISSN:2321-2004, PP 2321- 2004, Apr.2014
5	Anitha H. Karunakar A. K.	Automatic Extraction of Vertebral Endplates from	Biomedical Engg Letters, Vol.4, ISSN: 2093-985x, pp

	Dinesh K.V. N.	Scoliotic Radiographs Using Customized Filter	158-165, May 2014
6	Shankaranarayana Bhat. M. Muhammed Ashraf T. P. Manu Ramesh	Design and implementation of High performance Bus Architecture using FPGA	International Journal Of Engineering and Computer Science, Vol.3, Issue 6, ISSN:2319-7242, PP 6578-6583, June 2014
7	Shankaranarayana Bhat M., Vikrant Vijay Malode	Design and Implementation of Power Efficient Arbiter Module for AMBA AHB Protocol	International Journal of Advanced Research in Computer Engineering & Technology (IJARCET) , Vol.3, Issue 6, ISSN:2278-1323, pp 2141-2145, June 2014
8	Rajiv Mohan David, Kumara Shama, K. Prabhakar Nayak	An Efficient Model of DSSS System Using Multirate and Data Rate Transition Techniques	Journal of The Institution of Engineers (India):Series B – Springer Publishers, Vol. DOI 10.100 7/S4003 1-014-0138-4, ISSN : 2250-2106, PP 1-8, July 2014
9	H. Srikanth Kamath Aakash Nath Shobhit Kumar Srivastave, Saket Garg	Comparative Power Analysis of LFSR Test Pattern Generators	International Journal of Computer Applications, Vol.98, ISSN: 0975-8887, pp 37-39, July 2014
10	D. V. Kamath	Novel OTA-C Current-Mode Third-Order Band-Pass Filters	International journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering (Indexed in Google Scholar), Vol.2, Issue 8, ISSN:2321-2004, pp 1861-1865, Aug.2014
11	D. V. Kamath	TO-OTA based current-mode biquad filters	Transactions on Engineering and Sciences (Indexed in Google Scholar, DRJI), Vol.2, Issue: 8, ISSN:2347-1964, pp 15-26, Aug. 2014
12	Anitha H G. K. Prabhu A. K. Karunakar	Reliable and Reproducible Classification System for Scoliotic Radiograph using Image Processing Techniques	Journal of Medical System, Vol. 38:124, ISSN:0148-5598, Sept. 2014.
13	Anitha H	Lenke's Scoliosis Classification Using Image Processing techniques	International Journal of Advanced Research in Computer and Communication Engg., Vol.3, Issue 9, ISSN:2278-1021, Sept. 2014

14	H. Srikanth Kamath Mohammad Sheikh Ali	Cooperative Communication Simulation using TCP	International Journal of Computer Applications (0975- 8887), Vol. 101, No.1, ISSN:0975-8887, pp 9-14, Sept. 2014
15	K.P rabhakar Nayak, Kevin P. Noronha, U. Rajendra Acharya, Sulatha V. Bhandary	Design support system for the glaucoma using Habor transformation	Biomedical Signal Processing and Control, pp 18-26, 2014
16	H. Srikanth Kamath, Simon Larsson	Comparison of Energy Detection Methods in Cognitive Radio Networks	International journal of Computer Applications, Vol.103, No.4, ISSN 0975- 8887, pp 19-23, Oct. 2014
17	H. Srikanth Kamath, Deepshikha	Decoding of PBCH in LTE	International journal of Computer Applications, Vol.106, No.12, ISSN: 0975- 8887, pp 38-42, Nov.2014
18	H. Srikanth Kamath, L. M. Schalk	Primary User Localization Schemes in Cooperative Sensing	International journal of Computer Applications, Vol.105, No.13, pp 1-5, Nov.2014
19	Pallavi R Mane, M. Sathish Kumar, Sudhakar G	Performance of wireless network using Network Coding over store & forward technique	International Journal of Computer Applications, Vol.108, No.18, ISSN : 0975- 8887, pp 39-43, Dec. 2014
20	Pallavi R Mane	Selection of Coding Vectors for Random Linear Network Coding	International journal for Research in Applied Science & Engg. Technology(IJRASET), Vol.2, Issue: XII, ISSN: 2321- 9653, Dec. 2014.
21	Somashekara Bhat, S. Meenatchisundara m, S. M. Kulkarni	Virtual Prototyping and Beam Optimization of Resonant Micro Pressure Sensors	International STM Journal for Recent Trends in Sensor Research & Technology, Vol.1, No.3, ISSN:2393-8765, PP 10-16, Dec.2014
22	H. Srikanth Kamath	Challenges of Cooperative Sensing In Cognitive Radio Networks - Review	International Journal of Applied Engg. Research, Vol.9, No.19, ISSN:1087- 1090, pp 4237-4242, 2014

* **Chapters in Books:**

Sl. No.	Authors Name	Title	Book Chapter details
1	Dr Kanthi M.	Fuzzy Expert Systems for Disease Diagnosis	IGI Global International Publisher of Progressive Academic Research - 2014.

* **Books with ISBN with details of publishers.**

Sl. No.	Authors Name	Title	Book Chapter details
1	Dr K. Prabhakar Nayak, Dr Kumara Shama, Dr Somashekar Bhat	Electronic Design and Signal Processing	NAROSA Publishers, ISBN No: 978-81-8487 160-9, 2012
2	Dr M. Sathish Kumar	Fundamentals of Optical Fibre Communication – 2 nd edition	30 th April 2014 PHI, 2 nd Revised Edition

Conference Presentations:**2012:****International:**

#	Authors	Title of the paper	Conference, venue & date
1	Shailendra Kumar Tiwari	Capacitive Micro machined Ultrasonic Transducers	International Conference on ISSS-2012 at IISc, Bangalore on 6 th & 7 th January 2012
2	Rajiv Mohan David, Dr Kumara Shama, Dr K. Prabhakar Nayak	Digital Filter Bank implementation using multirate techniques for spreading codes and rate transition techniques in spread spectrum	International Conference on Information Communication and Embedded Systems (ICICES-2012) pp 51, at S.A Engg. College, Chennai on February 24, 25, 2012.
3	Dr G. Subramanya Nayak Dr Dayananda Nayak, Dr T. G. S. Chandrasekhara ppa	Assessment of Cardiac health, based on ANN analysis on ECG signals	International Conference on Information Communication & Embedded Systems on 24 th & 25 th February , 2012 at S.A.Engg.College, Chennai, India.

4	Dr Kanthi M, Dr Mruthyunjaya H.S	Real- time Control of Active Ankle Foot Orthosis Using Lab VIEW & Compact-RI0 (978-4577-1991- 2/12/©2011 IEEE	International Conference of Biomedical Engineering(ICOBE) held in Penang, Malaysia on 27 th & 28 th Feb 2012
5	Dr K. Prabhakar Nayak Kevin Noronha	Fundus Image analysis for the Detection of Diabetic Eye diseases – A Review (978-4577-1991- 2/12/©2011 IEEE	International Conference on Biomedical Engineering.(ICOBE) Penang, Malaysia, 27-28 February 2012 & Chaired a session
6	Padmashri T.K	EEG Based Detection of Alcoholics using Spectral Entropy with Neural Network Classifiers (978-4577-1991- 2/12/©2011 IEEE	International Conference on Biomedical Engineering.(ICOBE), Penang, Malaysia, 27-28 February 2012
7	Om Prakash Kumar	A Novel Four Quadrant CMOS Analog Multiplier (Published in IEEE xPlore pp 149-152	International Conference on Devices, Circuits and Systems (ICDCS) at Karunya University, Coimbatore on 15 th - 16 th March, 2012
8	Pramod Kumar	Geographical location based Hierarchical Routing Strategy for WSN	IEEE ICDCS 2012, International Conference on Devices, Circuits and System at Karunya University, Coimbatore on March 15-16,2012
9	Ravilla Dilli	Energy Management in Zone Routing Protocol (ZRP)	International Conference on Computer Science, Engineering & Applications at New Delhi on 25– 27 May 2012
10	Dr Pallavi R Mane	Throughput Analysis of WLAN using Network Coding	IACSIT - 4 th International Conference on Future Computer and Communication at ICFCC 2012, Hong Kong on 3 rd & 4 th August 2012
11	Dr Somashekar Bhat	Teaching Silicon Etch Process using Animations & MEMS Simulation Tools	22 nd International Conference on Chemistry Education at Rome Italy on 15 th to 20 th July 2012.
12	H. Srikanth Kamath	Diversity Multiplexing Trade-Off in MIMO Systems	International Conference on Electronics, Communication and Information Systems at Kalasalingam University, Krishnankovil, Tamil Nadu, 2 nd – 3 rd November 2012
13	Shefali Jayanth Kandi	A Robust speaker Independent Speech Recognizer for Isolated Hindi Digits	4 th International conference on Signal Acquisition & Processing (ICSAP- 2012), at Cambodia, 28 th to 29 th September 2012

14	Ramya S	Automatic Music Note Transcription System using Artificial Neural Networks	ICEDSP-12 International conference on Electronic Design & Signal Processing held on 20-22 Dec 2012
15	Dr G. Subramanya Nayak	Microcontroller band Home Security System with remote monitoring	ICEDSP-12 International conference on Electronic Design & Signal Processing held on 20-22 Dec 2012
16	Navya K.T Dr K. Prabhakar Nayak	Support System for the Automated Detection of Hypertensive Retinopathy using Fundus Images	ICEDSP-12 International conference on Electronic Design & Signal Processing held on 20 th -22 nd December 2012
17	Ananthakrishna T	Cepstral Analysis of Speech for the Vocal Fold Pathology Detection	ICEDSP-12 International conference on Electronic Design & Signal Processing held on 20 th -22 nd December 2012
18	Dr Bore Gowda S B	An Optimized Weight Based Clustering Algorithm in Heterogeneous Wireless Sensor Networks	Computer Science & Information Technology (CS & IT) international Conference at Dubai on 27 th & 28 th December 2012
19	Mary Anna George	Stereovision For 3D information	Proceedings of the 2 nd International Conference on Soft Computing for Problem Solving (Soc-ProS-2012) On December 28–30, 2012 at JK Lakshmipat University, Jaipur, India

National:

#	Authors	Title of the paper	Conference, venue & date
1	H. Srikanth Kamath	An Implementation of Decode –and-Forward Cooperative strategy in NS-2 Simulator	National Conference on “NCCN-12” at SLIET Longawal, Punjab on 3 rd & 4 th February 2012
2	H. Srikanth Kamath	Simulink Simulation of Coding	National Conference on Enhancements in Electrical, Electronics & Communication Engg. at James College of Engg. & Tech., Tamilnadu on 24 th & 25 th Feb 2012
3	Dr Somashekar Bhat	Migrating from Printed Books to e-book Reader: Strategy for SMU to Saveover One LakhTrees a Year	SMU Academic Conference on 11 th March 2012
4	Dr Vinod Kumar Joshi	Role of Magnetic Reconnection in Solar Caronal heating	NCRTIRASS-2012 Conference held in M.B.Govt.P.G.College, Haldwani, Uttarkhand on 3 rd , 4 th November 2012

2013 :**International:**

#	Authors	Title of the paper	Conference, venue & date
1	H. Srikanth Kamath	Cooperative Diversity and Space-Time Block Coding for Wireless Networks	International Conference on ICICCA 2013 at Dept. of E&C Engg., Kalasalingam University, Tamil Nadu on 3 rd - 5 th January , 2013
2	S. Ramasamy	Estimation and Analysis of Muscle fatigue due to different work patterns	Oral presentation - International Conference on Advances in Computer Science & Engineering (ICACSE-2013) at Hyderabad on 7 th to 8 th January , 2013
3	Pramod Kumar	An Energy Efficient Algorithm to avoid hot spot effects in WSNs	IEEE International Conference on Signal Processing, Image Processing & Pattern Recognition "ICSIPR'13" on 7 th & 8 th February 2013 held at Karunya University, Coimbatore, India.
4	Dr Kanthi M. Dr Mruthyunjay H. S.	Fuzzy logic Control for Active Ankle Foot Orthosis	IEEE International Conference on Fuzzy Systems at Hyderabad on 7 th to 10 th July 2013
5	Ravilla Dilli	Performance of Secured ZRP due to the effect of malicious nodes in MANETS	4 th IEEE International Conference on Computing Communication and Networking Technologies ICCCNT 2013 held during 4 th to 6 th July 2013
6	Ravilla Dilli	Techniques for effective utilization of Bandwidth in zone Routing protocols for MANETS	2 nd International Conference on Advanced Computing methodologies 2013 held on 2 nd & 3 rd August 2013 at GRIET, Hyderabad
7	Muralikrishna H., Ananthakrishna T Dr Kumara Shama	HMM Based Isolated Kannada Digit Recognition System using MFCC	Second International Conference on Advances in Computing, Communications and Informatics(ICACCI-2013) held on 22 nd -25 th August 2013 at SJCE, Mysore
8	Dr Anitha H Akshatha KR	Source Camera Identification using wavelet feature fusion technique	International Conference on Multimedia Processing, Communication & Information Technology(MPCIT-2013) at JNNC, Shimoga on 19 th to 21 st December 2013
9	Prof. S. N. Bhat	A Comprehensive faculty Development Programme	IEEE International Conference on MOOC, Innovation & Technology in Education IEEE MITE – 2013 at PIET, Jaipur on 20 th to 22 nd December 2013 (Received Best Paper award)

10	Dr Vinod Kumar Joshi	Probabilistic Power Analysis Technique for Low Power VLSI Circuits	IEEE International Conference ICIS2013 from 17 th to 20 th December 2013 at University of Peradenya, Kandy, Srilanka
11	Ramya S, Dr Kumara Shama	Online Kannada Handwriting Recognition using Soft Computing Model	International Conference MPCIT 2013 at JNN College, Shimoga on 19 th to 21 st of December 2013

National:

#	Authors	Title of the paper	Conference, venue & date
1	Dr G. Subramanya Nayak	LED Based Circuitry for Temperature Monitoring	37 th National Symposium of Optical Society of India, held at Pondichery University, Pondichery on 23-25 January 2013
2	Ravilla Dilli	Power Saving Techniques in Hybrid Routing Protocols for MANETs	National Conference on Networking Technology, Mobility & Security-2013 at Sri Venkateswara College of Engineering, Bangalore on 28 th to 29 th January 2013
3	H. Srikanth Kamath	Statistical Properties of Amplify and Forward Relay Fading Channels	National conference on Recent Trends in Electrical and Communication Engineering(NCRTECE'13) at SMK FORMA Institute of Technology on 8-9 th February 2013
4	Ravilla Dilli	Reduction of Control Traffic in Hybrid Routing Protocols for MANET's	National Conference on Advanced Computing Applications at SV University, Tirupathi on 20 th & 21 st February 2013
5	Shounak De	Room temperature grown novel multi-layered Nano carbons based Vacum Nanoelectronics Electron Emitting for sensors & lighting	National Conference on Micro & Nano fabrication, CMTI, Bangalore on 21 st to 23 rd Jan 2013
6	Shounak De	Study of a Novel Room temperature Grown Semiconducting Nanoelectronics Carbon thin films for use in Nano, Micro, thermo & flexible electronics	National Conference on Micro & Nano fabrication, CMTI, Bangalore on 21 st to 23 rd Jan 2013
7	H. Srikanth Kamath	Comparison of protocols used in Cooperative Communication ISBN No. 978-93-82338-48-2 pp 61	National Conference at Thopppur, Salem on 16 th March 2013,48 -2,pp 61

8	H. Srikanth Kamath	Cooperative Routing in MANET's	8 th National Conference OPTTEST at Bannari Amman Institute of Technology, Sathyamangalam on 19 th to 20 th April 2013
9	H. Srikanth Kamath	The Performance of Bluetooth and IEEE Wireless LAN in a Telemedicine Environment	National Conference on Advances in Communication and Signal Processing, 13 th & 14 th August 2013 at SJCE,, Mangalore
10	Aparna U Mruthyunjaya H. S. Sathish Kumar M	The study on effect of lens parameters on the performance of plasmonic lens	National Conference on Challenges in Research & Technology in the coming decades(CRT-2013) held at SDMIT, Ujire on 27 th & 28 th Sept. 2013
11	Shruthi K	Smart Notice Board	National Conference on Challenges in Research & Technology in the coming decades(CRT-2013) held at SDMIT, Ujire on 27 th & 28 th Sept. 2013
12	H. Srikanth Kamath	Study of Routing Protocol for Vehicular Ad hoc Network	Fourth National Conference on Communication Systems and Signal Processing (NCCSSP'13) held at Department of ECE,Kalasalingam University , Tamil Nadu on 19 th October 2013
13	Mary Ann George	Digitally Addressable wireless interface for lighting control system	India Educators' National Conference(TIIEC-2013) Texas Instruments at Bangalore on 4 th to 6 th April 2013,Karnataka, India (IEEE Xplore)

2014 :**International:**

#	Authors	Title of the paper	Conference, venue & date
1	Dr D. V. Kamath	Bandwidth enhancement of CFOA based inverting amplifier	International Conference on Electronics and Communication Systems (ICECS 2014), held at Dept. of E and C, Karpagam College Engg., Coimbatore, India during February 13-14, 2014. (IEEEExplore, Page(s): 1 – 5, DOI: 10.1109/ECS.2014.6892763 , Print ISBN: 978-1-4799-2321-2)
2	Pramod Kumar	Life Time Enhancement of Wireless Sensor Network Using Fuzzy C-Means Clustering Algorithm	IEEE International Conference on Electronics & Communication Systems (ICECS-14) on 13 th & 14 th February , 2014 at Karpagam College of Engg., Coimbatore
3	Pramod Kumar	Performance Analysis of Energy Aware Routing Protocol for Wireless Sensor Networks	IEEE 2nd International Conference on Devices, Circuits & Systems (ICDCS'14) at Karunya University, Coimbatore on 6 th to 8 th March 2014

4	Om Prakash Kumar	Low Power and High Speed Level Shifters in 0.18um Technolgy	IEEE 2nd International Conference on Devices, Circuits & Systems (ICDCS'14) at Karunya University, Coimbatore on 6 th to 8 th March 2014
5	Rajiv Mohan David Dr Kumara Shama Dr K. Prabhakar Nayak	Investigations into Performance Characteristics of Direct Sequence Spread Spectrum in Rayleigh Fading Chanel	International Conference ICECC-2014 at TEC, Chennai on 13 th & 14 th March 2014
6	Ramasamy S	Using Matlab to Investigate Musculoskeletal Disorders for Electromyographic study	International Conference on Computer & Communication Technologic – 2014 at Hyderabad on 28 th & 29 th March 2014
7	Mary Anna George	Stereovision for 3D information	Proceedings of the 2 nd International Conference on Soft Computing for Problem Solving (Soc-ProS-2012) Springer India JK Lakshmipat University, Jaipur, India on April 2014
8	Ramasamy S	Design and Development of Low cost, Portable Digital Temperature Sensor	International Conference IMTC-2014” at CT Institute of Engg., Management & Technology, Jalandhar, Punjab on 3 rd to 4 th June, 2014
9	Shwetha D	Comparison of Smoothing Techniques and Recognition Methods for Online Kannada Character Recognition System	IEEE International Conference on Advances in Engg. & Technology Research (IEEE ICAETR-2014) organized by Dr Virendra Swarup Group of Institutions, Unnao, Uttar Pradesh on 1 st and 2 nd August 2014
10	Prof. Shankaranarayana Bhat M	Comparative Power Analysis of Various ATPG Algorithms	2 nd International Conference on Advanced Trends in VLSI and Signal Processing (ICAVSP-2014) at K.S.Institute of Technology, Bangalore on 13 th to 14 th August 2014
11	Shruthi K	An experimental study & Design of a system to Measure Haemoglobin, Blood Glucose and Pulse Rate	International Conference on Communication and Computing (ICCC-2014) at VVIT, Bangalore on 21 st to 23 rd August 2014
12	Prof. Shankaranarayana Bhat M	Design of Low Leakage SRAM Bit cell and array	International Conference on Circuits, Communication, Control and Computing at MSRIT, Bengaluru on 20 th to 22 nd November 2014

13		Implementation of Dynamic Voltage and Frequency Scaling for System Level Power Reducation	International Conference on Circuits, Communication, Control and Computing at MSRIT, Bengaluru on 20 th to 22 nd November 2014
14	Ravilla Dilli	Routing using Trust based system with SHA-2 Authentication	International Conference on Information and Communication technologies at Cochin University of Science & Technology at CUSAT, Kochi on 3 rd to 5 th December 2014
15	Dr Kanthi M	Fuzzy Based Controller Design for Ankle Foot Orthosis using Compact Re- Configurable Input Output System	International Conference on Computational Methods in Engineering and Health Sciences(ICCMEH-2014) at Manipal University, Manipal on 17 th to 19 th December 2014
16	Aparna U	Plasmonic lens based on elliptically tapered metallic nano slits	5 th International Symposium Electronic System Design(ISED 2014) at NITK, Surathkal on 15 th to 17 th December 2014
17	Sampath Kumar	3D Biomedical Modelling of Human Vertebrae and its Deformation	Fifth International Conference on Advances in Computer Engineering, (ACE 2014) at Kochi, Kerala on 27 th December 2014
18	Dr D. V. Kamath	New OTA-C current-mode second-order filters	IIE International Conference on Innovative Engg.Technologies(ICIET-2014)held IIE Conference Proceedings of ICIET-2014 at Bangkok, Thailand on 28 th & 29 th December 2014
19	S. K. Tiwari, Somashekara Bhat	CMUT as mass Sensor	International Conference on MEMS and Sensors 2014 at IIT, Madras on 18 th to 20 th December 2014
20	Om Prakash Kumar	Autonomous Monitoring and Attendance System Using Inertial Navigation System and GPRS in Predefined Locations	3 rd International Conference on Eco-friendly Computing and Communication Systems (ICECCS-2014) held at NITK, Surathkal on 18 th to 21 st December 2014
21	Prof. T. K. Padma Shri, Ms. Vidya Bhat	Characterization of EEG Signals for Identification of Alcoholics using ANOVA Ranked Approximate Entropy and Classifiers	International IEEE Conference on Control, Communication, Computing (14C2014) held at M.S.Ramaiah Institute of Technology, Bengaluru on 20 th & 22 nd November 2014 Best paper award

National:

#	Authors	Title of the paper	Conference, venue & date
1	Ravilla Dilli	Security Enhancement in Zone Routing Protocol (ZRP) using SHA-2 Algorithm	National Conference on Emerging Trends in Wireless Communications and Systems at SVEC, Tirupati on 7 th -8 th March 2014
2	H. Srikanth Kamath	Long term Evolution a Review	National Conference on NCOEGCSI-2014 at Chennai, Tamilnadu on 9 th May, 2014
3	H. Srikanth Kamath	ANT Routing Protocols In Cooperative Communication	UGC Sponsored National Conference on Advanced in Wireless Sensor Network and Its applications (NCAWSNA-2014) at Dept. of Electronics, Shankarrao Mohite Mahavidyalaya, Maharashtra on 12 th & 13 th December 2014

- * Number listed in International Database (For e.g., Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, Google Scholar, DOAJ, EBSCO host, etc.)

Number of papers published in indexed, peer reviewed journals	Indexed with
52	Ulrich's Periodicals Directory, Google scholar, , Engineering and Technology Digital Library, ProQuest, Cite-seer, WorldCat, National Library of Sweden, Scientific Commons, Informatics, Research Gate, Docstoc, Scribd, Computer Science Directory, Queen's University, DOAJ, Thomson Reuters, Scopus, Springer, Inspec(EI), Pugzone, Pubget, Springer, NASA ADS, Compendex (Formerly Elsevier), ACM Digital Library, Advanced Technologies with Aerospace (CSA), Info Trac Custom Journals, Cite Factor, Directory of Science, Cite SeerX, DRJI, EBSCO, J-Gate, MLibrary, iSEEK, INNO PACE, EBSCO host, NCI, JournalSeek, etc.

- * **Citation Index – range/average** : 10 (Google Scholar)
- * **SJR** : < 1
- * **SNIP** : < 1
- * **Impact Factor – range/average**: 0.5 to 1.5
- * **H- index** : : 1 to 5 (Google Scholar)

22. Details of patents and income generated

#	Title	Inventors	Application and date of filing
1	OTA-based current-mode filter and oscillator	Dattaguru. V. Kamath, P.V. Ananda Mohan, K. Gopalkrishna Prabhu	Patent No. US 8,659,363 B2 Date of Patent: 25 Feb 2014. Publication No. US 2012/ 0161891 A1 Publication Date: 28 June 2012 Total amount received = US\$ 10,250

23. Areas of consultancy and income generated

Department has plans to start consultancy in research areas such as signal / image processing.

24. Faculty selected nationally/internationally to visit other laboratories in India and abroad

Faculty have visited / worked at

Advanced VLSI lab, IIT Kharagpur
 M/s Manipal Dot Net, Manipal
 M/s KarMic Design, Manipal.
 R.V.C.E, Bengaluru.
 Indian Institute of Science, Bengaluru.
 M/s Schneider Electric, Bengaluru.

25. Faculty serving in

a) **National committees** b) **International committees** c) **Editorial Boards** d) **any other (please specify)**

#	Faculty	Details
1	Dr Somashekar Bhat	Member of BOE, Electronics Department, Mangalore University, Member of Review Committee JM3. Member of BOS and BOE, NMAMIT, Nitte (An autonomous Institute under VTU) NITTE. Member of BOE, Dept. of Telecommunication, SIT Tumkur. Member of BOE, Electronics Department, GEC, Goa Member of Advisory Board, Dept. of E&C, SIT Tumkur.
2	Dr Kumara Shama	Member of BOS and BOE, Electronics Department, Mangalore University and NMAMIT, Nitte (An autonomous Institute under VTU)
3	Dr H S Mruthyunjaya	Member of BOS and BOE, Bangalore University, Associate Editor for International Journal of Engineering and Emerging Technologies (IJEET), Member of Editorial board in IEEE Communication Letters.
4	Dr K. Prabhakar Nayak	Member of BOS and BoE, Electronics Department, Mangalore University Associate Editor for International Journal of Engineering and Emerging Technologies (IJEET).
5	Dr M. Sathish Kumar	Member of BOS in NMAMIT, NITTE (An autonomous Institute under VTU) NITTE
6	Dr D. V. Kamath	Reviewer of Advances in Signal Processing Journal Associate Editor of Transactions on Engineering and Sciences (TES)Journal Advisory Board Member of following Journals International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering (IJIREEICE) International Journal of Advanced Research in Computer and Communication Engineering (IJARCCE) Journal of Global Research in Electronics and Communication (JGREC) Member of PG and Research Advisory Committee of S.D.M. Institute of Technology, Ujire,

7	Prof. Shankaranarayan Bhat	Member of BOS and BOE, Electronics Department, Mangalore University, Mission 10x, MUL
8	Dr G Subramanya Nayak	Associate Editor, International Journal of Engineering and Emerging Technologies (IJEET), Editorial board member of International Journal of Computer Applications and Technology (IJCAT), Member of BOE, Electronics Department, Mangalore University.
9	Ananthakrishna T	Member of BOE, Electronics Department, Mangalore University and Member of BOE St. Aloysius College, Mangalore (An autonomous Institute under Mangalore University)

26. Faculty recharging strategies.

#	Strategies
1	Faculty members are encouraged to avail financial benefit to participate and present papers in India and abroad under Faculty Development Programme (FDP).
2	Under Quality Improvement Programme (QIP), a faculty member can pursue his/her PhD in premier institutions in India and abroad.
3	Faculty members are permitted to participate in seminars/lectures/workshops etc., conducted by the department and other departments/institutions of the University to enhance their technical knowledge and skills.
4	Faculty members are encouraged to register for OCW courses and get certified.
5	Faculty are trained by industry to offer relevant courses.
6	Internal FDP with senior faculty as resource persons.

27. Student projects

- percentage of students who have done in-house projects including inter-departmental projects
- percentage of students doing projects in collaboration with other universities/industry/institute

UG

Year	Student Strength	Projects in house	Percentage	Projects in Collaboration with Industry / Institute	Percentage
2010	163	74	45.4	89	54.6
2011	247	112	45.3	135	54.7
2012	245	113	46.1	132	53.9
2013	247	113	45.7	134	54.3
2014	227	103	45.4	124	54.6

PG (DEAC)

Year	Student Strength	Projects in house	Percentage	Projects in Collaboration with Industry / Institute	Percentage
2010	23	4	17.3	19	82.7
2011	25	4	16	21	84
2012	25	6	24	19	76
2013	25	7	28	18	72
2014	25	2	8	23	92

PG (Microelectronics)

Year	Student Strength	Projects in house	Percentage	Projects in Collaboration with Industry / Institute	Percentage
2010	11	4	36.3	07	63.7
2011	18	3	16.6	15	83.4
2012	18	4	22.2	14	77.8
2013	17	2	11.8	15	88.2
2014	19	2	10.5	17	89.5

28. Awards/recognitions received at the national and international level by

- **Faculty** : Nil
- **Doctoral / post-doctoral fellows** : Nil
- **Students**

Year	Award Details	Awarded By
2010	Innovative Product Development: “Advanced Energy Monitoring System” working Prototype model- first Prize Seminar on Renewable Energy Sources and their applications- Best Paper Award	IIT Kharagpur/GE
	Presentation: “FLOSOBO” Floating Bridge concept which is totally new and world’s first bridge in this kind- first position in Innovation award.	IE, Mysore Local Centre, Mysore.
	Presentation: Business Plan on Indian Transport using Water Transportation by modified Bridge Structure –First Position in Corporate Business Plan	IIT, Roorkee
	Presented Business Plan on Indian Transport using Water Transportation by modified Bridge Structure- Ventura’10- Top 10	NIT, Trichy
	Presented Business Plan on Indian Transport using Water Transportation by modified Bridge Structure - First Prize	IIT, Madras
2011	“Aavishkar” an event in technical festival (Techtatwa) held at MIT, Manipal during September / October 2011 winning 3 rd Prize +2 months internship in Honeywell.	Honeywell
	Schneider Innovation Challenge – Blaze 2011 – Top 3	Schneider Innovation
2013	Presentation: INNOVIO 2013: Business Plan Competition. 2013	KIIT – Technology Business Incubator, KIIT University, Bhubaneswar,
2014	Presentation: ICCICCT-2014 – “Six DOF UAV Simulation using Wind Tunnel Test Data and Its Cruise mode Auto Pilot Design” Best paper in the International Conference	Noorul Islam University, Tamilnadu
	Presentation: Engg. IT Quiz – “TCS TECH BYTES” – I and II Prize in State level	BITES and Tata Consultancy Services

Participated: Quark beyond dimensions	BITS Pilani. II Prize
COGNIZANCE 2014 contest at IIT, Roorkee	I Prize
Texas Instruments India Analog Maker Competition 2014 Innovation Challenge	II Prize
Innovation day 2014	Award for solar electric vehicle
INTEL India Embedded challenge 2014	Best Project award (Rs /- 1,00,000)

29. Seminars/Conferences /Workshops organized and the source of funding (national / international) with details of outstanding participants, if any

Year	Major Event	Funding Agencies	Details about outstanding Participants
2012	National Workshop on “Analog and Mixed Signal Design” (AMSD-2012)	MU	Dr Mahant Shetty, MD, Karmic Microelectronics Pvt Ltd, Manipal Dr P V Ananda Mohan, R&D, ECIL, Bangalore Dr Laxminidhi, Asst. Professor, NITK, Surathkal Mr Vasant Rao, NITK, Surathkal.
2013	National Workshop on “Research Trends in Signal and Image Processing” (RTSIP - 2013)	MU	Dr. U.C.Niranjan, Director (Research & Training), Manipal Dot Net, Manipal. Dr. R. Kumaraswamy, Professor, SIT, Tumkur. Dr. Arulalan M R. Asst. Professor, Department of Electronics & Communication Engineering, NITK, Surathkal
	Two days workshop on “Curriculum Design”	MU	Prof.N.J.Rao, I.I.Sc, Bangalore
	National Workshop on “Emerging Applications in Computer Vision” (EACV’13)	MU	Dr Mahua Bhattacharya, IIITM, Gwalior Dr B.H.Shekar, Mangalore University Mr Harikrishna V.J, SJCE, Mysore Mr TabrezKhan S, Mathworks, Bengaluru Dr K.P.Rao, MIT, Manipal
2014	One day workshop on “COMSOL Multiphysics”	COMSOL	Mr. Siddharth Gadkari, COMSOL India, Bangalore

30. Code of ethics for research followed by the department.

As per Manipal University guidelines.

The basic responsibility of an EC is to ensure a competent review of all ethical aspects of the project proposals received and execute the same free from any bias and influence that could affect their objectivity. EC should provide advice to the researchers on all aspects of welfare and safety of the research participants after ensuring the scientific soundness of the proposed research through appropriate Scientific Review Committees. In smaller institutions the EC can up the dual responsibility of Scientific and Ethical Review.

The responsibilities of an EC can be defined as follows:

1. To protect the dignity, rights and wellbeing of the potential research participants
2. To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs
3. To assist in the development and the education of a research community responsive to local health care requirements.

31. Student profile course-wise:

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
<u>B.Tech Batch</u>					
<u>2006-10</u>	Admission is done as per the Manipal University admission policy (Refer data from admission department)	177	32	75.14	68.75
<u>2007-11</u>		189	56	95.2	94.6
<u>2008-12</u>		177	67	89.8	91.04
<u>2009-13</u>		185	70	83.8	85.7
<u>2010-14</u>		191	86	90.0	93.0

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
<u>M.Tech (DEAC) Batch</u>					
<u>2008-10</u>	Admission is done as per the Manipal University admission policy (Referred data from admission department)	20	03	100	100
<u>2009-11</u>		20	05	100	100
<u>2010-12</u>		19	06	100	100
<u>2011-13</u>		20	05	100	100
<u>2012-14</u>		17	08	100	100

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
<u>M.Tech (Microelectronics)</u>					
<u>2008-10</u>	Admission is done as per the Manipal University admission policy (Referred data from admission department)	09	02	100	100
<u>2009-11</u>		14	04	100	100
<u>2010-12</u>		15	03	100	0
<u>2011-13</u>		17	0	100	100
<u>2012-14</u>		14	05	100	100

32. Diversity of students

Name of the Course (refer to question no. 4)	Percentage of students from the same university	Percentage of students from other universities within the State	Percentage of students from universities outside the State	Percentage of students from other countries
M.Tech-2011-13 (DEAC)	..	36	56	8
M.Tech-2011-13 (Microelectronics)	5.8	11.8	82.4	...
M.Tech-2012-14 (DEAC)	..	38	62	...
M.Tech-2012-14 (Microelectronics)	...	55.5	44.5	..

33. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

As per the records available with us in the period 2010 -14, 47 students have gone for higher studies in India and abroad after clearing various competitive examinations.

34. Student progression

Student progression	Percentage against enrolled	
	Number	%
<u>UG to PG</u>		
2010	4	2.5
2011	19	8
2012	5	2.0
2013	8	3.3
2014	13	5
PG to MPhil
PG to PhD	5	20
PhD to Post-Doctoral
Employed	Number	%

Student progression	Percentage against enrolled	
• <u>Campus selection</u>		
2010-11	205	83.7
2011-12	194	79.5
2012-13	165	64.7
2013-14	175	63.2
• Other than campus recruitment.	Number	%
2010-11	42	17.1
2011-12	50	20.5
2012-13	90	35.3
2013-14	102	36.8
Entrepreneurs	10	1

35. Diversity of staff

Faculty who are of the graduates of:	%
same university (1)	1.70
from other universities within the State (46)	78.0
from universities from other States (11)	18.6
from universities outside the country (1)	1.70

36. Number of faculty who were awarded PhD, DSc and DLitt during the assessment period

Name of Faculty	Designation	Degree awarded	Year
Dr Vinod Kumar Joshi	Assistant Professor	PhD	2012
Dr T.G.S Chandrasekharappa	Professor	PhD	2012
Dr Anitha H	Associate Professor	PhD	2012
Dr D V Kamath	Professor	PhD	2013
Dr Bore Gowda	Associate Professor	PhD	2013
Dr Shounak De	Associate Professor	PhD	2013
Dr Kanthi M	Professor	PhD	2014
Dr Krishnamurthy Nayak	Associate Professor	PhD	2014
Dr Pallavi R Mane	Associate Professor	PhD	2014

37. Present details of infrastructural facilities with regard to

#	Name of Infrastructure	Description
a.	Library	<p>In addition to central library, department has its own library for the benefit of all the faculty members and the students. The faculty members are provided with internet facility. They have access to IEEE and other journals and proceedings. This has helped the faculty members in research work.</p> <ul style="list-style-type: none"> ▪ Total number of books in the department library: 291 ▪ Total number of Computers: 244

b.	Internet Facilities	Provided in each faculty cabin and for the students in labs and hostels (entire campus is Wi-Fi enabled)
c.	Class rooms	08 Class rooms and one seminar hall
d.	Class rooms with ICT facility.	The department has 08 state-of-the-art classrooms and one seminar hall with audio-visual (LCD) and internet facility. Faculty members use website resources and content developed by the faculty, which forms add-on learning apart from regular programme.

e. Student's Laboratories fully equipped Labs with all necessary hardware devices and software tools required for academic programme.

#	Laboratory	Utilized for	Equipments and tools available
1	Power Electronics Lab	Lab for undergraduate academic programme	Voltage and current sources, transformers, 3 phase rectifier models, power oscilloscopes, cyclo converters.
2	Electronics Lab-I	Lab for undergraduate academic programme	Digital trainer kits, Power supplies, Oscilloscopes
3	Electronics Lab-II	Lab for undergraduate academic programme	Digital trainer kits, Power supplies, Oscilloscopes.
4	Project Lab	Lab for undergraduate academic programme	IWATSU logic analyzer, PLC trainer kit, 60 MHz storage oscilloscope.
5	Communication + Fiber Optic Lab	Lab for undergraduate and postgraduate academic programme	Microwave devices , Satellite Communication trainer Kit, Antenna Trainer Model, Sampling and PCM kits, ISDN Training system, CDMA Trainer, LAN Trainer, Horn, Helix and slot antenna and Relays etc. Erbium Doped Fiber Amplifier and EDF Ring Laser.
6	Microprocessor & Microcontroller Lab	Lab for undergraduate academic programme	8051 and ARM processor kits, Embedded Kits, Simulation tools.
7	Computer Lab-I	Lab for undergraduate academic programme	Computers with 8086 Microprocessor Simulation and circuit simulation tools.
8	VLSI/DSP Lab	Lab for undergraduate and postgraduate programme	MYCAD ASIC Designing Tool Software, FPGA Advantage Software, Xilinx, Multi Sim Educational Software Spice (24 Users), Ultiboard Educational Software PCB Design, EPROM burners etc. The lab supports research activities on chip design. MATLAB Tool, EVM Development Kit, Image Developer Kit, Multi speech 3700 software, DSP Kit, Code Composer Studio 3.3 Software

f) Research laboratories: Fully equipped Labs with all necessary hardware devices and Software tools required for PG and research activities.

#	Laboratory	Utilized for	Equipments and tools available
1	Computer Lab. II	Lab for postgraduate and research programme	Soft computing tools for PG project execution.
2	PG Lab.	Lab for postgraduate and research programmes	MATLAB tools and VLSI design, testing and simulation software such as Cadence digital and analog tool set and Spectre simulator for digital, analog and mixed signal design and simulation
3	MEMS Lab	Lab for postgraduate and research programmes	COMSOL Multi-physics simulator, Intellisuit 8.2 with License for 2 nodes. The tool is used for simulating Acoustic sensors, cantilevers, Ultrasonic Transducers and Pressure sensors.

38. List of doctoral students

a) From the host university

#	Name of the Faculty	Research Topic	Reg. Date
1.	Mr Rajiv Mohan David	Broad band multirate signal processing for Spread Spectrum in Fading channels	31 st July 2009
2	Mr Prashanth Kumar Shetty	Ultra low power VLSI circuit design techniques for biomedical application	20 th August 2009
3.	Mr Jagadeesh Chandra R B	Design and development of Wearable Physiological Signal Monitoring System	6 th February 2010
4.	Mr Shailendra Kumar Tiwari	Design and Optimization of capacitive micro machined Ultrasonic Transducers (CMUTs) for Bio-Medical application	19 th March 2011
5.	Mr Ananthakrishna T	Automatic Speech-to-Text Transcription for Kannada Language	1 st October 2011
6.	Mr Sampath Kumar	Quantification of Spinal Deformities using 3D Reconstruction from biplanar radiographs.	5 th March 2012
7.	Mr Vishnumurthy Kedlaya	Investigation on Performance Enhancement of Cognitive radio systems	14 th April 2012
8.	Ms Ramya S	Online Kannada handwriting recognition using soft computing model	21 st April 2012
9.	Ms Aparna U	Optimization of Photonic crystal and surface plasmonpolariton based nano photonic devices.	13 th July 2012

10.	Mr Durga Prasad	Energy efficient inter sensor communication in wireless body sensor networks	15 th Oct 2012
11.	Mr. Madhushankar	Design of Low Power Miniaturized Self Activated Speech Aid.	31 st May 2013
12.	Mr R M Pargash Kumar	Fabrication and Characterization of Plasmonic Nanostructures for Photovoltaic Applications	10 th August 2013
13.	Ms Supriha BS	Soft Computing Models for Forecasting Ground Water Level in Lateritic Terrain	23 rd April 2014
14.	Mr Guruprasad	Investigation on Performance Improvement of a Low Drop Out Voltage Regulator	23 rd April 2014
15.	Mr Adarsh Rag S	Synthesis and Characterization of reduced Graphene Oxide (rGO) and Graphene for Supercapacitor Applications	8 th August 2014
16.	Mr Shashi Kumar GS	Hybrid Soft Computing Approaches for the Classification of Human Emotions Using Electroencephalogram (EEG).	22 nd Nov. 2014
17.	Mr Rohan Pinto	Memory Efficient folder Architecture for two Dimensional Lifting based Discrete Wavelet Transform	26 th Dec. 2014

b) From other universities

#	Name of the Faculty	Research Topic	Reg. Date	University
1.	Mr Ravilla Dilli	Adaptive Hybrid Routing Frame work in MANETs	August 2008	JNTUH, Hyderabad
2.	Mr R Vinoth	Biomedical Engineering.	September 2008	Periyar Maniammai University, Tanjore, TN
3.	Mr Pramod Kumar	Geographical location driven ranging and routing algorithms for wireless sensor networks (WSNs)	24 June 2009	NITK, Surathkal
4.	Professor T K Padmashri	Development of signal processing algorithms for detection of neurological disorders Progress of the work: Spectral entropy estimation and Neural network	July 2010	Kanchi University, Tamil Nadu
5.	Mr Ramasamy S	Design and development of real time physiological monitoring system for vehicle riders	January 2011	VIT, Vellore
6.	Mr H Srikanth Kamath	Wireless Communication	16 July 2012	Kalasalingam University, Srivilliputter, TN

7.	Mr Prashant M Prabhu	Study of Diversity Techniques for Wireless Communications over Fading Channels	2012	Visesvaraya Technological University, Belgaum
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39. Number of postgraduate students getting financial assistance from the university

20 per cent of postgraduate students from both Digital Electronics & Advanced Communication (DEAC) and Microelectronics branch, work as teaching assistants and assist the department in academic activities. University supports them with financial assistance.

2011:

#	Name of the student	Branch	Reg.No.
1	Dhanashekar A.M	DEAC	110915025
2	Radhakrishna Pai	Microelectronics	110942001

2012:

#	Name of the student	Branch	Reg.No.
1	Rajashekar K.R	DEAC	120915020
2	Vadiraj N Sansthanik	DEAC	120915007
3	Ashoka C.D	DEAC	120915032
4	Karunakar M Kamadoli	Microelectronics	120912016
5	BhaskarAwadhiya	Microelectronics	120912019

2013:

#	Name of the student	Branch	Reg.No.
1	Chaitali Gajanan Sathe	DEAC	130915007
2	Raghava Lasya	DEAC	120915002
3	Hridya Ashokan	DEAC	120915024

2014:

#	Name of the student	Branch	Reg.No.
1	Maithri M	DEAC	130915003

40. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

No new programmes have been introduced since last 05 years.

41. Does the department obtain feedback from

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

The department, being a part of MIT, which is a constituent Institute of Manipal University, enjoys academic freedom. There are regular minor and major course

revisions to the programmes. Minor revisions are being carried out at every semester and major revision is carried out once in four years. All faculty members are involved in the curriculum revision at the entry level. The syllabus and the revision will be framed by the senior faculty and discussed at the department meeting attended by all the faculty members. Department Curriculum Committee (DCC) at the entry level should approve the programme revision. The DCC constitutes of department experts, student representatives as-well-as representatives from industries and academic institutions of repute.

The curriculum approved by the DCC at the Institute level passes through the BOS, which also consists of student representatives as-well-as experts from industries and academic institutions of repute. Final approval is given by the Academic Senate. The last major revision of syllabus was implemented from the academic year 2014-2015.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

We have faculty advisor scheme (for higher semester students), where each faculty member monitors a set of students. The students can approach the faculty advisor regarding their academic problems. Faculty advisor forms an interface between his /her students and the faculty members/administrators concerned in solving students' problems.

We have class committees represented by both teachers and students. The committee meets twice /thrice a semester to discuss and solve academic problems and other issues. There are section coordinators and lab- in- charges to try and resolve issues related to students in classes and laboratories. We have a process to address/counsel academically weak students. As per the process, an academically weak student needs to be identified and effort is made to see that they are going to be one in the mainstream.

Inputs from the above are utilized for counselling teachers as-well-as students by the HOD / senior faculty. With the support of teaching assistants and faculty, additional classes are conducted for academically poor students.

At the end of the course work, feedback on teaching- learning is collected from the students for further improvement of academic process.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

Exit survey of outgoing students, alumni survey and employer feedback are collected and duly utilized during curriculum revision. With the support and feedback from industries, department offers elective courses and undertakes modernization of various laboratories.

Representatives from industry are also part of the Departmental Curriculum Committee (DCC). Feedback from them will be taken into consideration and revisions are incorporated.

42. List the distinguished alumni of the department (maximum 10)

#	Name of the Distinguished Alumni	Year of Passing
1.	Dr Narashima Bhat, Founder and MD, Manipal Dot Net Pvt Ltd, Manipal	1987
2.	Mr Satya Nadella, CEO at Microsoft, USA	1988
3.	Dr.U.Sripathi, Professor, Department of E& C Engineering, NITK, Surathkal, Karnataka State.	1988
4.	Mr Rajeev Suri, CEO at Multinational Communications and Information Technology, NOKIA, Finland	1989
5.	Dr Radhakrishna Sampigethaya, Associate Technical fellow BOEING Company, USA.	1997
6.	Mr. Dinesh R.Nayak, Delivery Lead, Huawei Technologies, Bengaluru.	1997
7.	Mr Jayant Sarkar, Senior Consultant, Business Excellence, Snapdeal, New Delhi	2007
8.	Ms Mayuri Agarwal, Senior Hardware Developer in Oracle, San Francisco, USA	2008
9.	Ms Trisha Pandey, Associate Manager at Procter and Gamble, Hyderabad, India	2008

43. Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts.

Year	Event	Details about experts
2010	A seminar on “Challenges in Submicron Device Fabrication Technology”	Professor C Ramachandra TESSOLVE Services Pvt Ltd, Bangalore
	A seminar on “Analog Circuit Design”	Dr P V Ananda Mohan, Fellow of IEEE R&D, Electronics Corporation of India Ltd Bangalore
	"Unravelling the Mysteries of Cellular World" a workshop, conducted by Institution of Engineers (India) – E and C Students' chapter	Dr Muralidhar Kulkarni, Professor of E and C, NITK, Surathkal
2011	A Guest lecture on “Synthesis and Design flow”	Mr Ramesh Kamath, Intel Corporation, Bangalore
	A guest lecture on “Full – Custom Design Flow”	Mr Manjunath Pai, Mask Design Engineer, San Disk Corp, Bangalore
	A Seminar on Antennas (Microstrip, Printed and Sensor Applications)	Professor Ramesh Garg, IIT Kharagpur

2012	National Workshop on Analog and Mixed Signal Design	Dr Mahant Shetti, KARMIC, Manipal Dr P V Ananda Mohan, ECIL, Bangalore Dr Laxminidhi T, NITK, Surathkal Mr D V Kamat, MIT, Manipal Mr Vasanth, NITK, Surathkal
	A Guest Lecture on “Electronic product design – from concept to reality”	Mr. Anand S, Triphase Technologie (P) Ltd., Bangalore
2013	National Workshop on Research Trends in Signal and Image Processing (RTSIP - 2013)	Dr U C Niranjan, Manipal Dot Net, Manipal Prof. Harish Kumar J.R, Dept. of ECE, MIT, Manipal Dr Anitha H, Dept. of ECE, MIT, Manipal Mr Sampath Kumar, Dept. of ECE, MIT, Manipal
	Two days workshop on “Curriculum Design”	Prof. N J Rao, IISc, Bangalore
	National Workshop on Emerging Applications in Computer Vision (EACV’13)	Dr Mahua Bhattacharya, IIITM, Gwalior Dr B.H.Shekar, Mangalore University Mr Harikrishna V.J, SJCE, Mysore Mr TabrezKhan S, Mathworks, Bengaluru Dr K.P.Rao, MIT, Manipal Mr Sampath Kumar, MIT, Manipal
2014	One day workshop on “COMSOL Multiphysics”	Mr Siddharth Gadkari, COMSOL India, Bengaluru
	A Guest Lecture on “Current Trends in Tele Communications”	Mr Dinesh R Nayak Delivery lead in Huawei Technologies , Bengaluru Alumni of Dept. of E&C Engg.
	A Guest lecture on “Aviation Cyber – Physical Systems & Cyber Security”	Dr Radhakrishna Sampigethaya Associate Technical fellow BOEING Company, USA Alumni of Dept. of E&C Engg., MIT, Manipal
	A Guest lecture on Nano-enabled MEMS based Sensors and Actuators	Prof. Tarun Kanti Bhattacharya, Professor, Electronics & Electrical Communication Engineering, Indian Institute of Technology, Kharagpur, India.
	A Guest Lecture on “Antennas & New Trends in Antennas”	Mr A.S.Vijay Kumar, Director Satcom Technologies Pvt.Ltd., Hyderabad
	A Guest Lecture on “Network Coding and Guessing Games”	Dr Soren Riis Reader, School of Electronic Engineering & Computer Science, Queen Mary, University of London
	A Guest Lecture on “Computational Intelligence & Machine Vision”	Dr K.Vijayan Asari Professor in Electrical & Comp.Engg. & Ohio Research Scholars Edward Chair in wide area, Surveillance at University of Dayton, Ohio

44. List the teaching methods adopted by the faculty for different programmes.

- Black board teaching for subjects involving intensive mathematical analysis.
- Power Point Presentations for subjects involving complex diagrams. Also for some subjects such as Basic Electronics involving large number of sections, to ensure uniformity in content delivery, a common set of PPT slides are used.
- Case studies – Used in teaching design based and management subjects.
- Assignments – All subjects of all semesters: involves five assignments at regular intervals.
- Mini-projects and demonstrations – In subjects such as Embedded Systems, VLSI design, Electronic Circuit design, Digital design, students have to work on a mini project and demonstrate its working. In subjects such as Circuit design using P-Spice, DSP using MATLAB, teachers demonstrate the concepts through examples.
- Industry visits – Faculty guided visits to nearby industries such as AIR Mangalore, BSNL, KarMic Manipal, MCF Hassan etc

45. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- i. Feedback from faculty members, students, alumni and employers
- ii. Result analysis after the examinations and counselling of under performers.
- iii. Regular revision of syllabus
- iv. Inputs from Placement cell
- v. Number of students opting for higher education

46. Highlight the participation of students and faculty in extension activities.

#	Association / Technical club	Participation in extension activities such as
1	IEEE student chapter	Technical workshops, seminars, guest lectures.
2	IE (E & C) student chapter	Technical workshops, seminars, guest lectures.
3	ISTE student chapter	Technical workshops, seminars, guest lectures.
4	IAESTE , AIESEC	Student exchange programmes
5	Major interdisciplinary student Projects such as; PARIKSHIT, FORMULA MANIPAL, SOLAR MOBILE, ROBO MANIPAL, MANIPAL RACING.	Opportunity for the students to work in a large group, execute tasks with tight deadlines, develop leadership qualities and team spirit.
5	FDP, Guest talks, conferences and Workshops organized within and outside.	Faculty and students are encouraged to participate
6	“Tech Tatva” and “REVELS”	Technical paper presentations, competitions and cultural events.
7	Department of Sports for students	Sports and games
8	Faculty club	Sports, games and cultural events

47. Give details of “beyond syllabus scholarly activities” of the department.

S/N	Event	Beyond syllabus scholarly activities
1	Review / Edit of journal papers	Faculty are reviewers / editors of International journals.
2	Guest lectures / talks	Faculty are resource persons and have delivered technical talks in other institutions/ universities. Faculty from other institutions / industries are also invited to deliver talks.
3	Funded projects	Faculty are involved in research projects.
4	Technical associations /clubs	Students are actively involved in various activities of these associations / clubs. Faculty advisors monitor these activities.
5	National / International Conferences / workshops/Seminars/Guest talks	Department has been organizing these events for the benefit of faculty and students. Also faculty members are participating / presenting papers at workshops / conferences in India and abroad to improve their academic knowledge, skills and research capabilities.

48. State whether the programme/department is accredited /graded by other agencies? If yes, give details.

Programme was accredited by NBA in 2007 for three years. The department has already submitted the Self Assessment Report (SAR) and is currently waiting for the visit of NBA committee for renewal of accreditation.

49. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

In the following way, the department contributes to the generation of new knowledge.

1. Funded Research and consultancy.
2. Filing of IPR.
3. Technical publications in national and international journals / conferences.
4. Authoring text books and book chapters.
5. Execution of socially relevant UG and PG projects.
6. Delivering keynote, invited, guest lectures.
7. Resource persons in workshops and FDPs.

50. Future plans of the department.

1. To get recognition for the department as a QIP centre
2. To start consultancy in core areas of research.
3. Improve research collaboration with other institutions.
4. MOU with reputed industries.
5. To start new undergraduate and postgraduate courses.

52. **Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**

Strengths

1. Infrastructure facilities built to desired level.
2. High quality library facilities with subscription to large number of scientific journals.
3. Notable achievements by alumni.
4. Well qualified and experienced faculty members.
5. Academic Collaboration with leading industries of repute.
6. Regular faculty development programmes.
7. Retention of quality faculty.
8. Incentives and rewards for quality research output.

Weaknesses

1. More emphasis on teaching than research.
2. Tendency to underestimate our own research.
3. Inability to attract high quality research students.

Opportunities

1. Availability of multidisciplinary and interdisciplinary ambience.
2. Large pool of alumni base, spread across all over the world in diverse domains.
3. Large number of young faculty members.

Challenges

1. Competition from other institutions.
2. Attracting external funding for research and consultancy.

1. **Name of the Department** : **Electrical and Electronics Engineering**
2. **Year of Establishment** : 1960
3. **Is the Department part of a School/Faculty of the University?**

Department is the part of the Manipal Institute of Technology

4. **Names of Programmes/Courses Offered (UG, PG, MPhil, PhD, Integrated Masters; Integrated PhD, etc.)**

Program	Course Name
UG	B. Tech. in Electrical & Electronics Engineering
PG	M. Tech. in Energy Management, Auditing and Lighting
	M Tech in Power Electronics Systems and Control
PhD	Specialized areas of electrical engineering

5. **Interdisciplinary Courses and Departments Involved: (Subjects except Open Electives)**

Sl. No.	Interdisciplinary Course	Department involved
1.	Engineering Mathematics I	Mathematics
2.	Communication Skills in English	Humanities and Management
3.	Mechanics of Solids	Civil Engineering
4.	Basic mechanical engineering	Mechanical and Manufacturing
5.	Engineering Physics	Physics
6.	Basic Electronics	Electronics and Communication
7.	Engineering Mathematics II	Mathematics
8.	Environmental Studies	Civil Engineering
9.	Basic Electrical Technology	Electrical and Electronics Engineering
10.	Engineering Chemistry	Chemistry
11.	Engineering Graphics	Mechanical and Manufacturing
12.	Engineering Mathematics III	Mathematics
13.	Engineering Mathematics IV	Mathematics
14.	Essentials of Management and Engineering Economics	Humanities and Management
15.	Biology for Engineers	Biotechnology
16.	Problem solving using computers	Computer science
17.	Financial Management	Humanities and Management
18.	Human resource management	Humanities and Management
19.	Marketing management	Humanities and Management
20.	Operations and systems management	Humanities and Management

6. **Courses in Collaboration with Other Universities, Industries, Foreign Institutions, etc.:**

Name of the course	Industry
Advanced energy management	Schneider electric, Bangalore
Advanced energy system lab	Schneider electric, Bangalore
Computer Networks	CISCO

7. **Details of Programmes/Courses Discontinued, if any, with Reasons:** NIL

8. **Annual/Semester/Choice Based Credit System:** Semester based credit system

9. **Participation of the Department in the Courses Offered by Other Departments:**

Interdisciplinary Course	Department Involved
Electric Drives and Special Machines	Mechatronics Engineering
Introduction to Signal Processing	Mechatronics Engineering
Power Electronics	Mechatronics Engineering

10. **Number of Teaching Posts Sanctioned and Filled (Professors/Associate Professors/Assistant Professors).**

	Sanctioned	Filled	Remarks
Professor	8	6	In process to fulfil the requirement
Associate Professors	15	5	In process to fulfil the requirement
Assistant Professors	31	40	To keep student to faculty ratio 1:15
Total	54	51	

11. **Faculty member profile with Name, Qualification, Designation and Specialization (DSc/DLitt/PhD/MPhil, etc.)**

#	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D Students Guided for the Last Four Years
1	Dr. Vinod V. Thomas	B.E., M. Tech., Ph.D.	Professor	Power electronics and drives	32	01
2	Dr. Chandrashekara S. Adiga	B.E., M. Tech., Ph.D.	Professor	Power Systems, Illumination Tech.	25	02
3	Dr. Ciji Pearl Kurian	B. Tech., M. Tech., Ph.D.	Professor	Illumination Engineering	28	04
4	Dr. Savitha G. Kini	B.E., M. Tech.,	Professor	Illumination Engineering	25	03

#	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D Students Guided for the Last Four Years
		Ph.D.				
5	Dr. Birendra Kumar Singh	B.E., M. Tech., Ph.D.	Professor	Power Systems	34	01
6	Dr. P. Giridhar Kini	B.E., M. Tech., Ph.D.	Professor	Engineering Management	16	-
7	Mr. V. Nagaraj	B.E., M.E.	Assoc. Prof. – Senior Scale	Power Systems	37	-
8	Mr. Mohan Kumar S.	B.E., M. Tech.,	Assoc. Prof. – Senior Scale	Computer Science and Engineering	28	-
9	Mr. T. Sudheer Kumar	B.Sc., M.Sc., (Ph.D.)	Assoc. Prof. – Senior Scale	Power Systems	30	-
10	Mrs. Jayalakshmi N. S.	B.E., M. Tech., (Ph.D.)	Assoc. Prof. – Senior Scale	Power Systems	23	-
11	Dr. R. Shivarudra Swamy	B.E., M. Tech., Ph. D.	Associate Professor	Renewable energy systems	13	-
12	Mr. H. V. Gururaja Rao	B.E., M. Tech., (Ph.D.)	Asst. Prof. – Selection Grade	Power Systems	21	-
13	Mrs. R. C. Mala	B.E., M. Tech., (Ph.D.)	Asst. Prof. – Selection Grade	Power Systems	23	-
14	Mrs. Vijayalaxmi	B.E., M. Tech., (Ph.D.)	Asst. Prof. – Selection Grade	Computer Applications to Industrial Drives	21	-
15	Mrs. Sandhyalaxmi G. Navada	B.E., M. Tech., (Ph.D.)	Asst. Prof. – Selection Grade	Comp Science and Engineering	17	-
16	Mr. Shailesh K. R.	B.E., M. Tech., (Ph. D)	Asst. Prof. – Selection Grade	Illumination Engineering	12	-
17	Mr. Harish Kumar J. R.	B.E., M. Tech., (Ph. D)	Asst. Prof.– Selection Grade	Industrial Electronics	16	-
18	Mr. Laxman Rao S. Paragond	B.E, M. Tech., (Ph.D.)	Asst. Prof.– Senior Scale	Power Electronics	12	-
19	Mrs. Chandrika B. K.	B.E., M. Tech., (Ph. D)	Asst. Prof.– Senior Scale	Industrial Electronics	16	-
20	Mr. K. Shankaranarayana	B.E., M. Tech.	Asst. Prof.– Senior Scale	Power and Energy Systems	13	-
21	Mr. James Antony Pinto	B.E., M.E.	Asst. Prof. – Senior Scale	Power Systems	09	-
22	Mrs. Soubhagyaseetha N.	B.E., M. Tech.	Asst. Prof. – Senior Scale	VLSI Design and	11	-

#	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D Students Guided for the Last Four Years
				Embedded Systems		
23	Mrs. Bindu S.	B. Tech., M. Tech., (Ph.D.)	Asst. Prof. – Senior Scale	Power Systems	08	-
24	Mrs. Bharathi R. B.	B.E., M. Tech.	Asst. Prof. – Senior Scale	Biomedical Engineering	09	-
25	Mr. Ganesh Kudva	B.E., M. Tech.	Asst. Prof. – Senior Scale	Power and energy system	11	-
26	Mrs. Susan G. Varghese	B.E., M. Tech., (Ph.D.)	Asst. Prof.	VLSI Design	07	-
27	Mr. Sudheendra Prabhu	B.E, M. Tech.	Asst. Prof.	Digital Electronics	07	-
28	Mr. Pramod Antony D'Sa	B.E., M. Tech.	Asst. Prof.	Power Electronics and Drives	08	-
29	Mrs. R. Srividya	B.E, M. Tech., (Ph.D.)	Asst. Prof.	VLSI Design	05	-
30	Ms. Swathi Tangi	B.E., M. Tech.	Asst. Prof.	Power and Energy Systems	05	-
31	Mr. Vineeth Patil	B.E., M. Tech.	Asst. Prof.	Power Electronic Systems and Control	07	-
32	Mr. Vikas Kumar Jhunjhunwala	B.E., M. Tech.	Asst. Prof.	Power and Energy Systems	04	-
33	Mr. Siddaraj	B.E., M. Tech.	Asst. Prof.	Power and Energy Systems	04	-
34	Mrs. Sowmya R.	B.E., M. Tech.	Asst. Prof.	Power Electronic Systems and Control	04	-
35	Mrs. Namratha Pai	B.E., M. Tech.	Asst. Prof.	Energy Management, Auditing and Lighting	04	-
36	Mr. Vedavyasa Kamath	B.E., M. Tech.	Asst. Prof.	Energy Management, Auditing and Lighting	04	-
37	Mr. Sarun Soman	B.E., M. Tech.	Asst. Prof.	Power Electronic Systems and Control	04	-
38	Mrs. Divya Shetty	B.E., M. Tech.	Asst. Prof.	Power Electronic Systems and Control	04	-
39	Mrs. Shwetha V.	B.E., M. Tech.	Asst. Prof.	Digital Electronics	03	-

#	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D Students Guided for the Last Four Years
40	Mr. Siddhartha	B.E., M. Tech.	Asst. Prof.	Energy Management, Auditing and Lighting	03	-
41	Mrs. Ranjana G.	B.E., M. Tech.	Asst. Prof.	Power Electronic Systems and Control	03	-
42	Mr. Adarsh S.	B.E., M. Tech.	Asst. Prof.	Power Electronic Systems and Control	02	-
43	Mr. Satyakam	B.E., M. Tech.	Asst. Prof.	Control systems	02	-
44	Mr. Vipin V.	B. Tech., M. Tech.	Asst. Prof.	Power Electronic Systems and Control	02	-
45	Ms. Akshatha Lakshmi U. S.	B.E., M. Tech.	Asst. Prof.	Power Electronic Systems and Control	02	-
46	Mr. Lokesh J.	B.E., M. Tech.	Asst. Prof.	Energy Management, Auditing and Lighting	02	-
47	Mrs. Suprabha Padiyar U.	B.E., M. Tech.	Asst. Prof. on contract	Power Electronic Systems and Control	04	-
48	Mr. Harshendra N. Shet K.	B.E., M. Tech.	Asst. Prof.	Energy Management, Auditing and Lighting	03	-
49	Mrs. Geethi Krishnan	B. Tech., M. Tech.	Asst. Prof.	Power and Energy Systems	01	-
50	Ms. Athulya Jyothi V.	B. Tech., M. Tech.	Asst. Prof.	Power Electronic Systems and Control	01	-
51	Ms. Shruthi Ramachandra	B.E., M. Tech.	Asst. Prof.	Power Electronic Systems and Control	01	-

12. List of Senior Visiting Fellows, Faculty Member, Adjunct Faculty Member, and Emeritus Professors.

Adjunct Faculties

- i. Dr. B. Ghosh, Director School of Energy Studies, Jadhavpur University.
- ii. Mr. Babu Narayan, Additional Director, CPRI, Bangalore.

13. **Percentage of classes taken by temporary faculty member – Programme-wise Information** :NIL

14. **Programme-wise Student Teacher Ratio**

i. UG: 1:15

ii. PG: 1:12

15. **Number of Academic Support Staff (Technical) and Administrative Staff:**

Category	Sanctioned	Filled
Academic support staff	23	22
Administration staff	3	2

16. **Research Thrust Areas Recognized by Funding Agencies:**

Lighting and Energy Studies

Power and Energy systems

Embedded Systems

Power Electronics and Drives

17. **Number of Faculty member with Ongoing Projects from a) national b) international Funding Agencies and c) Total Grants Received. Give the Names of the Funding Agencies and Grants Received Project-wise**

Name of faculty	Funding agency	Grants
Dr. Ciji Pearl Kurian	DST fund for the research project, 'Adaptive control of daylight-artificial light integrated scheme'	16.4 lakhs (2009-12) 28 July 2009-1 March 2012

18. **Inter-institutional Collaborative Projects and Grants Received**

a) All India Collaboration b) International : NIL

19. **Departmental Projects Funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received.**

- PG students undergo internship with stipend at industries such as Vijayawada Thermal Power Station, Honeywell, Tata Elxsi, Schneider, Hbl Power Systems Ltd., Ap Transco, Greenwich Nexen Energy Solutions, Dintis Technologies Pvt.Ltd, Philips Innovation Centre, Microtek Internationals ,Ge India Industrial Pvt Ltd, Philips Lumileds, Wipro Lighting, Philips Electronics India Limited, Syncolite India Pvt Ltd. etc

- Full time research scholars with internal funding by the University. They work in the areas of Lighting Controls.
- IAESTE students go abroad and execute live projects with scholarship in various countries such as Germany, Japan, UK in domains of Lighting control and Energy Studies, Power Electronics and Drives, Embedded Systems, Power and Energy Systems.
- IAESTE students coming from abroad work on MU funded projects in similar domains mentioned above.

20. Research Facility/Centre with

- **State Recognition**
- **National Recognition**
- **International Recognition**
 - MUTBI as central facility funded by state and central governments and Manipal University. Office space, support for setting up a start-up and seed money are provided to entrepreneurial students. To identify potential business ideas, the centre conducts provenance, an annual event.
 - Central Instrumentation Facility funded by Manipal University to meet the requirements of various research projects.

21. Special Research Laboratories Sponsored by/Created by Industry or Corporate Bodies

- Advanced Energy System Lab Sponsored by Schneider Electric Ltd, as a part of academic MOU
- Cranes Software International Ltd. Bangalore, sponsored ASLKV2010 Starter kit, C2000 Launch Pads, C2000 Digital Power Experimenter Kit and C2000 based DRV8312 3-phase Brushless motor Control kit for teaching/research purpose as a part of MOU.
- Texas Instruments sponsored F28035 Piccolo Experimenter's kit, DRV8839 Evaluation module, Evaluation module for TPS92070 Dimmable Quasi-Resonant LED lighting controller and TMS320F2835 Experimenter Kit for technical-contest/teaching/research purpose.
- Academic Exchange programme by Indian Naval Academy , Kerala , India

22. Research Output in last 3 years

	2012	2013	2014
Completed funded research projects	-	-	-
Completed non-funded research projects	-	-	-
Completed PhD research projects	2	2	-
Completed PG research projects	36	34	36
Completed UG research projects	18	20	23
Publications	International	13	11
	National	1	6
Books	1	-	-
Chapters in books	-	-	-

Conference presentations	International	19	18	38
	National	4	8	-

Publications:

- * **Number of Papers Published in Peer Reviewed Journals (National/International) :**

International Journal

Year	Faculty Name	Journal	Paper title
2012	Dr.Ciji Pearl Kurian	Lighting Research & Technology, UK	Integrated design and real-time implementation of an adaptive, predictive light controller
	Dr.Savitha G. Kini	World Academy of Science, Engineering and Technology	Study on Specific Energy in Grinding of DRACs: A Response Surface Methodology Approach
	Mrs.Vijayalaxmi	International Journal of Advances in Engineering Science and Technology	Computational intelligence approaches and Evolutionary algorithms: A Study for Financial Derivatives
	Mr. Shailesh K. R.	International Electrical Engineering Journal	Solid State Lighting Reliability from Failure Mechanisms Perspective: A Review of Related Literature
	Dr. R. Shivarudraswamy	Journal of Electric Power Systems and Components	Coordinated voltage regulation of distribution network with distributed generators and multiple voltage control devices
	Dr. R. Shivarudraswamy	International Journal of Science Engineering and Research	Coordinated voltage control with reactive powers of the distributed generators using genetic algorithm
	Rahul Dubey	Electric Power Components and Systems	A Novel Time-Frequency Transform Based Spectral Energy Function for Fault Detection During Power Swing
	Rahul Dubey	IEEE PES Transactions on Power Delivery Manuscript ID: TPWRD-00804-2011	Adaptive Distance Relay Setting for Transmission lines in presence of UPFC and Wind Farms
	Rahul Dubey	IET Generation, Transmission & Distribution Manuscript ID: GTD-2012-0144	Wavelet Singular Entropy (WSE) based Out-of-Step protection and Symmetrical Fault Detection during Power Swing
Dr. Chandrashekara Adiaga S.	Advanced Materials Research Vols. 403-408 (2012) Trans	FPGA based Reconfigurable Computing Systems: A New Design Approach - A Review	

		Tech Publications, Switzerland	
	Dr. Ciji Pearl Kurian	International Journal on Advanced Science Engineering Information Technology, Vol 2 no.1, pp 38 -43	Vibration Control of Flexible Spacecraft Using Adaptive Controller
	Dr. Ciji Pearl Kurian	International Journal of Computer Science and Engineering, Vol 1, Issue 2, pp 172.	Image based Wireless Networked Lighting Control for Daylight- Artificial Light Integrated Scheme- A Literature Review
	Dr. Savitha G. Kini	International Journal of Science and Engineering investigations, Volume 1, issue 10, November 2012.	Prototype Development of Voltage Based Solar Tracker Algorithm
2013	Dr. Birendra Kumar Singh	International Journal of Science & Research	RC Snubber Circuit Design for Thyristor using Turn-Off Model in Pspice
	Prof. V. Nagaraj	International Journal of Modern Engg Research	Proteus Based Simulation of PV Inverter for Rural Electrical Service
	Prof. V. Nagaraj	International Organization of Scientific Research Journal of Electrical & Electronics	Novel Battery Charging Control System for Batteries using On/Off & PWM Controllers for Stand- alone Power Systems
	Mr. H. V. Gururaja Rao	International Journal of Advanced Electrical and Electronics Engineering	Analysis of High Frequency Multi- Phase Multi-Stage Boost Converter
	Mrs. Sandhyalaxmi G. Navada	International Journal of Electrical Energy	A Study on Daylight Integration with Thermal Comfort for Energy Conservation in a General Office
	Mr. Vineeth Patil	International Journal of Engineering & Innovative Technology	Energy Saving Approach for Buildings
	Dr. Savitha G. Kini	International Journal of Systems, Simulation Science & Technology	Design and Analysis of LED Based High Mast Lighting Systems
	Dr. Birendra Kumar Singh	International journal of Science and research	Dynamic modelling of six pulse rectifier using MATLAB

	Mrs. Vijayalaxmi	International Journal of Advanced Computer Research	Network routing problem-A simulation environment using Intelligent technique
	Mr. Shailesh K. R.	International Journal of Computer Applications	Computer Aided Lighting Requirement Analysis and Design for a Health Care Facility
	Susan G Varghese	International Journal of Computer Science and Engineering	Image based Wireless Networked Lighting Control for Daylight-Artificial Light Integrated Scheme-A Literature Review
2014	Mrs. Jayalakshmi N. S.	International Journal of Engineering, Science and Technology	Modelling and control strategy for grid integrated distributed generation systems with maximum power extraction capability
	Mrs. Jayalakshmi N. S.	International journal of distributed energy resources & Smart grids	Modelling and performances analysis of grid integrated hybrid wind and PV based DG system with MPPT controller
	Mrs. Jayalakshmi N. S.	International Journal of renewable energy research	Maximum power point tracking for grid integrated variable speed wind based distributed generation system with dynamic loads
	Mr. Laxman S. Paragonda	International Journal of Industrial Electronics and Electrical Engineering	Design and Simulation of wind and Solar hybrid system under Isolation mode of operation
	Mr. Sudhir Kumar	International Journal of Engineering Research & Technology	Camera Calibration curves for luminance data acquisition using MATLAB
	Mr. Shailesh K. R.	Lighting Research and Technology, SAGE Publications	Measurement of junction temperature of light-emitting diodes in a luminaire
	Ms. Swathi Tangi	International Journal of Advanced Research in Electronics and Communication Engineering	Simulation of On-board diagnostics in Automobiles using CAN Protocol
	Mrs. Sandhyalaxmi G.Navada	International Journal of Engineering Research & Technology (IJERT)	Thermal - Visual Comfort Analysis
	Mrs. Sandhyalaxmi G. Navada	International Journal of Engineering Research & Technology (IJERT)	Daylight Harvesting Control System:- A novel and open source approach to a greener future
	Mrs. Vijayalaxmi	Journal of	Digital Circuits Optimization: An

		Electronics and Computer Science Engineering	Intelligent Approach- A Simulation Study
	Mrs. Jayalakshmi N. S.	International Journal of Distributed Energy Resources and Smart Grids	Dynamic Modelling and performance study of DC micro grid in grid connected and isolated mode of operation with maximum power extraction capability
	Dr. Sudheer Kumar T.	International Journal of Engineering Research & Technology, ISSN: 2278-0181	Camera Calibration curves for luminance data acquisition using MATLAB
	Mrs. Jayalakshmi N. S.	International Journal of Renewable Energy Research	Dynamic Modelling and Performance Study of a Stand-alone Photovoltaic System with Battery Supplying Dynamic Load

National Journal

Year	Faculty Name	Paper title	Journal
2012	Dr. Savitha G. Kini	Application of MATLAB in Test data reporting	Lighting India, Magazine
2013	Dr. P. Giridhar Kini	Application of synchronized phasor measurement technology in renewable energy systems	Journal of CPRI
	Dr. P. Giridhar Kini	Z source inverter for maximum power point tracking in solar photovoltaic systems	Journal of CPRI
	Dr. P. Giridhar Kini	Load emulators for testing of power supplies - a review	Journal of CPRI
	Dr. P. Giridhar Kini	Single phase transformerless grid tied inverter with maximum power point tracking for solar photovoltaic roof top systems	Journal of CPRI
	Dr. P. Giridhar Kini	HERIC configuration based back to back converter with reduced losses for regenerative load application	Journal of CPRI

- * **Monographs:** NIL
- * **Chapters in Books:** NIL
- * **Edited Books :** NIL
- * **Books with ISBN with Details of Publishers:**

Faculty Name	Book Title	Co-author	Publisher	Subject	Publication Date	ISBN
Dr Ciji Pearl Kurian	Digital Control Systems	Dr. V. I. George	CENGAGE Publishers (P) Ltd, New Delhi	Control Systems	November 2012	9788131518359

- * **Number Listed in International Database (For e.g., Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)**
- * **Citation Index – Range/Average:** 1-28/8.5 [Google Scholar]
2-11 /4.21[Scopus Index]
- * **SNIP:** NIL
- * **SJR :** NIL
- * **Impact Factor – Range :** 0.5 – 1.5
- * **H-index:** 2.25

23. **Details of Patents and Income Generated:** NIL

24. **Areas of Consultancy and Income Generated**

Sl. No.	Area of consultancy	Income generated
1	Photometric Testing	Rs. 1.25 lakh / year

25. **Faculty Selected Nationally/Internationally to Visit Other Laboratories in India and Abroad**

1. Dr. Ciji Pearl Kurian, Schneider Electric Bangalore
2. Dr. Savitha G. Kini , IIT Bombay, Schneider Electric Bangalore
3. Mr. Gururaj Rao, Schneider Electric Bangalore
4. Mr. Shailesh K. R., Schneider Electric Bangalore
5. Mrs. Sandhyalaxmi G., CISCO , Bangalore

26. Faculty Member Serving in

- a) National Committees b) International Committees c) Editorial Boards d) any Other (please Specify)

Faculty Member	National Committees	International Committees	Editorial Boards
Dr C.S. Adiga		Advisory Committee of International Conference on Computer Communication and Informatics (ICCCI 2012) held on 10 - 12, Jan 2012, at Coimbatore	
Dr Ciji Pearl Kurian			International Editorial Advisory Board of Lighting Research and Technology Journal, UK
Laxman Rao Paragond	BOS member for Electrical and Electronics Department, Poojya Doddappa Appa College of Engineering, Gulbarga		
Mr. Gururaj Rao	Panel Member for the Selection of Assistant Engineers (Electrical), Madhya Pradesh Government		

27. Faculty Member recharging strategies

- i. Financial benefit can be availed by faculty to participate and present papers in India and abroad under Faculty Development Programme (FDP).
- ii. Faculty member can pursue his/her PhD in premier institutions in India and abroad.
- iii. Faculty members are permitted to participate in seminars/lectures/workshops etc., conducted by the department and other departments/institutions of the University to enhance their technical knowledge and skills.
- iv. Faculty are trained by industry to offer relevant courses.
- v. Internal FDP with senior faculty as resource persons.

28. Student Projects

- **Percentage of Students Who have Done in-house Projects Including Inter-departmental Projects**
- **Percentage of Students Doing Projects in Collaboration with Other Universities/Industry/Institute**

UG

Year	Student Strength	Projects in house	Percentage	Projects in Collaboration with Industry / Institute	Percentage
2012	159	109	68.55	50	31.45
2013	140	100	71.43	40	28.57
2014	184	120	65.21	64	34.79

PG (Energy Management and Lighting)

Year	Student Strength	Projects in house	Percentage	Projects in Collaboration with Industry / Institute	Percentage
2012	18	3	16.67	15	83.33
2013	17	3	17.65	14	82.35
2014	18	5	27.78	13	72.22

PG (Power Electronics System and Control)

Year	Student Strength	Projects in house	Percentage	Projects in Collaboration with Industry / Institute	Percentage
2012	18	2	11.11	16	88.89
2013	17	1	5.89	16	94.11
2014	18	7	38.89	11	61.11

29. Awards/Recognitions Received at the National and International Level by

Faculty Member	Awards/Recognitions Received at the National and International Level by
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Dr.Ciji Pearl Kurian, Professor, E and E	<ul style="list-style-type: none"> • Member of International Advisory Board of Lighting research & Technology Journal, UK. • NI MANTRA Award 2008 for Student Project • IE Best Paper Award 2008 • Invention Award2011(ID: IN-814205) for the Research Project • Chairing the Session in International Conference ICASEIT 2011 at Kuala lumpur • Chairing the Session in IEEE International Conference ICIEA 2012 at Singapore • DST Funding for Research Student's Project • Reviewer for IEEE Sensor Journal and LRT • Mentor award in 2013 by TI Analog design contest • Senior member - IEEE
Dr Savitha G Kini	<ul style="list-style-type: none"> • Reviewer and Chairing the Session in IEEE International Conference ICIEA 2012 at Singapore • Mentor award in 2014 by TI Analog design contest
Shailesh K. R.	<ul style="list-style-type: none"> • Mentor award in 2014 by TI Analog design contest

30. Seminars/Conferences/Workshops Organized and the Source of Funding (National/International) with Details of Outstanding Participants, if any.

Year	Details	Sources of Funding	Outstanding Participants
2012	National Conference on Advances in Energy Conversion Technologies AECT 2012	CSIR, MNRE	<ul style="list-style-type: none"> • Dr. Ashoka K. S. Bhat, Professor, Department of Electrical and Computer Engineering, University of Victoria, Canada gave an invited talk on "Electrical Energy Management" • Dr. B.Ghosh, DSc.(Engg.) Professor of Energy Science & Technology, Director, School of Energy Studies, Jadavpur gave a keynote address on "Energy Resources: Outlook and Impacts" • P.G.S.Kumar, Director(Technical), MRTG Power Diagnostic Tests Pvt.Ltd., Hyderabad gave a talk on "Power scenario in India and challenges to meet the demand" • Dr.K.N.Shubhanga, NITK, Suratkal gave a pre-conference tutorial on "Power system modeling and simulation"

	National residential workshop Energy Efficient Lighting Solutions	Society of Energy Engineers & Managers; Canara Lighting Industries Pvt. Ltd., Mangalore	<ul style="list-style-type: none"> • Dr. Radhakrishna S. Aital, Ex-Joint Director, MIT, Manipal & Sr. Professor in Illumination Engg., Dept. of E&E, MIT, Manipal • Mr. Prabhav N. Rao, Director, Leaf Frog Solutions, Bangalore
	Faculty development program on 'Analog Circuit Design – Phase 1'		Dr. P. Subbanna Bhat, Sankalp semiconductors Pvt. Ltd., Hubli
2013	National Conference on Advances in Energy Conversion Technologies (AECT 2013)	<ul style="list-style-type: none"> • Dept. of Science & Technology, Ministry of Science & Technology, Govt. of India • Council of Scientific & Industrial Research (CSIR) • Udupi Power Corporation Limited, LANCO • G. Shankar Family Trust @, Udupi • State Bank of India • Syndicate Bank 	<ul style="list-style-type: none"> • Dr Ashoka K.S. Bhat, Professor, Department of Electrical and Computer Engineering, University of Victoria, Canada gave a keynote address on "Power Electronic's role in Energy systems" • Dr. S.R.Samantaray, Assistant Professor , School of Electrical Science . IIT Bhubaneswar gave a pre-conference tutorial on "Protection of Distributed Generation Systems. • Dr.V.T.Som Shekhar, Professor Department of Electrical Engineering, NIT, Warangal gave a pre-conference tutorial on "Multi-level Inverter configurations with open end winding induction motor" and " PWM Techniques for Multi-level Inverters". • Dr.Ashoka S, Professor, Department of Electrical Engineering, NIT Calicut gave a a invited talk on "Power quantity Vs Power Quality and towards Smart grid" • Dr.R.S.Aithal Principal SMVITM, Bantakal gave a invited talk on "Energy crisis and Human Development Index: Some Sustainable Solutions" • Dr.S.Ghatak Choudhuri , Asst. Professor , IIT Roorkee gave a invited talk on "Induction Motor Operated in Vector Control Mode to Conserve Electric Energy"

2013	Faculty development program on 'Analog Circuit Design – Phase 2'		Dr. P. Subbanna Bhat, Sankalp semiconductors Pvt. Ltd., Hubli
	Graphical System Design using LabVIEW (GSDL - 2013)		<ul style="list-style-type: none"> • Dr. Jovitha Jerome, Professor, PSG College of Technology, Coimbatore • Dr. K. V. Gangadharan, Professor, NITK, Suruthkal
	Power System Transients & Simulation Fundamentals		<ul style="list-style-type: none"> • Mr. Shiva Kumar, Associate Engineer, Nayak Power Systems Pvt. Ltd., Bangalore
	MATLAB and Simulink for Engineering Educators		<ul style="list-style-type: none"> • Mr. Pradeep Nanjappa, Senior Technical Evangelist, MathWorks India Private Limited, Bangalore
2014	International Conference on Advances in Energy Conversion Technologies (ICAECT 2014)	<ul style="list-style-type: none"> • Schneider Electric • Dept. of Science & Technology, Ministry of Science & Technology, Govt. of India • Council of Scientific & Industrial Research (CSIR) • CoreEL Technologies • CRANES • TI university program 	<ul style="list-style-type: none"> • Dr. B. Satyanarayana, Tata Institute of Fundamental Research, Mumbai • Dr. Subhasis Nandi, Professor, University of Victoria, Department of Electrical and Computer Engineering, Canada gave a keynote speech on "Fault Analysis and Condition Monitoring of Electrical Machines" • Dr. Ramakrishna Gokaraju, Department of Electrical Computer Engineering University of Saskatchewan, Canada gave a invited talk on "Adaptive Control of FACTS devices" • Dr. B. Satyanarayana, Tata Institute of Fundamental Research, Mumbai gave a keynote Speech on "Electronic Systems Challenges and Opportunities in Basic Science Research" • Dr. Shekhar M. Kelapure, GE Global Research Bangalore gave a keynote Speech on "Power System Operations and Role of Smart grid"
2014	1 day hands-on workshop on LEGO mindstorms		<ul style="list-style-type: none"> • Mr. Vivek Raju, Application engineer, MATWORKS, India • Mr. Prashanth Rao, Manager – Application engineering and training, MATWORKS, India

			<ul style="list-style-type: none"> Mrs. Zahida Vaseem, territory manager, education south, MATHWORKS
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31. Code of Ethics for Research Followed by the Departments:

The basic responsibility of an EC is to ensure a competent review of all ethical aspects of the project proposals received and execute the same free from any bias and influence that could affect their objectivity. EC should provide advice to the researchers on all aspects of welfare and safety of the research participants after ensuring the scientific soundness of the proposed research through appropriate Scientific Review Committees. In smaller institutions the EC can up the dual responsibility of Scientific and Ethical Review.

The responsibilities of an EC can be defined as follows:

1. To protect the dignity, rights and well being of the potential research participants
2. To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs
3. To assist in the development and the education of a research community responsive to local health care requirements.

32. Student Profile Course-wise:

Admission being done as per Manipal University Admission Policy (Refer Data from Admission Department)

Name of the Course: B. Tech. in Electrical and Electronics Engineering (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
<u>2007-11</u>	Admission is done as per the Manipal University admission policy (Refer data from admission department)	108	32	80.55	71.87
<u>2008-12</u>		130	26	80.76	84.61
<u>2009-13</u>		123	32	78.04	93.75
<u>2010-14</u>		162	40	82.09	100
<u>2011-15</u>		167	53	84.43	92.45

Name of the Course: M. Tech. in Energy Management, Auditing and Lighting (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
<u>2009-11</u>	Admission is done as per the Manipal University admission policy (Refer data from admission department)	3	2	100	100
<u>2010-12</u>		13	5	100	100
<u>2011-13</u>		15	3	100	100
<u>2012-14</u>		13	5	100	100
<u>2013-15</u>		14	4	100	100

33. Diversity of Students

Name of the Course (Refer to Question no. 4)		% of Students from the same University	% of Students from Other Universities within the State	% of Students from Universities Outside the State	% of Students from Other Countries
M.Tech. - EMAL	2014-2016	NIL	38.89	61.11	NIL
	2013-15	11.11	16.67	72.22	NIL
	2012-'14	NIL	11	89	NIL
M.Tech. - PESC	2014-2016	NIL	33.33	66.67	NIL
	2013-15	6	47	47	NIL
	2012-'14	NIL	33.33	66.67	NIL

34. How Many Students have Cleared Civil Services and Defence Services Examinations, NET, SET, GATE and Other Competitive Examinations? Give Details Category-wise.

Sl. No.	Exam	No. of Students cleared the exam		
		2012	2013	2014
1	GATE	12	11	6
2	UPSC	-	-	1
3	GRE	1	-	6
4	TOEFL	-	1	3
5	GMAT	-	1	-
6	CAT	-	-	1
7	XAT		1	1

35. Student Progression

Student Progression	Percentage Against Enrolled
UG to PG	10
PG to MPhil	-
PG to Ph.D	1
Ph.D to Post-doctoral	-
Employed	
• Campus Selection	80
• Other than Campus Recruitment	7
Entrepreneurs	2
Total	100

36. Diversity of Staff

Percentage of Faculty Members who are Graduates	
of the same University	12.5
from other Universities Within the State	62.5
from Universities from Other States	25
from Universities Outside the Country	0

37. Number of Faculty Members who were Awarded Ph.D, DSc and DLitt during the Assessment period :

Awarded degree	No. of faculty members		
	2012	2013	2014
Ph.D.	02	02	NIL

38. Present Details of Infrastructural Facilities with Regard to

Library	Department Library has Around 300 Text Books including Design Handbooks and Reference Books
Internet Facilities for Staff and Students	1 GBPS Internet Connectivity Shared and LAN Connectivity Wi-fi enabled campus
Total Number of Class Rooms	8
Class Rooms with ICT Facility	7 Class Rooms and 3 Labs
Students' Laboratories	<ol style="list-style-type: none"> 1. Circuits and Measurements Lab (UG) <i>Hardware: FlukeMeter, Yokogawa CW 140 power quality analyser, CT & energy meter testing & calibration facilities</i> 2. Integrated Electronics Lab (UG and PG) <i>Hardware: IC Trainers, IT ASD trainer Kits, DSP Boards, Multipurpose lab station, Xilinx Spartan 3E Development boards, DSO's</i> <i>Software: FPGA , Xilinx ISE, Spice, MAGIC</i> 3. Electrical M/C's Lab (UG) <i>220 V, 200 A DC source, All popular AC & DC machines</i> 4. System Simulation Lab(UG) <i>Software: Matlab R2011b, PSPICE</i> 5. Embedded Systems and Microcontroller Lab(UG) <i>Hardware: 8051, PIC, ARM Microcontroller Trainer Kits, Universal Programmer, Stepper motor, Elevator, Traffic light, Logic Controller, ADC, DAC, HEX Keypads & LCD interface modules</i> <i>Software: Keil code development tools, MP Lab,IDE,Labview</i> 6. Power Electronics Lab (UG) <i>Hardware: TMS320F240 based AC/DC motor controller trainer, DIGIVAC DSP based motor controller trainer kit</i> <i>Fluke meter, BLDC Motor, DSO Intelligent power trainer kits for motor drives, Yokogawa CW 140 Power Quality Analyzer, converter fed DC motor speed control,</i>

	<p><i>microcontroller based speed control of single phase induction motor</i> <i>Software: Matlab R2011B, Orcad 16.2</i></p> <p>7. Lighting Measurements and Simulation Lab (PG) <i>Gonio photometer, Integrating Sphere, Colorimeter, Analog / Digital Lux Meters, Fluke 5500A Calibrator, Humidity and Temperature Data logger</i></p> <p>8. Electric Drives Lab (PG) <i>Hardware: TMS320F240 based AC/DC motor controller trainer, DIGIVAC DSP based motor controller trainer kit Fluke meter, BLDC Motor, DSO Intelligent power trainer kits for motor drives, Yokogawa CW 140 Power Quality Analyzer</i> <i>Software: Matlab R2011B, Orcad 16.2</i></p>
Research Laboratories	<p>1. Schneider Sponsored Advanced Energy System Lab (UG and Research) <i>Smart Power and Energy meters, PIC microcontroller kits, Energy saver kit, PIC microcontroller board, MCB</i></p> <p>2. Energy System Simulation Lab (PG and Research) <i>Software: Matlab 2013b, MiPower, Relux, Dialux, PSCAD, ultrasonic flow mete.</i></p>

39. List of Doctoral, Post-doctoral Students and Research Associates

a) From the Host University

Name of faculty	Title	Area	Guide Name	Co Guide name	Date of Registration
T. Sudheer Kumar	High Dynamic Range Imaging for evaluating quality of daylight-artificial light integrated schemes	Lighting Control	Dr.Ciji Pearl Kurian	Dr. Kumara Shama	17-04-2010
Vijayalaxmi	Design of intelligent reconfigurable architecture for financial derivatives	Digital systems	Dr. Chandrashekara Adiga S.	Dr. H. G. Joshi	22-10-2011
Sandhyalaxmi	A novel adaptive energy conservation scheme in contemporary offices for thermal and visual comfort	Illumination Technology	Dr. Chandrashekara Adiga S.	Dr.Savitha G. Kini	04-11-2011
Shailesh K. R.	Optimizing integrated system performance of LED luminaire for general lighting applications	Lighting Design	Dr.Ciji Pearl Kurian	Dr.Savitha G. Kini	28-05-2011
Susan Varghese	Image based wireless networked lighting control for daylight-artificial light integrated schemes	Lighting Control	Dr.Ciji Pearl Kurian	Dr. V. I. George	17-03-2012
LakshmanRao S. Paragond	Performance analysis of wind and solar hybrid power system, in isolated and grid connected mode of operation	Renewable energy	Dr. Ciji Pearl Kurian	Dr. B. K. Singh	09-02-2013

Bindu S.	Characterization of three phase squirrel cage induction motor faults through asymmetric machine modeling	Electrical Machines	Dr. Vinod V. Thomas		23-02-2013
Srividya R.	An Embedded System for the Control and Optimization of Tunable Illumination Spectra for LED Luminaires	Lighting control	Dr. Ciji Pearl Kurian		02-08-2013

b) From Other Universities

Name of faculty	Title	Area	Guide Name	Name of the University	Date of Registration
Mrs. Jayalakshmi N. S.	Modeling and performance analysis of grid connected wind/solar hybrid distributed generation system with energy storage devices	Power System	Dr. D. N. Gaonkar	NITK, Surathkal	23-07-2010
Mrs. Chandrika B. R.	3D medical image data compression	Image Processing	Dr. Suman David S. & Dr. Aparna P.	NITK, Surathkal	22-07-2011
Mr. H. V. Gururaja Rao	Detection and classification of faults in power system incorporating FACTS devices for stability enhancement	Power System	Dr. Nagesh Prabhu	VTU, Karnataka	29-11-2013
Mrs. R. C. Mala	Analysis and control of bifurcations in power system with FACTS controllers	Power System	Dr. Nagesh Prabhu	VTU, Karnataka	29-11-2013
Mr. Harish Kumar J. R.	Biomedical image segmentation	Image Processing	Dr. Chandra Sekhar Seelamantula	IISc., Bangalore	31-07-2013

40. Number of Post Graduate Students Getting Financial Assistance from the University:

Year	Name of the student	PG course
<u>2012 : 9 PG students received financial assistance</u>		
2012	Abdul Jabbar	Energy Management, Auditing & Lighting
	Aju Nair	Energy Management, Auditing & Lighting
	Indu Chandran	Power Electronics, System & Control
	Lokesh	Energy Management, Auditing & Lighting
	Raviteja	Power Electronics, System & Control

	Sai Kumar	Power Electronics, System & Control
	Shashank	Energy Management, Auditing & Lighting
	Siju Raj	Energy Management, Auditing & Lighting
	Suraj	Power Electronics, System & Control
<u>2013: 7 PG students received financial assistance</u>		
2013	Shreesha Prabhu	Power Electronics, System & Control
	Nityananda Hegde	Power Electronics, System & Control
	Karthi R. P.	Power Electronics, System & Control
	Kiran A. J.	Energy Management, Auditing & Lighting
	Kothuru Venkata Avinash	Energy Management, Auditing & Lighting
	Sachin Sharan	Energy Management, Auditing & Lighting
	Madhushree N.	Energy Management, Auditing & Lighting
<u>2014 : 8 PG students received financial assistance</u>		
2014	Qumera Sultana	Power Electronics, System & Control
	Salil Kamra	Power Electronics, System & Control
	Anagha K. M.	Power Electronics, System & Control
	Shruthi Shetty	Power Electronics, System & Control
	Deepinder Singh Tumrate	Energy Management, Auditing & Lighting
	Tini Grace Abraham	Energy Management, Auditing & Lighting
	Abhijith K.	Energy Management, Auditing & Lighting
	Parikshith Savanth	Energy Management, Auditing & Lighting

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, Highlight the Methodology.

Yes. Expert opinion and Feedback were obtained from the relevant stakeholders.

42. Does the Department Obtain Feedback from
a. Faculty on Curriculum as well as Teaching-learning-evaluation? If yes, how does the Department Utilize the Feedback?

Class Committees are formed for each semester comprising faculty members as well as student representatives, which meet to discuss the teaching-learning process and also the result analysis of the sessional and the end semester examinations. Based on the inputs given by the faculty members the counselling of weaker students is taken up.

Department Curriculum Committee looks after the curriculum and takes inputs from the faculty members and if any minor change in the curriculum is required, the same will be put forth in the DCC meetings and if approved will be put forth in the BOS meeting for approval

b. Students on Staff, Curriculum and Teaching-learning-evaluation and how does the Department Utilize the Feedback?

Feedback on the performance of faculty members is collected from the students at the end of each semester and the same is used for the betterment of the department's teaching learning process.

Since student representatives are part of the class committee, they put forth their feedback on the curriculum, which is taken up by the DCC.

c. Alumni and Employers on the Programmes Offered and how does the Department Utilize the Feedback?

Alumni feedback is used for updating lab and theory courses

43. List the Distinguished Alumni of the Department (Maximum 10)

Sl. No.	Name of the alumni	Current status of the alumni
1	Rajeev Chandrasekhar	Member of Rajya Sabha for Karnataka State; Founder, Chairman and Chief Executive Officer, Jupiter Capital Pvt. Ltd.
2	Ashok Aggarwal	CEO-Team Soft Technologies
3	K. J. Jacob	Managing Director - Silverstone Rubber India Pvt Ltd., Thavakkal, Vithura, Trivendrum
4	Himanshu Palsule	Chief Technology Officer and Head of Strategy at Sage
5	Srijib Mukharjee	Energy Executive - Quanta Technology, Raleigh, NC USA
6	Anil Moti	Owner, Paradigm Leather Accessories Pvt. Ltd.
7	Yogish Mallya	Principal Scientist at Philips Research India
8	Rajneesh Garg	Director at Inter-Cosmic Para-Psycho-Dynamical Theosophic Research Centre
9	Kaushik Bose	General Manager - Radiology Solutions at GE Healthcare
10	Kakkanat Kora Pauly	Director of Pauly Investments Private Limited

44. Give Details of Student Enrichment Programmes (Special Lectures/Workshops/Seminar) Involving External Experts.

Year	Programme	
	Guest Lecture	Workshop/Seminar
2012		The IE E&E student chapter organized a workshop on “Automation” in collaboration with Industrial String Automation (ISA), Pune
		Organized the Student paper contest as a part of 5th National Conference on Advances in Energy Conversion Technologies (AECT 2012)
		IE E&E organized a workshop on “Solar Photo Voltaics” in collaboration with GE and Schneider Electric
2013	<ul style="list-style-type: none"> • “Innovation & Creation of Value Dynamics, Industrial Automation & Commissioning, Embedded Systems in Energy Management” by Mr. Ritesh Agarwal, Mr. Veerendra Vasamsetty, Schieder Electric, Bangalore 	
2014	<ul style="list-style-type: none"> • Intelligent Energy Management’ - A Series of Talks by Schneider Electric was organized to create awareness on Smart Grid, its challenges and opportunities • “Smart Homes Enabling Intelligent Energy Management” Edison Expert, Mr. Veerendra Vamsetty of Schneider Electric. • “Energy Efficiency Opportunities & Challenges” by Mr. Tharanath Naik of Schneider Electric • “Adaptive Control of FACTS Devices” by Dr. Rama Gokaraju of University of Saskatuen, Canada • “Electronic Systems Challenges and Opportunities in Basic Science Research” by Dr. B. Satyanarayana, TIFR, Mumbai • “Fault Analysis and Condition Monitoring of Electric Machines” by Dr. Subhasis Nandi, University of Victoria, Canada • “Smart Grid Integration with Renewable Energy” by Mr. Chidanand Burji, of Schneider Electric Bangalore. 	Hands-on workshop with LEGO® MINDSTORMS® from MATHWORKS

	<ul style="list-style-type: none"> • “Failure Modes & Effect Analysis” by Mr. Simon Kuntam of Schneider Electric, Bangalore • Mr Chidnand Burji , Lead Technical Architect and Group Edison Expert, Schneider Electric • Mr Simon Kuntam, Manager (Quality Assurance and Industry Automation), Schneider Electric • Dr. K. R. Rajagopal, Professor, Dept of Electrical Engg, IIT, Delhi • Prof. Santanu Chaudhury, Dhananjay Chair Professor, Dept of Electrical Engg., IIT Delhi • Mr. Joydeep Banerjee, Lead CAMS TAC Solutioning and Non-India GDC Regional Lead (East) Campus Hiring and University Relation 	
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45. List the Teaching Methods Adopted by the Faculty Members for different programmes.

- Black board teaching for subjects involving intensive mathematical analysis.
- Power Point Presentations for subjects involving complex diagrams.
- Assignments – All subjects of all semesters involves five assignments which will be evaluated at regular intervals to monitor students’ performance.
- Mini-projects and demonstrations – In subjects and labs, students have to work on a mini project and demonstrate its working.
- Industry visits – Industrial visits are carried out by the department for both UG and PG students to near-by Industries for better understanding of theoretical knowledge gained by students. Also, IE student chapter organises Industrial visit. Some of the industries are Canara Lighting Mangalore, GE Bangalore, Infosys Bangalore, Wipro Bangalore, Shamili Hydel Power Plant ltd. Sangur Plant, Siddapur, Udupi and other power plants near-by, etc.

46. How does the Department Ensure that Programme Objectives are Constantly Met and Learning Outcomes are monitored?

- a. NBA accreditation is under process which is in-line with monitoring programme outcome. In this regard systematic data collection, assessment, recommendations and decisions are being taken to fulfil the attainment.
- b. Assessment tools include–Alumni survey, employer survey, Graduate survey, Placement record, Academic record, Course end survey and student feedback.
- c. Collected data are assessed by UG/ PG programme committee of the department at regular interval of time.
- d. Recommendations are incorporated to improve teaching learning process towards continuous quality improvement.

47. Highlight the Participation of Students and Faculty in Extension Activities.

- a. IE (E and E) Student Chapter Activities.
- b. Annual national conference on advances in energy conversion technologies
- c. Once in three years international conference on advances in energy conversion technologies
- d. Guest lecturer and hands-on sessions by resource people from IIT's, NIT's and industry
- e. Faculty Members Attending FDP and Other Continuous Education Programmes
- f. GU and postgraduate students assisting the research activities of faculty members.
- g. Participation in TI Analog Design Contest
- h. Four batches of students are selected for participation in TI analog design contest 2012-13. They are working under faculty members in the department.
- i. Student paper publication in conference and journal
- j. Participation in social organizations
- k. Various Student and Faculty Clubs
- l. Students participated and won consolation prize in Texas Instruments Analog Design Contest guided by department faculty.
- m. Students participate in technical fest conducted by the Institute.

48. **Give Details of “Beyond Syllabus Scholarly Activities” of the Department.**

- i. IE (E and E) Student Chapter Activities
 - a. Annual national level student paper contest and project exhibition
 - b. Workshops/Seminars conducted by in-house faculty members and students
 - c. PLC automation training
- ii. Participation in Innovation Challenges
 - a) Schneider Innovation Challenge
 - b) Honeywell Innovation Challenge
 - c) NI Mantra and Niyatra
 - d) Freescale Innovation Challenge
 - e) Analog design contest

49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details.**

B.Tech. program was accredited by NBA in the year 2007 for 3 years. The department has already submitted the Self Assessment Report (SAR) and is currently waiting for the visit of NBA committee for renewal of accreditation.

50. Briefly Highlight the Contributions of the Department in Generating New Knowledge, Basic or Applied.

Department is actively involved in research areas like Solid state lighting, Distributed Generators, Visual and thermal comfort etc. Funded Consultancy and Research outcome helps in generating new knowledge in related areas. Along with this, other contribution includes:

- Technical publications in National and International journals / conferences.
- Authoring text books and book chapters.
- Execution of UG and PG projects meeting the Societal and Industrial needs.
- Delivering keynote, invited, guest lectures.
- Resource persons in workshops and FDPs.

51. Future Plans of the Department.

- i. To be a recognised QIP Centre for research.
- ii. Enhancing research collaboration with premier institutes/industries.
- iii. Induct more adjunct/visiting faculty.
- iv. Establishment of centre of excellence in thrust areas.

52. Detail any Five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the Department.

Strengths

- (i) Updated curriculum in-line with industrial requirement.
- (ii) Excellent Infrastructure facilities to support the teaching-learning process.
- (iii) Qualified and experienced faculty members in emerging fields.
- (iv) Academic Collaboration with industries.
- (v) Industry recognised unique programme in Illumination Technology.
- (vi) Placement in core areas.

Weakness

- (i) Limited students are available for in-house research.
- (ii) Away from industrial hub.
- (iii) Lack of full time research scholars.

Opportunities

- (i) Establishment of QIP centre for PhD programme.
- (ii) Academic Collaborations with premier institutes/industries.
- (iii) Multi-disciplinary research activities.
- (iv) Broad-based research activities through internships, Faculty Development Programme etc.

Challenges

- (i) Attracting external funding
- (ii) Limited internship opportunities in core areas.
- (iii) Encouraging Students for projects in core areas.

1. Name of the Department: Humanities and Management

2. Year of establishment: 2009

3. Is the department part of a School/Faculty of the University?

Department is a part of Manipal Institute of Technology, Manipal University, Manipal.

4. Names of Programmes/Courses offered (UG, PG, MPhil, PhD, Integrated Masters Integrated PhD etc.)

Offered	
PG	Engineering Management
Ph.D.	Engineering Management and English Language

5. Interdisciplinary courses and departments involved

- Health Economics is offered as an open elective to 6th Semester students in collaboration with the Department of Bio Technology. The course is engaged by a faculty from Indian School of Business, Hyderabad accompanied by a department faculty member.
- A course titled Political and Cultural Construction of Europe was delivered by Mr. Praveen Shetty (2013) and Mr. Abhay Shetty (2014) at the Department of European Studies Centre, Manipal University.
- Faculty members are deputed to handle ‘Communication Skills in English’ at Manipal College of Nursing, International Centre for Applied Sciences, School of Management, Faculty of Architecture, School of Allied Health Sciences, and Department of Public Health, Manipal University.
- Faculty members are deputed to teach ‘Fashion Marketing’ at Faculty of Architecture, Manipal University and ‘Basics of Industrial Engineering’, ‘Statistical Quality Control’, ‘Creativity Thinking’, ‘Human Factors in Engineering Design’ at International Centre for Applied Sciences, Manipal University, Manipal.

6. Courses in collaboration with other universities, industries, foreign institutions, etc.

Initiated discussions with European Universities to start collaborative programmes.

7. Details of programmes/courses discontinued, if any, with reasons - Nil

8. Annual/ Semester/Choice Based Credit System: Semester Based 10-point Credit

System.

9. Participation of the department in the courses offered by other departments

Sl. No	Branch	Subject	Sem.	Electives/Open Electives
1.	Open to all Branches	Essentials of Management and Engineering Economics	VI/VII	Regular Subject
2.	Open to all Branches	Research Methodology & Technical Communication	I Sem. M. Tech	Regular Subject
3.	Open to all Branches	Communication Skills in English	I Sem. B. Tech	Regular Subject
4.	Open to all Branches	Analytical Writing	IV Sem.	Open Electives
		Technical Writing		
		Interpretation of Literary Texts		
		Film Studies		
		German for Beginners		
		Psychology for Beginners		
5.	Open to all Branches	Financial Management	VI Sem	Open Electives
		Project Management		
		Entrepreneurship		
		Enterprise Resource Planning		
6.	M. Arch.	Project Management	II Sem.	Regular Course
7.	MCA	Communication and Management	II Sem.	Regular Course
8.	BS	Composition Speech	I Sem III Sem	Regular Course
		Introduction to Industrial Engineering	IV Sem.	
9.	M. Arch.	E-Project Management	II Sem.	Regular Course
10.	B.FD	Fashion Marketing	V Sem.	Regular Course
11.	B. FD	Communication Skills in English	I Sem.	Regular Course
12	B. Sc. Nursing & PB B.Sc. Nursing	Communication Skills in English	I & II Sem	Regular Course
13	Health Information Administration, B. Sc. Optometry, MSW	Communication Skills in English	I & II Sem	Regular Course
14	Masters in European Studies	Political and Cultural Construction of Europe	I Sem	Regular Course
15	Ph.D.	Advanced Research Methodology		Course Work

10. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Assistant Professors)

Faculty positions	Faculty positions sanctioned	Faculty positions filled
Professor	5	5
Associate Professors	8	3
Assistant Professors	16	16

11. Faculty profile with name, qualification, designation and specialization (DSc/DLitt/ PhD/MPhil etc.)

Name	Qualification	Designation	Specialization	No. of Years of Experience (T/R/I)	No. of PhD students guided for the last 4 years
Dr Lewlyn L Raj Rodrigues	B. E,MBA, M. Tech. (Production Engineering.), PhD (System Dynamics)	Professor and Head of the Department	System Dynamics	T-30 R-9	8
Dr A Vittaleshwar	B. Tech, ME (Incl. Engineering.), PG Diploma (HRD), Fellow (HRD)	Professor	Industrial Engineering	T-25 I-1.5	-
Dr B Gopalakrishna	B E, M. Tech. (Engineering Mgmt.), PhD (Service Marketing)	Professor	Service Marketing	T-26 I-4	-
Dr Shiva Prasad H C	B E, ME (Production Mgmt.), PhD (Org. Behaviour)	Professor	Organisation Behaviour	T-25 R-4	-
Mr Potti Srinivasa Rao	BE, ME (Incl. Engineering.)	Assoc. Prof. Senior Scale	Industrial Engineering	T-26	-
Dr James M J	MBA, M Tech ,Ph.D	Assoc. Prof.	HRM	T-14 I-8	-
Mr. V.S Harshith Babu	M.Phil (Management)	Asst. Prof-Sr. Scale	Management	T-6 I-2	-
Mr. Lidwin Kenneth Michael	M. Tech. (Engineering Management)	Asst. Prof-Sr. Scale	Engineering Management	T-1 I-8.7	-
Mr Giridhar Kamath	MS (HRM), M. Tech. (Engineering Management)	Asst. Prof.	HRM	T-3 I-3.2	-
Mr Rajesh R Pai	M. Tech. (Engineering Management)	Asst. Prof.	Engineering Management	T-4	-
Mr SunithHebbar	M. Tech. (Engineering Management)	Asst. Prof.	Engineering Management	T- 3.6	-
Mr.Asish Oommen Mathew	M. Tech. (Engineering Management)	Asst. Prof.	Engineering Management	T-2 I-5	-
Mr. Mahesh Prabhu H	M. Tech. (Engineering Management)	Asst. Prof.	Engineering Management	T-2 I-2	-
Ms. Maitri Kowshik	B.E. M.B.A	Asst. Prof.	Engineering Management	T-1 I- 3 months	-
Lt. Cdr.	B.E.	Asst. Prof.	Engineering	T-2	-

Name	Qualification	Designation	Specialization	No. of Years of Experience (T/R/I)	No. of PhD students guided for the last 4 years
Geethalakshmi P M. (Retd.)			Management	I-11	
Dr. Veena Maben	M.A. (English Literature), Ph.D. (Missionary studies)	Professor	English Literature, German	T-26	-
Dr. G M Tungesh	M.A. (English), M.Phil. (Lit.), PGDT, Ph.D (Linguistics)	Assoc. Prof.	Linguistics and ELT	T-20 I-1 R-8	-
Mr. Praveen K Shetty	M.A. (English), MPhil (Literature)	Asst. Prof.	English Literature and Intercultural Communication	T-16	-
Ms. Devika Rani	M.A. (English Literature)	Asst. Prof.	English Literature	T-16	-
Ms. Vijayalakshmi Bhat	M.A.	Asst. Prof.	English Literature	T-13	-
Ms. Swapna	M.A. (English), MPhil (Literature)	Asst. Prof.	English Literature, Gender Studies	T-12	-
Mr. Abhay Shetty	M.A. (English, Communication Studies)	Asst. Prof.	English studies, Cultural Studies, Film Studies	T-4 I-10 months	-
Ms. Adithi Shastry Kallaje	M.A. (English)	Asst. Prof.	English Literature, Post-Colonial Studies	T-9 I-0	-
Ms. Sharal T Correa	M.A. (English)	Asst. Prof.	English Literature	T-7 I-0	-

12. List of senior visiting fellows, faculty members, adjunct faculty, Emeritus professors:

Sl	Name	Subject
1	Prof. K. J. Kamath, MIT	Operations Research
2	Prof. Dr. Brian Purdey, Australia	Strategic Management and Innovation
3	Mr. C. N. Raghupathy, Vice President, Infosys	Smart Grid Technologies
4	Prof. Dr. R.C. Natarajan, Director, TAPMI, Manipal	New Venture Strategies

13. Percentage of classes taken by temporary/visiting faculty – programme-wise information:

Programme	Percentage
M.Tech. (Engineering Management)	15% per semester

14. Programme-wise Student Teacher Ratio

UG	15:1
PG	12:1

15. Number of academic support staff (technical) and administrative staff: sanctioned and filled

	Sanctioned	Filled
Administrative staff	1	1
Non-Teaching Staff	3	3

16. Research thrust areas recognized by funding agencies

- **Socio-economic studies**
- **Environmental impact analysis**

17. Number of faculty members with on-going projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise.

In Process:

Investigator	Project title	Location	Funding agency	Period of research	Amount of research grant
Dr. Lewlyn L Raj Rodrigues, Dr. James M J, Dr. H C Shiva Prasad	Udupi Power Corporation Limited in Nandikur: Assessment of the Environment and Socio-economic Impact	Nandikur, Udupi	Indian Council of Social Science Research (ICSSR) JNU Institutional Area Aruna Asaf Ali Marg, New Delhi - 110067 Tel.No.26179849/50/51 (EPABX) Fax:91-11-26179836 E-mail: icssr@ren.nic.in	18 months	2,00,000/-

Research Proposal Submitted:

Investigator	Project title	Funding agency	Period of research	Amount of research grant
Dr. Lewlyn L Raj Rodrigues, Mr. Nagaraj Kamath, Mr. Asish Oommen Mathew	Centre of Excellence for Print Operation Modelling	“Ministry of Human Resource Development”, Government of India, New Delhi on 14 Dec 2015	3 Years	50,00,000/-
Dr. Lewlyn L Raj Rodrigues, Dr. James M J, Mr. Sunith Hebbar	Sea Erosion and its Effects in Udupi District: Preventive Measures based on Impact Assessment on Environment and Human lives	Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, Lodhi Road, New Delhi on 17 Mar 2015	3 Years	15,00,000
Dr. Lewlyn L Raj Rodrigues, Mr. Nagaraj Kamath, Mr. Asish Oommen Mathew	Centre of Excellence for Print Production Management	”The Ministry of Human Resource Development”, Government of India, New Delhi on 05-Oct-2015	3 Years	20,00,00

Student Projects:

Reg. No.	Student Name	Project Title	Project Guide (Internal)	Project Guide (External)	Company Name	Duration of Project
2014						
120917001	Neema Merlin Rodrigues	Strategizing Quality Management for A Supply Chain Software Products and Services Firm	Prof. Dr. Shiva Prasad H.C.	Mr. Pramod Kumar, Senior Project Manager	Expicient Software Pvt. Ltd., Bangalore.	Sep 2013 to Mar 2014
120917002	Abhijeet Khonde	Empirical Study on Industry Collaborative Environment in Engineering Institutes in Pune Region	Mr. Sunith Hebbar	Dr. Sumati Sidharth, Head, Dept. of Technology Management DIAT, Pune	Defence Institute of Advance Technology, Pune.	Jul 2013 to Jun 2014.
120917003	Vaithilingam Ramaswamy Raghav	A Global Study on Process Automation Market	Mr. Giridhar Kamath Assistant Professor	Ammini Chaitanya Assistant Manager Magarpatta city, SEZ Tower 9, Pune city, 411013, Maharashtra	Markets and Markets, Pune.	Jul 2013 to Jun 2014.
120917005	Anasbin T P	Process Improvement And Ensuring Customer Relationship Using Business Intelligence	Prof. Dr. Lewlyn L. Raj Rodrigues	Osvaldo Gehm, CEO Floriano Peixoto-1475, CEP-97015-373 Santa Maria, RS, Brazil	Odig Marketing Digital, Brazil.	Aug 2013 to April 2014
120917006	Keerthesh Kumar K S	Global Study of Fuel Injection System Market	Prof. Dr. Lewlyn L. Raj Rodrigues		Markets and Markets, Pune.	Aug 2013 to April 2014
120917007	Neeraj Shamrao Borate	A case study approach for evaluation of Employee Training effectiveness and Development program.	Dr. Gopalkrishana	Mr. Sanjay L. Borate Quality Head Cummins India Ltd.	Cummins India Ltd., Pune.	June 2013 to May 2014
120917008	Deepa Puthran	Global Market Forecast for Turbocharger	Dr. Shiva Prasad H.C	Mr. Anup Pandit	Markets and Markets, Pune.	June 2013 to May 2014
120917009	Vasanth Rao K P	Assessment of Students' Satisfaction in Indian Higher Education Institutes Using 5c TQM Model	B.Giridhar Kamath	Dr. U Bhojanna	RNS Institute of Technology, Bangalore	Aug 2013 to April 2014
120917011	Shanoob A P	Feasibility Study Of A Free Malayalam Magazine Venture In United Arab Emirates	Dr. James M. J	MUHAMMED NAVAS General Manager Dubai, U.A.E	Direct Axis (L.L.C), Dubai.	Aug 2013 to April 2014
120917012	Viknesh J	Application of Design Structure Matrix &	Rajesh R. Pai	T.K.Ramajayam, Chennai	Sakhti Transformers, Chennai.	Aug 2013 to July 2014

		Axiomatic Design: A Product Decomposition Model				
120917013	A Venugopal Shanbhogue	A Study of the Effect of Standardization of Machine Data Acquisition system on the Plant Availability at Hindustan Unilever Ltd	Mr. Vasanth Kamath	Mr. Shachindra Kumar Factory Manager Hindustan Unilever Ltd., Mangalore.	Hindustan Unilever Ltd., Mangalore.	June 2013 to March 2014
120917014	Nidhi Pandey	Customer Relationship Management in India Infoline	Mr. Rajesh R. Pai	Mr. Shivanand Branch manager India Infoline Limited Bangalore	India Infoline Limited, Bangalore.	Sep 2013 to June 2014
120917015	Shyfer A Backer	HVDC Smart Grid Transmission Revenue Market Forecast	Dr. B Gopalakrishna	Ammini Chaitanya Assistant Manager Markets and Markets	Markets and Markets	June 2013 to March 2014
120917016	Vikram Bangalore Lakshminath	End user support-Process Quality Assurance at Ericsson Global India Ltd	Mrs. Anasuya Lingappa K	Mr Hemchand Raghunathan Competency Lead Bangalore, Karnataka	Ericsson Bangalore, Karnataka	July 2013 to Feb 2014
120917018	Manjunath M	Value Stream Mapping for Manufacturing of Vamana Surgery Tube	Dr. Shiva Prasad H C	Mr. Sarvanan V WhitefieldBangalore	GE BE Private Ltd Whitefield, Bangalore	July 2013 to March 2014
2015						
130917001	Nithin R	Designing a Lean manufacturing method in a powder coatings department of a paint manufacturing industry	P. Srinivasa Rao Potty	Suresh Babu Manager, Production Planning	AkzoNobel India Pvt Ltd Bengaluru, Karnataka	Aug 2014 to June 2015
130917003	Mohammed Faizal	Improvement And Performance Appraisal Of Vendors	Mr. Asish Oommen Mathew	Mr. SANTHOSH V S HEAD-HR BHEL Kasaragod	BHEL Electrical Machines Limited bedradka post, Kasaragod	July 2014 to June 2015
130917004	Shetty Aakash Dinesh	Tools Management Using Action Research Methodology	Asish Oommen Mathew	Mr. Vishal V. Dandekar	Siemens Ltd Thane 400601.	June 2014 to June 2015
130917008	Adarsh P K	Materials Management in a beverage and spice manufacturing firm : A System Dynamic Analysis	Dr. Shiva Prasad H.C	Mr. Bhaskaran.P Assistant General Manager – PPC & Food Safety	AVT Natural Products Limited Cochin, India	June 2014 to June 2015
130917009	Sonawane Salonee	Improvement And Performance	Dr. Lewlyn L.R. Rodrigues	Mr. Amit Shukla	IFB Industries Ltd Goa	May 2014 to Oct 2014

	Hemant	Appraisal Of Vendors				
130917010	Aparajita Sharma	Factors Influencing a Road Construction Project: A System Dynamics Approach	Mr. Sunith Hebbar	Mr. L.N. Survey Chief General Manager Mr. Mehul Pandya Chief site engineer IRB Construction Pvt. Ltd.	IRB Construction Pvt. Ltd	June 2014 to June 2015
130917011	Anson Roshan Antony Quadros	Interrelationship Between Production Efficiency, Productivity And Profitability In A Line Pipe Manufacturing Plant	Mr. B. Giridhar Kamath	Mr. Avadesh Porwal	WELSPUN CORP LTD.	June 2014 to June 2015
130917013	Akshay G Vaidya	Multi-Skill Workforce Development for a Cement Company	Dr. Shiva Prasad H. C	Pratik Gandhi	Reliance Cement Company Pvt Ltd Navi Mumbai	June 2014 to June 2015
130917015	Shweta Suresh Salunke	Achieving Performance Excellence By Value Stream Mapping And Simulation Of Kanban System In A Switchgear Company	Mr. Sunith Hebbar	Sushil A. Dubey	Siemens Ltd., Thane.	Aug 2014 to Aug 2015
130917016	Kaushik Ashok Naik	Identification And Ranking Of Delay Factors In A Thermal Power Plant	Prof. Dr. Shiva Prasad H C	Mr. J. N. Ramprasad General Manager	Tata Consulting Engineering Ltd., Bangalore.	July 2014 to Jan 2015
130917018	Neeraj Ramchandran	Techno-economic Feasibility study of the Anchor-Business-Community model of off-grid electrification	Rajesh R. Pai	Amit Kumar Singh Parihar, I.I.T Gandhinagar.	I.I.T Gandhinagar and Inspire Network for Environment, New Delhi.	Aug 2014 to Aug 2015
130917019	Amruth Gurudev S	Analyzing and standardizing of the manpower plan for the engineering deliverables of a thermal power plant.	P. Srinivasa Rao Potty	Ramprasad J.N General Manager	Tata Consulting Engineers Bengaluru, Karnataka	July 2014 to Jan 2015

18. Inter-institutional collaborative projects and grants received

a) All India collaboration b) International

Nil

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT,

ICSSR, etc.; total grants received.

Total grants received: Rs.2,00,000/- (ICSSR)

20. Research facility / centre with:

- state recognition: Nil
- national recognition: Nil
- international recognition: Nil

21. Special research laboratories sponsored /created by industry or corporate bodies

Collaborative project with University of Agriculture and Horticulture, Shivamogga is in pipeline. Common laboratories and facilities for testing of soil, water quality, humidity etc., will be established which can be used by the UG and PG students of both the universities.

22. Research Output in last 3 years

		2012	2013	2014
Completed funded research projects		-	-	Ongoing-1
Completed non-funded research projects		-	-	-
Completed PhD research projects			1	1
Completed PG research projects		-	18	17
Completed UG research projects		-	-	-
Publications	International	15	12	26
	National	02	0	0
Books		1	1	-
Chapters in books		3	1	1
Conference presentations	International	07	16	10
	National	01	4	3

* **Publications: Number of papers published in peer reviewed journals (national/international)**

#	First Author	Second Author	Third author	Fourth Author	Year	Name of the Paper (International Journal)	Name of Journal	Indexing Details
1	Ms. Kavitha Koppula	Dr. Lewlyn L.R. Rodrigues			2012	Job Scheduling of Nurse Staffing: A Dyanmic programming approach	International Journal of Research in Commerce IT & Management Volume No:2 IssueNo:1 Page No:66 ISSN 2231-5756	
	Dr.	Sathish			2012	Applying Wear	Research	

2	Lewlyn L.R. Rodrigues	Rao U				Maps in the Optimisation of Machining Parameters in Drilling of Polymer Matrix Composites – A Review	Journal of Recent Sciences Vol.1(5), 75-82, May-2012 ISSN-2277-2502	
3	Dr. Tungesh G.M.				2012	English language users in the ESL context: a review in linguistic-pedagogical approach	ELT Voices – India Volume 2 Issue 2 April 2012 © Ignite (India) Publishing, Bhavnagar, Gujarat – India www.eltvoices.in ELT Research	
4	Dr. Tungesh G.M.				2012	Understanding and Interpreting Sources for Developing New Texts: An Applied Linguistic - Approach	ELT Voices – India Volume 2 Issue 3 June 2012	
5	Murthy B R N,	Dr. Lewlyn L.R. Rodrigues	Anjaiah Devine ni		2012	Process Parameters Optimization in GFRP Drilling through Integration of Taguchi and Response Surface Methodology	Research Journal of Recent Sciences, vol. 1, no. 6, June (2012), , pp. 7-15. ISSN 2277-2502	
6	Asish O. Mathew	Dr. Lewlyn L.R. Rodrigues	Alapati Vittaleswar		2012	Human Factors & Knowledge Management: A System Dynamics Based Analysis, Journal of Knowledge Management Practice	Journal of Knowledge Management Practice, Vol. 13, No. 2, June 2012	
7	Dr. Lewlyn L.R. Rodrigues	Kantharaj A.N	Kantharaj B	Murthy B.R.N.	2012	Effect of Cutting Parameters on Surface Roughness and Cutting Force in Turning Mild Steel	Research Journal of Recent Sciences Vol. 1(10), 19-26, October (2012)	
8	Dr. G M Tungesh				2012	The Use of Media Sources and Authentic Materials for Language Teaching in ESL Classrooms	ELT Voices – India Volume 2 Issue 5 Oct-2012 © Ignite (India) Publishing,	

							Bhavnagar, Gujarat – India www.elvoice s.in ELT Research SSN 2230- 9136	
9	Praveen Shetty,	PrathapCh andra	Vishnu moorth y Prabhu		2012	Changing Notes in the Voices Beyond the Rooster Coop: A Neo-Capitalist Coup in Aravind Adiga's White Tiger	Text Matters – A Journal of Literature , Theory and Culture Pu blisher : University of Lodz', Poland.ISSN No: 2083- 2931	
10	Pratibha Pandurang a Kundapur a	Yagnesh Sharma Narayan Rao	Gopal Krishn a Barkur		2012	Evaluation of stress contours on a maxillary molar subjected to simulated tooth loads by finite element analysis technique	Archives of Orofacial Sciences The Journal of the School of Dental Sciences Universiti Sains Malaysia	
11	Asish O. Mathew,	Nair G.K	Dr. Lewlyn n L.R. Rodrig ue		2012	Systems Approach to Determine the Significance of the Critical Success Factors of a Knowledge Management System.	Research Journal of Management Sciences, Vol. 1(1), p28-36	
12	Girish K. Nair ,	Dr. Lewlyn L.R. Rodrigue			2012	Dynamics of Financial System: A System Dynamics Approach	International Journal of Economics and Financial Issues, Vol. 3, No. 1, 2013, pp.14- 26 ISSN: 2146- 4138	
13	B. Gopalkris hna	Dr. Lewlyn L.R. Rodrigue	Poorni ma P. Kunda pur	Shivan shu Manch anda	2012	Knowledge Management in Software Companies–An Appraisal	International Journal of Innovation, Management and Technology, Vol. 3, No. 5, October 2012	
14	Poornima P. Kundapur,	Dr. Lewlyn L.R. Rodrigues			2012	Simulating Knowledge Worker Adoption Rate of KMS:An Organizational Perspective	International Journal of Innovation, Management and Technology, Vol. 3, No. 4	

15	Prof Pradeep Kumar Shetty	Dr. K. V. M. Varambally	Dr. Lewlyn L.R. Rodrigues		2012	A Methodology for Implementing Total Productive Maintenance in Manufacturing Industries—A Case Study	International Journal of Engineering Research and Development e-ISSN: 2278-067X, p-ISSN : 2278-800X, Volume 5, Issue 2 (December 2012), PP. 32-39	
16	Ms. Kavitha Koppula	Dr. Lewlyn L.R. Rodrigues			2012	Job Scheduling of Nurse Staffing: A Dyanmic programming approach	International Journal of Research in Commerce IT & Management Vol:2 Iss:1 Page No:66 ISSN 2231-5756	
17	Dr. Lewlyn L.R. Rodrigues	Sathish Rao U			2012	Applying Wear Maps in the Optimisation of Machining Parameters in Drilling of Polymer Matrix Composites – A Review	Research Journal of Recent Sciences Vol.1(5), 75-82, May-2012 ISSN-2277-2502	
18	Dr. G M Tungesh				Feb-13	Pedagogic Implications on Narrative Techniques: A Try-Out in an ESL Context	ELT Voices – India Volume 3 Issue 1 February 2013 © Ignite (India) Publishing, Bhavnagar, Gujarat – India www.eltvoices.in ELT Research	
19	Dr. G M Tungesh				Feb-13	Humanist and Multi-Culturalist Approach in the Representation of Subaltern Literature	ELT Voices – India Volume 3 Issue 1 February 2013 ISSN 2230-9136	
20	N.H. RAKSHIT	Dr. Lewlyn L.R. Rodrigues			May-13	Lean Transformation For Green and Financially Viable Foundries	International Journal of Mechanical and Production Engineering(IJMPE)ISSN	

							No.:2315-4489,Vol-2, Iss-1, 2013	
21	Murthy B R N	Dr. Lewlyn L.R. Rodrigues			May-13	Analysis and Optimization of Surface Roughness in GFRP Drilling Through Integration of Taguchi and Response Surface Methodology	Research Journal of Engineering Sciences Vol. 2(5), 1-8, May (2013)	
22	Potti S.R.	Raghunandan. K	Dr. ShivaPrasad H C	K. G. Viswanadhan	May-13	An Empirical Study on Skewness of Test scores of a Management subject in an Autonomous Engineering College- A case study	International Journal of Management Research and Development (IJMRD)	
23	Dr. Lewlyn L.R. Rodrigues	Murthy B R N			Aug-13	Optimization of the Process Parameters to Minimize the Surface Roughness in Drilling of CFRP Composites using Taguchi Method and RSM	International Journal of Current Engineering and Technology ISSN 2277 - 4106 © 2013 INPRESSCO . All Rights Reserved. Vol.3, No.3 (August 2013) Available at http://inpressco.com/category/ijcet	
24	Girish K Nair	Dr. Lewlyn L.R. Rodrigues			Aug-13	Dynamics of Financial System: A System Dynamics Approach	International Journal of Economics and Financial Issues Vol. 3 No.1 2013 pp.14-26	
25	Veena Maben	Praveen Shetty			Oct-13	Teaching of Tenses using Compare and Contrast Approach to Undergraduate students	ELT Voices - India ol.3, issues 5	
26	Dr. G M Tungesh				May-13	The Necessity of Developing Teaching Portfolios For Teaching of English In ESL Context	Research Journal of English Language and Literature (RJELAL) A Peer	

							Reviewed International Journal - Vol.1.Issue.1. ; 2013 http://www.rjelal.com	
27	Dr. M. Sheik Mohamed,	Ms. Anisa. H	Dr. Lewlyn L R Rodrigues		Sep-13	Establishing the Link of OCB and CSR with Organizational Performance	International Journal of Engineering and Innovative Technology (JEIT) Volume 3, Issue 3, September 2013	
28	B. Giridhar Kamath	Dhanishth K Hosla			Sep-13	Establishing A relationship between Quality Reduced Lead time and workforce efficiency in a Manufacturing firm	International Journal of Multidisciplinary research Vol.Ii Issues 6 ISSN:2277-9302	
29	M.J. James	Dr.U. Faisal			Sep-13	Empirical Study on Addressing High Employee Attrition in BPO Industry Focusing on Employee Salary and other factors in Karnataka and Kerala states of India	Research Journal of Management Sciences, Vol. 2(9), p7-11, September 2013 , available online at : www.isca.in	
30	Vasanth Kamath	Dr. Lewlyn L. R. Rodrigues	Dr. Pradeep V. Desai		Jan-14	The dynamics of Knowledge Management and Innovation in the Indian manufacturing sectors: A Systems Perspective	International Journal of Engineering and Innovative Technology (JEIT) Volume 3, Issue 7, January 2014	
31	Rajesh R. Pai	Lewlyn L. R. Rodrigues	Asish Oommen Mathew	Sunith Hebbar	Jan-14	Impact of Urbanization on Municipal Solid Waste Management: A System Dynamics Approach	International Journal of Renewable Energy and Environmental Engineering ISSN 2348-0157, Vol. 02, No. 01, January 2014	
32	Asish Oommen Mathew	Vasanth Kamath	Lewlyn L. R. Rodrigues		Jan-14	Saving the big cats from extinction – a systems approach to study India's	International Journal of Renewable Energy and Environment	

						environmental initiatives to protect the Bengal Tigers	al Engineering ISSN 2348-0157, Vol. 02, No. 01, January 2014	
33	Vasanth Kamath	Asish Oommen Mathew,	Lewlyn L. R. Rodrigues		Jan-14	Indian Sparrows on The Brink Of Extinction: Population Dynamics Combined with Ecological Changes	International Journal of Renewable Energy and Environmental Engineering ISSN 2348-0157, Vol. 02, No. 01, January 2014	
34	Shiva Prasad, H C	Damodar Suar	Roman Tarabann		Mar-14	Antecedents and Moderators of Software Professionals performance	SAGE Open March 2014: 1-16: DOI: 10.1177/258244014521436	EBSCO, Ulrichs
35	Vasanth Kamath	Dr. Lewlyn L.R. Rodrigues	Dr. Pradeep V. Desai		Mar-14	Knowledge Management and Innovation in Indian small scale industries: A System Dynamics Approach	Pacific Business Review International Volume 6, Issue 9, March 2014	
36	Srijanya Reddy Yarram	Praveen Shetty			Apr-14	Indian Cosmopolitanism: A case for distinctive multiculturalism	The Global Studies Journal Volume -6, Issue-2, Page no: 42-45	
37	Mahesh Prabhu H, Lewlyn L. R. Rodrigues, Manmohan K, B. Gopalkrishna, Asish Oommen Mathew, Venugopal Shanbhogue	Girish Nair			Apr-14	Impact of Alternatives Sources of Energy on Carbon footprint Reduction- A System Dynamics Approach	International Journal of Renewable Energy and Environmental Engineering ISSN 2348-0157, Vol. 02, No. 02, April 2014	
38	Rao Srinivas Potti	Shiva Prasad, H C	Gopalkrishna B		May-14	Critical factors affecting success Of a blast furnace project	International Journal of Recent advances in Mechanical Engineering, Vol: 3 No.2 Page 47-56	Google scholars, Edu libs, Tech Republic, more than 50
39	Sathish Rao U	Lewlyn L. R. Rodrigues			May-14	Impact of Process factors on Twist Drill Wear In Machining GFRP Composites By Applying Taguchi	International Journal of Advanced Technology & Engineering	

						Design Analysis and ANOVA Technique	Research (IJATER) www.ijater.com	
40	Srinivasa G	Rao Srinivas Potti			May-14	Numerical Simulation of Axial flow Fan Using Gambit and Fluent	Published in IJRET journal, Volume3, Special Issue3, May 2014 (International Journal of Research in Engineering and Technology) ISSN: 2319-1163 p-ISSN: 2321-7308	
41	Keerthesh Kumar S	Lewlyn L. R. Rodrigues	Deepa Puthran	Manjunath M	May-14	An Application of Mixed Method in Forecasting Global Fuel Injection System(FIS) Market	The International Journal Of Business & Management (ISSN 2321 – 8916) Vol 2 Issue 5 page No. 188-192	
42	Manjunath M	Shiva Prasad, H C	Keerthesh Kumar S	Deepa Puthran	May-14	Value Stream Mapping as a tool for lean Implementation: A case study	International Journal of Innovative Research & Development Vol: 3 Issue:5 page no: 477-481	
43	Manjunath M	Shiva Prasad, H C	Keerthesh Kumar S	Deepa Puthran	May-14	Value Stream Mapping : A Lean Tool	The International Journal of Business & Management (ISSN 2321 – 8916) Vol 2 Issue 4 page No. 100-104	
44	Manjunath M	Shiva Prasad, H C	Keerthesh Kumar S	Deepa Puthran	May-14	Forecasting Global Turbocharger Market: A mixed method approach	International Journal of Innovative Research & Development Vol: 3 Issue:5 page no:335-339 ISSN 2278-0211 (Online)	
45	Nidhi Pandey	Vasanth Kamath	Rajesh R. Pai		May-14	Customer Relationship Management In The Case of Financial Service Sector	International Journal of Advanced Information Science and Technology ISSN:	ULRIC H , DRJI, Office J Gate, Electronic

							2319:2682 Vol.25, No.25, May 2014	Journals Library
46	Vikram B. Lakshmin ath	Anasuya Lingappa K	Vaithil ingam Ramas wamy Ragha v		Jun- 14	End user support- Process quality assurance	The International Journal Of Business & Management (ISSN 2321 -8916) www.theijbm .com	ULRIC H , DRJI, Office J Gate, Electron ic Journals Library
47	Anasbin TP	Lewlyn L. R. Rodrigues	Sunith Hebbar	Shyfer A Backer	Jun- 14	Process Improvement & Ensuring Customer Relationship Using Business Intelligence	The International Journal of Business & Management	ULRIC H , DRJI, Office J Gate, Electron ic Journals Library
48	Shyfer A Backer	B. Goapkrish na	Anasbi n TP		Jun- 14	A Study on HVDC smart grid transmission Market	The International Journal of Business & Management ISSN 2321 – 8916	ULRIC H , DRJI, Office J Gate, Electron ic Journals Library
49	Shanoob	Dr. James M J	Shahas ad V.		Jun- 14	A Business Feasibility of Mallu Talks, a Free Malayalam Magazine Based in United Arab Emirates	The International Journal Of Business & Management, (ISSN 2321 – 8916)	ULRIC H , DRJI, Office J Gate, Electron ic Journals Library
50	Vaithiling am Ramaswa my Raghav	Giridhar Kamath	Vikra m B. Laksh minath		Jun- 14	A Study On Process Automation Market	The International Journal Of Business & Management (ISSN 2321 -8916) Vol 1 Issue 1	ULRIC H , DRJI, Office J Gate, Electron ic Journals Library
51	Abhijit P K	Sunith Hebbar	Dr. ShivaP rasad H C	Mahes h Patil, Neeraj Borate	Jun- 14	A Study on the Significant Influence of Industry Institute Collaboration on Various Factors in Engineering Institute in Pune Region	The International Journal Of Business & Management, (ISSN 2321 – 8916)	ULRIC H , DRJI, Office J Gate, Electron ic Journals Library
52	Tungesh G.M.				Oct- 14	The Use of Task based Approaches for English	International Multidiscipli nary	

						Language Teaching	Research Journal Research Innovator, ISSN:2348-7674 Volume I Issue V	
53	Tungesh G.M.	Divya Das S.P.			Nov-14	The Urban Themes in the writings of Nissim Ezekiel and Eunice De Souza	www.research-chronicler.com Research Chronicler – International Multidisciplinary Research journal Vol. II Issue VII	
54	Tungesh G.M.				Nov-14	Textual Analysis For Developing Linguistic-Literary Competence: A Try- Out	Journal of Teaching and Education ISSN: 2165-6266: 03(03):13–18	
55	Nagraj Kamath	Dr. Lewlyn L.R. Rodrigues			Dec-14	A Pilot Study for Total Production Management in Printing Industry	Indian Journal of Applied Research Vol. 4 Iss.12, ISSN - 2249-555X	

❖ **Monographs - Nil**❖ **Chapters in Books – 06**

#	Author	Title	Book Title	Publisher	ISBN No
1.	Praveen K Shetty, V. Prabhu, Prathapchandra T	Balram Halwai, The White Tiger: A New Age Protagonist in the Indian Fiction in English	Booker Prize Winner Indian English Novels- A Kaleidoscopic Study	Aavishkar Publishers, Distributors, 2011	978-81-7910-341-8
2.	Lewlyn L.R. Rodrigues	Role of technology in Rural Transformation	Rural Transformation and Developmental perspectives Managerial Challenges	IK International Publishers 2012	978-82062-46-2
3.	K.P. Nandhan Prabhu, Lewlyn L.R. Rodrigues & K.P.V. Ramana Kumar	Modernity and Spirituality: Relevance of Gandhian thought for Rural transformation	Rural Transformation and Developmental perspectives Managerial Challenges	IK International Publishers 2012	978-82062-46-2
4.	Veena Maben	Pauline Mogling-An exceptional vision woman	Zukunft Im Gedenken-Future in Remembrance	Albreche Frenz Herstellung und Verlag,	978-3-8334-8119-2

				2013	
5.	HC Shivaprasad & Suar Damodar	Do need for achievement and need for social power moderate performance of software professionals?	Emotional Intelligence – Optimising human performance at work	2012	
6.	Veena Maben	Tulunadu in German writings in the Basel Mission Journals and Magazines- Some glimpses	Kalembi – A collection of articles on Tulu language	Vishwa Tulu Sammelana 2014	

* **Edited Books** - Nil

* **Books with ISBN with details of publishers** –

Authors	Title	Publishers
Dr B J Ranganath, Dr Lewlyn L R Rodrigues	System Dynamics- Theory & Case Studies (Revised Edition)	IK International Publishing Home Pvt Ltd, New Delhi. 2012, ISBN 978-93-81141- 18-2.
Lewlyn LR Rodrigues, Hussain A., Aktharsha U.S. & Nair, G.	Service Quality Measurement: Issues and Perspectives	Anchor Academic Publishing, 2013 www.anchor- publishing.com, ISBN 978- 3954890521

* **Number listed in International Database** (For e.g., Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) –

Year	Number
2012	26
2013	32
2014	40

* h-index (Google Scholar): Lowest: 1, Highest: 10, Average: 2.5

23. Details of patents and income generated:

Patent Filed:

Faculty	Title	Application Number	Year of filing
Prof. B. N. Karkera & Dr. Lewlyn L Raj Rodrigues	Worm Rabbit Drive Mechanism (Alternative nuclear feeder mechanism for radiation minimization)	2342/CHE/2013	2013

24. Areas of consultancy and income generated –

a) Consultancy

Consultant Name	Area	Year
Prof. Dr. B. Gopalakrishna	Insurance Valuation Consultant recognised by Indian Valuation Association	2014 to date

b) Invited lectures & resource persons

Author	Title of the talk	Date & Venue
Dr. Lewlyn L. Raj Rodrigues	System Dynamics	24th August 2012 at Manipal Institute of Management
Dr. Lewlyn L. Raj Rodrigues	How to become an effective teaching faculty	25th August 2012, MGM Udupi
Dr. Lewlyn L. Raj Rodrigues	Motivation towards quality	16th November 2012, Syndicate Institute of Bank Management, Manipal
Dr. Lewlyn L. Raj Rodrigues	Decision Making	16th November 2012, Syndicate Institute of Bank Management, Manipal
Dr. Lewlyn L.Raj Rodrigues	Leadership and Motivation	17th July, 2013 for MBBS students, KMC Manipal
Dr. Lewlyn L. Raj Rodrigues	Design of Experiments in Engineering & Science, Summer School on Research Methodologies	5-6, June, 2013, MCOPS, Manipal

Dr. Lewlyn L. Raj Rodrigues	Design of Experiments in Engineering & Science, Summer School on Research Methodologies	29th June, 2013, MCOPS, Manipal
Dr. Lewlyn L. R Rodrigues	Leadership Skills	21st Oct 2013 Syndicate Institute of Bank Management, Manipal
Dr. Lewlyn L. Raj Rodrigues	Creativity in Decision Making	28th Oct 2013, Syndicate Institute of Bank Management, Manipal
Mr. Praveen K Shetty	Communication Skills Verbal & Written (including Email)	29th January 2013, SMVITM Bantakal Udupi.
Dr. Lewlyn L. Raj Rodrigues	Leadership and Motivation	Manipal Group on 6th Feb 2014.
Dr. Lewlyn L. Raj Rodrigues	Time Management	Syndicate Institute of Bank Management, Manipal on 27th January 2014
Dr. Lewlyn L. Raj Rodrigues	Managers to Leaders	Manipal Technologies Limited, Manipal on 16th Feb, 7th May & 25th September 2014
Dr. Lewlyn L. Raj Rodrigues	Decision Making	16th November 2012, Syndicate Institute of Bank Management, Manipal
Dr. Lewlyn L. Raj Rodrigues	Motivating towards Research Initiatives & Methodologies	SMVITM Bantakal on Saturday, 10 May 2014
Dr. Lewlyn L. Raj Rodrigues	Managers Vs Leaders	Manipal Technologies Limited Udayavani Bldg. Manipal on 3rd July 2014
Dr. Lewlyn L. Raj Rodrigues	‘Leadership & Team building’,	Syndicate Institute of Bank Management, Manipal on 22, 28, August & 12th September 2014
Dr. Lewlyn L. R Rodrigues	‘Decision Making’	Syndicate Institute of Bank Management, Manipal on 10th October 2014
Dr. Lewlyn L. Raj Rodrigues	Effective Delegation of Authority and Decision Making”	Syndicate Institute of Bank Management, Manipal on 5th November 2014

Dr. Lewlyn L. Raj Rodrigues	Promoting Innovation & Creativity	Manipal Technologies Limited. Manipal on 3rd July 2014
Dr. Lewlyn L. Raj Rodrigues	Leadership and Team Building	Syndicate Institute of Bank Management, Manipal on 8th December 2014
Dr. Lewlyn L. Raj Rodrigues	Effective delegation of authority and Decision Making	Syndicate Institute of Bank Management, Manipal on 18th February 2015
Dr. Lewlyn L R Rodrigues	Leadership & Team building	Syndicate Institute of Bank Management, Manipal on 17th April 2015
Mr. Harshith Babu	Challenges in Entrepreneurship	Manipal University Technology Business Incubator on 2 February 2015
Mr. Harshith Babu	Ethics and Success Stories	Manipal University Technology Business Incubator on 3 February 2015
Dr. James M J	Entrepreneurship: Introduction, importance & significance, various types	Manipal University Technology Business Incubator on 28 January 2015
Dr. Shiva Prasad H C	Achievement Motivation Training	Manipal University Technology Business Incubator on 29 January 2015
Dr. Shiva Prasad H C	Resource Person: in the event 'Exo-Print 2015' held at T.M.A Pai Polytechnic, Manipal on 03 Oct 2015	
Dr. Lewlyn L Raj Rodrigues	Resource Person: in the Summer Training 2015 organized by "Manipal University Students' Research Forum on 26th June 2015	
Mr. Abhay Shetty	Communication Skills training for TMA Pai Polytechnic, Organized by Rotary Manipal, July 2015	
Mr. Abhay Shetty	'Indian Culture' to students of Nanyang Polytechnic Singapore, at MCON Manipal, January 2014 & January 2015	
Mr. Praveen K Shetty	'Indian Culture' to exchange students of European Studies, June 2014 & June 2015	
Mr. Praveena K Shetty	School Contact Programs by Manipal University, 2015	

25. Faculty members selected nationally/ internationally to visit other laboratories in India and abroad –

Faculty Name	Scholarship	Host University	Duration	Year
Praveena K Shetty	Erasmus Mundus scholarship through the Erasmus Mundus Interdisciplinary Bridges for Indo-European Studies (IBIES) scholarship programme	Hochschule Bremen, Germany	10 Months	2014

26. Faculty members serving in

- a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Name	Committee details	Since
Dr Lewlyn L R Rodrigues	Editorial Board, Journal of Knowledge Management Practice, Canada, ISSN 1705-9232.	2006 to date.
Dr Lewlyn L R Rodrigues	Reviewer, System Dynamics Conference, Massachusetts Institute of Technology, Boston, USA	2007 to date.
Dr Lewlyn L R Rodrigues	Reviewer, Journal of Quality and Reliability, Emerald Insight Journal	2013 to date.
Dr Lewlyn L R Rodrigues	Reviewer, System Dynamics Society, Massachusetts Institute of Technology, Sloan School of Management, Boston, USA, Conference Proceedings.	2007 to date.
Dr Lewlyn L R Rodrigues	Reviewer, African Journal of Business Management, ISSN 1990-3839.	2010
Dr Lewlyn L R Rodrigues	Reviewer, Journal of Library and Information Science, ISSN 2141 - 2537	2010
Dr Lewlyn L R Rodrigues	Reviewer, Journal of Knowledge Management Practice, Canada, ISSN 1705-9232, TLA: INC, 2006 to date, http://www.tlainc.com	2006
Dr Lewlyn L R Rodrigues	Reviewer, Engineering Management Research Journal, http://www.ccsenet.org/journal/index.php , Canada.	2009
Dr Lewlyn L R Rodrigues	Member Technical Committee, EMS2009 (European Modelling Symposium 2009), Athens, Greece, 25 - 27 November 2009, Papers published IEEE Computer Society	2009
Dr Lewlyn L R Rodrigues	Member Technical Committee, AME09, Vidya Vikas Institute of Technology & Engineering, Mysore 5th October 2009.	2009

Dr Lewlyn L R Rodrigues	Member Technical Committee, ISMS2010 (1st International Conference on Intelligent Systems, Modelling and Simulation), Liverpool, UK, 27 - 29 January 2010.	2010
Dr. Shiva Prasad H C	Conference Committee Member, 17th International Conference on Entrepreneurship and Small Business 2015	2015
Dr. Shiva Prasad H C	Conference Committee Member, 17th International Conference on Managing Intellectual Property, 2015	2015
Dr. Shiva Prasad H C	Conference Committee Member, 18th International Conference on Marketing and Retailing, 2016	2016
Dr. Shiva Prasad H C	Conference Committee Member, 18th International Conference on Technology and Innovation 2016	2016
Dr. Shiva Prasad H C	Conference Committee Member, 18th International Conference on Innovation and Regional Development 2016	2016
Dr. Shiva Prasad H C	Reviewer, South Asian Journal of Management, AMDISA	2012 to date
Dr. Shiva Prasad H C	Reviewer, Information Technology & People, Emerald Publishers	2012 to date
Dr. Shiva Prasad H C	Reviewer, Universal Journal of Management, Horizon Research Publishers	2013 to date
Dr. Shiva Prasad H C	Reviewer, The Economic and Social Review, Economic and Social Studies	2013 to date
Dr. Shiva Prasad H C	Panel member, Engineering Entrance Examination, Union Public Service Commission, New Delhi	2012 to date
Dr. Shiva Prasad H C	Editor-in-chief, Manipal Journal of Management Research, Manipal University Press	2015 to date

27. Faculty recharging strategies

- Participation of faculty members in international faculty exchange programs: Nil
- Participation of faculty members in national and international conferences, symposia and workshops: 43 (From 2012 to 2014)
- Participation of faculty members in Faculty Development Programmes and refresher courses organized by other Universities, UGC and others: 21 (From 2012 to 2014)

28. Student projects

- percentage of students who have done in-house projects including inter-departmental projects – 21%
- percentage of students doing projects in collaboration with other universities/industry/institute – 79%

29. Awards/recognitions received at the national and international level by

- Faculty: 3 +1 (Best Paper Awards, Scholarship - Germany)
- Doctoral / post-doctoral fellows: 2 (FWBI - Australia)
- Students: 6 (Student Scholarships and Best Poster Awards)

30. Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any.

National seminars – Nil

National Conference – 01

A Two-Day National Conference on English Language and Literature – “Language Beyond Boundaries: Explorations In Pedagogy, Cognition and Communication”	13-14 December, 2012
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31. Code of ethics for research followed by the departments

- To protect the dignity, rights and well-being of the potential research participants
- To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs
- To assist in the development and the education of a research community responsive to local health care requirements.

32. Student profile course-wise:

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
PG M.Tech (Engineering Management- 2012-2014 Batch)	(Refer data from admission department)	14	4	100%	100%
PG M.Tech (Engineering Management- 2013-2015 Batch)		12	6	92%	100%
PG M.Tech. (Engineering Management-2014-2016 Batch)		14	5	Ongoing	

33. Diversity of students

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
PG Engineering Management	06%	50%	44%	-

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Three Students (GATE):

- Neema Merlin Rodrigues (M.Tech Engineering management 2012-2014 Batch)
- Akshay G Vaidya (M.Tech Engineering management 2013-2015 Batch)
- Anson Roshan Antony Quadros (M.Tech Engineering management 2013-2015 Batch)

35. Student progression

Student progression	Percentage against enrolled
UG to PG	05
PG to MPhil	Nil
PG to PhD	03
PhD to Post-Doctoral	Nil
Employed	
• Campus selection	20%
• Other than campus recruitment	80%
Entrepreneurs	Nil

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	20%
from other universities within the State	56%
from universities from other States	14%
from universities outside the country	05%

37. Number of faculty who were awarded PhD, DSc and DLit during the assessment period: 02

38. Present details of infrastructural facilities with regard to

- a) **Library:** In addition to the institutional library department has a library with Management and English books and journals: 58 Books.
- b) **Internet facilities for staff and students:** Facilities provided to faculty in their cabin, and Wi-Fi available for students.
- c) **Total number of classrooms:** Shared classrooms
- d) **Classrooms with ICT facility:** Shared classrooms
- e) **Students' laboratories:** 1
- f) **Research laboratories:** Modelling and Simulation and Language Lab

39. List of doctoral, post-doctoral students and research associates

- a) from the host university

Sl. No	Name	Topic	Guide
1.	Mr. Potti Srinivasa Rao Associate Prof., Dept. of H & M, MIT, Manipal	Empirical Investigations for The Achievement of Excellence in Private Engineering Colleges in India	Dr. Raghunandana K Co-Guide: Dr. Vishwanathan K. G
2.	Mr. Vasanth Kamath, TAPMI, Manipal	Knowledge and Innovation management in manufacturing using system dynamics approach.	Dr. Lewlyn L Raj Rodrigues
3.	Mr.Nagaraj Kamath, Asst. Prof., Dept. Of Printing & Media Tech., MIT, Manipal.	Total Production Management in commercial Printing Industry: A Case study using system dynamics approach.	Dr. Lewlyn L Raj Rodrigues
4.	Ms. Asha S Pai, Asst. Prof., Dept. Of Printing & Media Tech., MIT, Manipal.	Lean and Green Manufacturing: A study to enhance Productivity and Sustainability in Commercial Printing Industry.	Dr. Lewlyn L Raj Rodrigues
5.	Mr. Praveen K Shetty Asst. Prof., Dept. of H & M, MIT, Manipal	Exploring Alternative Dimensions through Indian Multiculturality: A study among select Organisations	Dr. Neeta Inamdar
6.	Ms.Kyathi Shetty, Lecturer, Manipal University, Dubai Campus.	Dynamic of Brand – Personality congruence and its influence on trust, customer	Dr. Lewlyn L Raj Rodrigues

		satisfaction and loyalty in Banking: An empirical study	
7.	Dr. Swathi K S Assistant Professor School of Management Manipal University, Manipal	Impact of Hospital Accreditation on Quality of Patient Care and Satisfaction	Guide: Dr. G. Somu Co-guide: Dr. Gopalakrishna Barkur
8.	Mr. Asish Oommen Mathew, Asst. Prof., Dept. of H & M, MIT, Manipal	KM in Indian Software Industry- A study of the influence of Critical Success Factors on Process Capability and Managerial Effectiveness	Dr. Lewlyn L Raj Rodrigues
9.	Ms. Rashmi Devadas Hegde, Assistant Professor, Dept. of Humanities, NMANIT Nitte	Perspectives of English Language Teaching: Teachers' Narratives	Dr. G. M Tungesh Co-guide: Dr. Veena Maben

b) From other universities – 2

Sl. No	Name	Topic	Guide
1.	Ms. Swapna K.S	Strategies of survival during Holocaust: Tracing Ida Fink's Journey	Dr. Rachel Bari, Kuvempu University, Karnataka
2.	Ms. Adithi Shastry Kallaje	Critical Analysis of Cultural Experience and Alienation in Upamanyu Chatterjees Novels	Prof. R Shashidhar, Dept. of English, Mangalore University

40. **Number of postgraduate students getting financial assistance from the University**
- 09

41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.**

Inputs are collected from industry, academicians and other stakeholders.

42. **Does the department obtain feedback from**

a. Faculty members on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Academic committee has been constituted in the department to discuss matters pertaining to curriculum development and teaching - learning process.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Feedback at the end of every semester is collected from the students and communicated to the faculty.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

The academic committee is in contact with the alumni and employers consistently and takes feedback during curriculum development. The feedback is incorporated in offering of newer open electives and programme electives during the curriculum revision, introduction of courses, or invited lectures on multi-disciplinary areas.

43. List the alumni of the department (maximum 10)

Name of Alumnus/Alumna	Year of passing
1. Kishor Kumar Aroor	2011-'12
2. Yatish Talavadia	2011-'12
3. Hassan Fainaze T M	2011-'12
4. Smitha Rao K S	2011-'12
5. Keerthesh Kumar K S	2012-'13
6. Manjunath M	2012-'13
7. Mahesh Prabhu H	2012-'13
8. Ashwin J Baliga	2013-'14
9. Aparna K	2013-'14
10. Sonawane Salonee Hemant	2013-'14

44. Give details of student enrichment programmes (special lectures//seminar) involving external experts.

Dr. Charles Tritt, Associate Professor and Director of the Biomedical Engineering. Department: Electrical Engineering and Computer Science, Milwaukee School of Engineering, USA	Comparison of Business Models in U.S and India	Aug 2014	M.Tech Engineering Management Students
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Mr. S H Keshava General Manager (Retd.) Indian Overseas Bank	General Management and HRM	Oct 2014	M.Tech Engineering Management students
Mr. Nitin Mascreen	NLP and Personal Communication	Oct 2014	M.Tech Engineering Management students
Mr. Chetan B. Singai Research Fellow (EDGE)	Interdisciplinary Research Methods	Sept 2014	M.Tech. Engineering Management Students
Dr. Sunderesh S Heragu (Professor and Head, School of Industrial Engineering and Management, Oklahoma State University , USA	Supply Chain Management	May 2015	Faculty Members & Students of M.Tech. Engg. Mgmt.
Mr. C.K. Dwarakanath, facilitator for learning at Pegasus Institute for Excellence, Bangalore	Experiential Learning Format	Jan 2015	Faculty Members & Students of M.Tech. Engg. Mgmt.
Prof Jutta Berninghausen, Head – Centre for Intercultural Management, Hochschule Bremen, University of Applied Sciences, Bremen, Germany	Educational Opportunities in Bremen	Oct 2015	Faculty Members & Students of M.Tech. Engg. Mgmt.
Prof. Rajiv C Krishnan, Professor of English Literature at the English and Foreign Languages University	Literature and Modernity	Oct 2015	Faculty Members & Students of B.Tech.

45. List the teaching methods adopted by the faculty for different programmes.

PG (M.Tech. in Engineering Management)

1. Case study based teaching methods.
2. Panel Discussion.

3. Problem-based learning.
4. Skill based learning.
5. Lecture method.
6. Industrial visits.
7. Invited lectures and interaction with subject experts.
8. Seminars and Conferences.
9. Laboratory hands on experience.
10. Activity based learning.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

Class committees are formed, in which students and faculty members discuss the programme objectives and their compliance. Feedback from alumni and employers are also taken to test the outcome achievement.

47. Highlight the participation of students and faculty in extension activities.

Both faculty and students participate in social organizations and welfare associations. Student clubs such as Disha, Red-X, Photography, Leaders of tomorrow etc., and faculty clubs in which faculty socialize and also participate in community development activities.

48. Give details of “beyond syllabus scholarly activities” of the department.

Students enrol in activities of following Student chapters at MIT.

- International Association of Exchange of Students for Technical Expertise.
- International Association of Students in Economic and Commercial Sciences.
- Students of M.Tech. (Engineering Management) prepare Business Plan and participate in Manipal University Technology Business Incubator event called ‘Provenence’ which is a State Level Business Plan Competition.

49. State whether the programme/ department is accredited/graded by other agencies? If yes, give details.

ISO 9001:2008 and ISO14001:2004.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

The department conducts Lecture series in emerging areas in the field of Engineering Management and Language Studies. Newer knowledge in emerging fields is generated by participating in national and international conferences/symposiums in which our faculty and students present papers and interact with their counterparts

from the leading universities across the world. Faculty have also gone on funded research to European countries for a yearlong sabbatical and actively involved in research. The department also organizes workshops in niche areas such as Research Methodologies where professors from different universities share their research experiences with the participants. The participants also interact with each other during the workshop and generate newer knowledge.

51. Future plans of the department.

1. Introduce B. Tech. programme in Industrial Engineering and Management.
2. Introduce Integrated MBA programme with B. Tech. programme.
3. Collaborate with foreign universities in M. Tech. (EM).
4. Initiate inter-institutional projects.
5. Establish Centre for Excellence through external funding.
6. International faculty collaboration.
7. Organise national and international seminars/conferences/symposia.
8. Start cloud based ERP training programs for PG students.
9. Attract more research funds to the department.
10. Increase number of Ph.D. registrations.
11. Improve the quality and quantity of publications in reputed journals.
12. Initiate collaborative research papers with faculty from international universities.
13. Introduce a journal of Management and Social Sciences.
14. Offer more number of consultancies and invited lectures.
15. Collaborate with other universities in the country for joint projects in agriculture, horticulture, environmental issues and business sustainability.

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:

1. Qualified, experienced and committed faculty members.
2. Core competencies in diversified fields of Engineering Management and Language Studies.
3. Higher demand for open electives offered by the department.
4. Versatility of faculty through multi-disciplinary knowledge.
5. Potential to generate newer knowledge in niche areas.

Weakness:

1. No undergraduate programme in the department.
2. Inadequate external research funding.
3. Lack of international collaborations.
4. Inadequate research consultancies.
5. Limited institute-industry interaction.

Opportunities:

1. Initiating international collaborations and professional partnerships.
2. Offering open electives across the university.
3. Conducting workshops/international conferences in thrust areas.
4. Introducing integrated MBA programme.
5. Launching an undergraduate programme.

Challenges:

1. Employment of international faculty.
2. Operating from a semi-urban location.
3. Research funding from external national/international agencies.
4. Faculty and student exchange programme for international exposure.
5. Placement in the area of specialization.

1. **Name of the Department:** Instrumentation and Control Engineering (I and CE)
2. **Year of establishment:** 2001
3. **Is the Department part of a School / Faculty of the university?**
Yes, Manipal Institute of Technology, Manipal

4. **Names of Programmes / Courses offered,**

1	B. Tech (Instrumentation and Control Engineering)
2	M. Tech (Control Systems)
3	M. Tech (Astronomy and Space Engineering)
4	Ph.D (Instrumentation and/or Control System)

5. **Interdisciplinary courses and departments involved**

- Interdisciplinary courses – Open Electives (*all other departments involved*)

Sl. No.	Interdisciplinary Course	Department involved
1.	Engineering Mathematics I, II,III, IV	Mathematics
2.	Mechanics of Solids	Civil Engineering
3.	Mechanical Engineering Sciences	Mechanical and Manufacturing
4.	Engineering Physics	Physics
5.	Basic Electronics	Electronics and Communication
6.	Environmental Studies	Civil Engineering
7.	Basic Electrical Technology	Electrical and Electronics Engineering
8.	Engineering Chemistry	Chemistry
9.	Essentials of Management and Engineering Economics	Humanities and Management
10.	Problem Solving using Computers	Computer Science
11.	Analytical Instrumentation	Chemistry
12.	Open electives	All other departments
13.	Biology for Engineers	Biotechnology
14.	Engineering Graphics I & II	Mechanical and Manufacturing
15.	Engineering Economics & Financial Management	Humanities and Management

6. **Courses in collaboration with other universities, industries, foreign institutions, etc.**

Courses Offered by IITs through QEEE such as Analog Circuits, Electromagnetic Waves, Computer Organization and Architecture, Control Systems, Machine Learning, Fiber Optic Communication, Digital Communication Systems, Wireless communication etc.

7. Details of programmes / courses discontinued, if any, with reasons

NIL

8. Annual/ Semester/Choice Based Credit System

Semester Based 10-point Credit System

To appreciate the importance of knowledge existing in other domains, there is a provision of open electives wherein students can opt a set of subjects offered by different departments / Institutions under MU. Some such courses offered by our department are:

- a) Introduction to Industrial Instrumentation
- b) Control systems
- c) Programmable logic controller (PLC)
- d) Virtual Instrumentation
- e) Industrial Process control

9. Participation of the department in the courses offered by other departments

Sl. No.	Interdisciplinary Course	Department involved
1.	Control System Design	Aeronautical Engineering
2.	Programmable logic controllers (Theory and Lab)	Mechatronics
3.	Electronics Measurements and Instrumentation (Theory and Lab)	Mechatronics
4.	Control systems	Mechatronics
5.	Open electives Programmable Logic Controllers	All other departments except Mechatronics
6.	Open elective: Introduction to Industrial Instrumentation	All other departments
7.	Open Electives for PG	All other departments
8.	Dynamics of Systems (Theory and Lab)	ICAS

10. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Assistant Professors)

	Sanctioned	Filled
Professor	04	02
Associate Professor	08	04
Assistant Professor	18	22
Total	30	28

11. Faculty profile with name, qualification, designation and specialisation

#	Name and Qualification	Designation	Specialization	Years of Experience	PhD students guided for the last 4 years
1	Dr Shreesha C ME, PhD	Professor	Control Systems	26	2+2 ongoing
2	Dr V I George MTech, PhD	Professor	Control Systems	30	3+6 ongoing
3	Dr C Gurudas Nayak MS, PhD	Assoc. Prof.	Mobile Communication	10+13 (Industry)	02 ongoing
4	Dr Surekha Kamath MTech, PhD	Assoc. Prof.	Biological Control Systems	19	3 ongoing
5	Dr I Thirunavukkarasu ME, PhD	Assoc. Prof.	Process Control	10	3 ongoing
6	Dr S Meenatchisundaram M Tech, PhD	Assoc. Prof.	MEMS	12	-
7	Mrs Sandra D'Souza MTech	Asst. Prof. - Selection grade	Biomedical	18	-
8	Dr. Santhosh K.V. M. Tech, PhD	Asst. Prof. - Senior grade	Instrumentation	6.5+2.5 (Research)	-
9	Mr Cyril Joseph M Tech	Asst. Prof. - Senior grade	Hybrid Control System	7	-
10	Mrs Vidya S Rao M Tech	Asst. Prof. - Senior grade	Control System	9	-
11	Mr Bipin Krishna M Tech	Asst. Prof. - Senior grade	Control System	7	-
12	Mrs Bhagya R Navada M Tech	Asst. Prof. - Senior grade	Control System	9	-
13	Mr. Anjan Gudigar M Tech	Asst. Prof. - Senior grade	Microelectronics and Control Sys	7	-
14	Ms Preeti Mohanty M Tech	Asst. Prof. - Senior grade	Digital Electronics & Advanced Communication	6	-
15	Mr C R Srinivasan M Tech	Asst. Prof. - Senior grade	Embedded Systems	6	-
16	Mr Santhosh Kumar Choudhury MSc, M Tech	Asst. Prof. -	Space Engineering	5	-
17	Mr Mukund Kumar Menon, MTech	Asst. Prof.	Control Systems	5	-
18	Mr P Chenchu Sai Babu M Tech	Asst. Prof.	Instrumentation	4.5	-
19	Ms D K Krishna Kumari M Tech	Asst. Prof.	Control System	4	-
20	Mrs Nanditha Nair M Tech	Asst. Prof.	Space Engineering	4	-

#	Name and Qualification	Designation	Specialization	Years of Experience	PhD students guided for the last 4 years
21	Mr Aneesha Acharya M Tech	Asst. Prof.	Biomedical	4	-
22	Mr Winston Netto M Tech	Asst. Prof.	Navigation, Guidance and Control	3	-
23	Dr Raghavendra U M Tech, PhD	Asst Prof	Computer vision	5 + 3 (Research)	02
24	Mrs Sravani M Tech	Asst Prof	Digital systems	2.5	-
25	Mr Ramakrishna Kini M Tech	Asst Prof	Process control and automotive instrumentation	1+4.3	-
26	Mr Nevine Augustine M Tech	Asst Prof	Process Control and Instrumentation	2	-
27	Mr Sumit Shinde M Tech	Asst Prof	Process Control and Instrumentation	2.3	-
28	Mr Kapil Sadani M Tech	Asst Prof	Instrumentation	1	-
29	Mrs. Jeane Marina D'Souza	Asst Prof	Control Systems	5	-

12. List of senior visiting fellows, faculty, adjunct faculty, emeritus professors

#	Name	Adjunct Faculty
1	Dr A Ramakalyan	Professor and Head, ICE Department, NIT, Trichy, Tamil Nadu

13. Percentage of classes taken by temporary faculty – programme wise information

NIL

14. Programme wise Student Teacher Ratio:

Sl. No	Program	Student Teacher ratio
1	B.Tech	1:11
2	M.Tech	1:10

15. Number of academic support staff (technical) and administrative staff: sanctioned and filled

10 / 10

16. Research thrust areas recognized by funding agencies

- a. Control System Engineering
- b. Instrumentation Engineering
- c. Biomedical Engineering
- d. Smart sensor technology
- e. Image and Computer Vision
- f. Process Control

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received.

National Funding received (Ongoing):

#	Name of the Faculty	Funding Agency	Grants Received
1	Mr. Bipin Krishna	Defence Research and Development Organization (DRDO) Aug 2012. For two years "Design and Implementation of Controller for Rotary Double Inverted Pendulum"	2.66 Lakhs
2	Dr.I. Thirunavukkarasu	Science and Engineering Research board(SERB), DST Fast track scheme for young scientist, 3 years, SB/FTP/ETA-308/2012, 24/5/2013 "Investigation and physical realization of 2 degrees of freedom PID controller with anti-reset wind up for the fast tracking control loops"	13.59 Lakhs

International Funding Received: Nil

18. Inter-institutional collaborative projects and grants received

a) All India collaboration b) International

1. UG and PG student project are carried out in industries, national laboratories (DRDO, ISRO, NAL, etc), and premier institutes (IIT, NIT, IISc, etc).
2. Our students participate in student exchange program (IAESTE, AISECE) for projects/ training in international universities.

Student Name	Project Title/ Area	Organization/Institute
Ankit	Automation Medication Dispenser	Applied Cognition Systems Pvt. Ltd. Bangalore
Vivek Thullimalli	Design and Simulation of Closed Loop Control Mechanism in Fiber Optic Gyroscope	DRDO, Hyderabad.
Shreya Chakraborty	State Observer based sliding mode controller for atmospheric phase control of a launch vehicle.	VSSC, Trivandrum

Bathala Venkata Vikas	Homing Phase Guidance Algorithms for Spacecraft Rendezvous and Docking	ISRO, Bangalore
Pavanraj.H.R	Modeling and Testing of Protective Distance Relay using MATLAB/Simulink Graphical user Interface	GEII Pvt. Ltd, Bangalore
Pathan Fayaz Khan	Patient Hoist Control System	Applied Cognition Systems Pvt. Ltd, Bangalore
Mithun.P	Adaptive and GMC controller for a shell and tube heat exchanger process	MIT, Manipal
Astha Upadhya	Access Security System	Applied Cognition Systems Pvt. Ltd, Bangalore
Lyn Elizabeth Puthooran	Event Detection in Video Data	IT Globe, Bangalore
Avanthi.P	Design of flight control system for an aerospace vehicle	DRDO, Hyderabad
Vikas Kumar Sinha	Inertial Sensor calibration by different optimization techniques	CSIR, Chandigarh
Ashwini Mohan	Servo System Design for the Thrust Vector control of the solid booster stage of a 3-Stage Launch Vehicle	VSSC, Trivandrum
Pavan Kumar Kalyanpur	Spacecraft rendezvous and docking using Model Predictive Control	ISRO, Bangalore
Nikhil.J	Design and Control of Mobility Vehicle	APCOG systems pvt. Ltd, Bangalore
Priyanka.S	Design of an optimal Receiver for identification of point targets in IR Images	DRDO, Bangalore
Karanam Avinash	Model based design approach for thermal system of an automobile	Robert Bosch Engg. & Business Solutions, B'lore
Deepak Chandran	Modeling and Control design for a parallel rotary double inverted pendulum	MIT, Manipal
Jayachandra Dasari	Design Three Output 10W space graded DC-DC converter power supply module for Leo-Satellite.	DRDO, Hyderabad
P.Rajesh	Design of sliding mode controller for electromechanical actuator	RCI, Hyderabad
V.Sangeetha	Power factor improvement in Electric/Hybrid vehicle battery charges using feed forward control loop	KPIT Cummins, Bangalore
Rakesh Bhat	Sensor based control for Adjustment of seat features	KPIT Cummins, Bangalore
Karthik Nayak	Optimal Path Planning Algorithm of an Autonomous Farm Vehicle	KPIT Cummins, Bangalore
Radhika Y.R	Multisensor Data Fusion	IT Globe, Bangalore
Prakash B Patil	Analysis and simulation of helicopter dynamics for terrain conflict avoidance under flow visibility condition	IT Globe, Bangalore
Vijeth Maxim D'Souza	Design and Implementation of Dassault RAfale Fighter Aircraft Dynamics in Lateral Axis	IT Globe, Bangalore

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received.

Please refer to the details provided in Serial number 17.

In addition to this,

1. PG students execute live projects at industries with stipend (Details provided in table for serial no. 18).
2. IAESTE students go abroad and execute live projects with scholarship.
3. IAESTE students coming from abroad work on MU funded projects.
4. Full time research scholars with internal funding by the University. They work in the areas of Control Systems, Process Control, and Path optimization.

Student Name	Project Title/ Area	Organization/Institute	Country
Michal Heichel	Analog signal in Programmable Logic Controllers	Poznan University of Technology, Poznan.	Poland
Bağdat Ecem Tunay	Biomedical Image Processing	Yildiz Technical University.	Turkey
Zhanseiit Akkainar	Ultrasonic flow meters.	Rudny Industrial Institute, Rudny.	Kazakhstan.
Nakamura Issei	Segmentation of Breast Thermogram Images	Tokyo Institute of Technology,	Japan
Al Karasoui	Classification of Breast Thermogram Images for Detection of Breast Cancer	Sultan Quaboos University	Oman
Karsten Rinas	Classification of Breast Thermogram Images for Detection of Breast Cancer	Hamburg Germany	Germany
Amadi Chibuotu	Design And Development of Feature Representation And Selection Algorithms	Department Of Computer Engineering University Of Benin	Nigeria
Hamza Adeeb Khalaf	Liquid quantity analysis used in multi sensor data fusion	An-Najah National University	Palestine

20. Research facility / centre with

State recognition: Calibration station available in department is used to calibrate pressure gauges, thermocouples and RTD. Automation lab in the department is a state of the art laboratory with industrial standard PLC, SCADA and DCS. Also initiated the steps to establish centre of excellence for Industrial Automation in collaboration with Yokogawa India.

National recognition: Conical tank system, heat exchange, three tank system, inverted pendulum are some of the benchmark system available in the department. MUTBI as central facility funded by state and central governments and Manipal University,

Central Instrumentation Facility funded by Manipal University are also available for research.

21. Special research laboratories sponsored by / created by industry or corporate bodies

LabVIEW Academy in collaboration with National Instruments, USA was setup in the year 2009. The lab facility was created for understanding the concept of data acquisition and control application with the help of DAQ boards. Facilities in the academy provides excellent platform for UG and PG students to apply their concepts to realize it in different applications.

22. Research output in Last three years

		2012	2013	2014
Completed funded research projects		-	-	-
Completed non-funded research projects		2	3	2
Completed PhD research projects		2	0	1
Completed PG research projects		20	33	34
Completed UG research projects		3	4	4
Publications	International Journals	13	19	44
	National	-	-	1
Books		1	-	-
Chapters in books		-	-	3
Conference presentations	International	20	32	33

Journal Publications:

1. C. R. Srinivasan, Mohan Raghuvver, Roshal Nikhil Menezes, *Characteristic Study of Block and Bleed Valve In Petrochemicals Industries for The Steam Supply*, Journal Of Petroleum Engineering & Technology Pp. 2231- 1785, 2014.
2. C. G. Nayak, *Correction Of Baseline Drift From The Ecg By An Efficient Multire Solution Analysis Algorithm*, International Journal Of Advanced Information Science And Technology (Ijaist), Vol.31, November 2014.
3. C. G. Nayak, *Optimized UAV Flight Mission Planning Using Stk & A Algorithm*, International Journal Of Emerging Technologies And Engineering (IJETE), Vol. 1 Issue. 5, June 2014.

4. C. G. Nayak, *Intelligent Monitoring Of Patients In Hospitals Using Can Protocols And Arm7tdmi Processor*, Journal Of International Journal Of Computer Science And Mobile Computing (Ijcsmc) Volume 3, Issue 3, March 2014.
5. C. G. Nayak, *Monitoring Of Railway Bogies And Preventing Accidents Using Arm7tdmi And Can Protocols*, The Journal Of Computer Science And Information Technology, Ijcsmc, Vol. 3, Issue. 4, Pp.597 – 606, April 2014.
6. C. G. Nayak, *Designing A Web Based Module For Sar To Ensure Data Security Using Java*, The Journal Of Computer Science And Information Technology, Ijcsmc, Vol. 3, Issue. 4, Pp.297 – 306, April 2014.
7. Rohit Jain And Mukund Kumar Menon, *Cost Effective Heart Monitoring System*, Journal Of Instrumentation Technology & Innovation Volume 4, Issue 3, 2014.
8. Anjan Gudigar, Shreeshha Chokkadi, Raghavendra U, *A Review On Automatic Detection And Recognition Of Traffic Sign*, Multimedia Tools And Applications, 2014. Doi:10.1007/S11042-014-2293-7 1380-7501.
9. Kapil Sadani, Rajib Bandyopadhyay, *Developing Molybdenum Doped Zinc Oxide Nanoparticles' Sensors For Quality Assessment Of Black Tea*, Journal Of Nanoscience, Nanoengineering & Applications Stm Journals 2231-1777, 2014.
10. Supanna S Kumar, Shreeshha C, *Robust Controller Design For Uncertain Systems*, International Journal Of Scientific Engineering And Technology Vol.3, Issue 3, Pp. 207-210, 2014.
11. Sandra D'souza, Sriaram Natarajan, *"Design Of Eog Signal Acquisition System Using Virtual Instrumentation: A Cost Effective Approach"*, International Journal Of Measurement Technologies And Instrumentation Engineering Vol 4, No 1, Pp.1-16 2014.
12. S.Meenatchisundaram, Dr. S.M. Kulkarni, Dr. Somashekara Bhat, *Virtual Prototyping And Beam Optimization Of Resonant Micro Pressure Sensors*, Journal Of Recent Trends In Sensor Research & Technology Vol. 1, Issue 3, Pp. 10 - 16 December 2014.
13. Rakesh.M.K, Satheesh Babu.R And I.Thirunavukkarasu, *Sliding Mode Control With Dead Time Compensation For A Conical Tank Level Process"*, International Journal Of Electronics And Communication Technology, Vol. 5, Issue. 2, Pp. 244-247 April-June 2014.
14. Rakesh.M.K, Satheesh Babu.R And I.Thirunavukkarasu, *Design And Implementation Of A Two Degree Of Freedom Nonlinear Pid Controller For A Nonlinear Process, "*, Iosr Journal Of Electrical And Electronics Engineering, Vol.9, Issue.3, Ver.Iii, Pp. 59-64, May-June 2014.

15. Satheesh Babu.R And I.Thirunavukkarasu, *Temperature Control Of A Shell And Tube Heat Exchanger Using Pid Algorithms*”, International Journal Of Advancements In Electronics And Electrical Engineering – Ijaee, Vol.3, Issue.3, Sep.2014.
16. I.Thirunavukkarasu, V.I.George And R.Satheesh Babu, *Relay Feedback Based Pid Controller For Nonlinear Process*, Int'l Journal Of Computing, Communications & Instrumentation Engg. (Ijccie) Vol. 1, Issue 1, 2014.
17. R.Satheeshbabu And I.Thirunavukkarasu, *Model Predictive Control For Distillation Column*, Journal Of Mechatronics And Automation, Volume 1, Issue-3, Pp. 1-8. 2014.
18. Susobhit Sen, Anjan Kumar, C R Shrinivasan,Chenchu Saibabu, *Efficient And Low Cost Flow Measurement Using Bend Sensor Flowmeter*, International Journal Of Electronic And Electrical Engineering, Volume 7, Number 8, Pp. 879-885, 2014.
19. Santosh Kumar Choudhary, *Stability And Performance Analysis Of Fractional Order Control Systems*, Wseas Transactions On Systems And Control, Vol. 9, No.45, Pp. 438-444 2014.
20. Santosh Kumar Choudhary, *Robust Feedback Control Analysis Of Magnetic Levitation System*, Wseas Transactions On Systems, Vol. 13, No. 27, Pp. 285-291. 2014.
21. Santosh Kumar Choudhary, *Lqr Based Pid Controller Design For 3-Dof Helicopter System*, World Academy Of Science, Engineering And Technology, Vol. 8, No.8, Pp. 1405-1410, 2014.
22. Santosh Kumar Choudhary, *Fractional Order Feedback Control Of A Ball And Beam System*, World Academy Of Science, Engineering And Technology, Vol. 8, No. 7, Pp. 1167-1173 2014.
23. V Sravani, *Removal Of Blotches And Impulse Noise In Gray Scale Images Using Non-Linear Algorithm*, Stm Journals, Vol. 4, No. 3, Pp. 22-27 2014.
24. Jim George, Bipin Krishna, V.I.George, Shreesha C, Mukund Kumar Menon, *Stability Analysis And Design Of Pi Controller Using Kharitnov Polynomial For Rotary Inverted Pendulum*, Sensor And Transduces Vol. 138, No. 3, Pp. 104-113, 2012.
25. C.P.Kurian And V.I.George, *Integrated Design And Real Time Implementation Of An Adaptive, Predictive Light Controller*, Journal Of Lighting Research And Technology, Vol. 44, Pp. 459-476, 2012.
26. Jim George, Bipin Krishna, V.I.George, Mukund Kumar Menon, *Design Of Adaptive Pid Controller Based On Maximum Modulus Theorem For Inverted Pendulum On A Cart*, Sensor And Transduces Vol. 145, No. 10, Pp. 163-171, 2012.
27. Cyril Joseph, V.I.George, *Discrete Controller Design For A Hybrid Three Tank System*, International Journal On Advanced Science Engineering Information Technology, Issn :2088-5334, 2014.

28. Vishnu G Nair, V.I.George, *Lateral Control Of Aircraft, Considering The Cross Coupling Effect Of Yaw And Roll On Each-Other Using Fuzzy Logic, Sensors And Transducers Journal*, Vol. 142, No.7, Pp. 105-117, 2014.
29. Kanthi M, George V.I, *Real Time Control Of Active Ankle Foot Orthosis Using Labview And Compact Reconfigurable Input Output*, Journal Of Medical Imaging And Health Informatics, Vol. 2,No. 3, Pp. 272-277, 2014.
30. I.Thirunavukkarasu, V.I.George, *An Experimentation On Anti-Reset Wind Up Scheme For Level Process Station*, Sensors And Transducers Journal, Vol. 147, No. 12, Pp. 87-94, 2014.
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Conference Publications:

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- [2].CG Nayak,” Nonlinear Dynamical Methods in Computerized ECG Characterization-A Critical Review”, in *ICPMN*, 2014.
- [3].CG Nayak,” ECG denoising and analysis using Hilbert-Huang transform: a review”, in *NCEEE*, 2014.
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- [37]. C Gurudas Nayak , Ms. Spoorthi Shekar, “Analysis and Designing of a MD-110 Telephone Network”, in International Conference at RGPV university, Bhopal on 24-26 December 2013.
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- [82]. Anjan Kumar, Rajat Sharma, Susobit Sen and Surekha Kamath , “Wireless Vehicular Guidance System Using Zigbee Mesh and RFID”, in *Control Instrumentation and systems Conference* , India, 2012.
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#	Topic	Details
1	Number of papers published in peer reviewed journals (national / international) (39)	Int. Jr. of Measurement technologies and Instrumentation Engineering, Int. Jr. Control System and Instrumentation, IOSR Jr. of Electrical and Electronics Engineering, Int. Jr. of Computer Application, Int. Jr. of Information Processing, Multimedia Tools Applications, Int. Jr. Medical Engineering and Informatics, WSEAS Transactions on Systems and Control, WSEAS Transactions on Systems, Int. Jr. of Computer, Information, Systems and Control Engineering, Advances in Space Research Journal, Jr. of Sensors & Transducers.
2	Monographs	NIL
3	Chapters in Books	<ol style="list-style-type: none"> 1. Fuzzy Logic for Breast Cancer Diagnosis Using Medical Thermogram images. DOI: 10.4018/978-1-4666-7240-6.ch007, IGI Global. 2. Design of an Adaptive Calibration Technique using Support Vector Machine for LVDT. Advances in Intelligent Systems and Computing, DOI: 10.1007/978-3-319-04960-1_13, Springer Publishing. 3. A soft Calibration Technique for Thermistor using Support Vector Machine. Advances in Intelligent Systems and Computing, DOI: 10.1007/978-81-322-1771-8_26, Springer Publishing.
4	Edited Books	NIL
5	Books with ISBN with details of publishers	Digital Control Systems V. I. George, C P Kurian Cengage Learning, First impression 2012 ISBN-13: 978-81-315-1835-9, ISBN-10: 81-315-1835-3
6	Number listed in International Database 55 (Google scholar)	WorldCat, NewJour, Open J Gate, Scirus, EISRJC, Expanded Academic ASAP, Cabell Directories, Serial Solutions, Ulrich’s Web Global Serials Directory, Index Copernicus International, Academic One File, Tulips, Refseek, Journal Finder, ProQuest, Google Scholar, Research Gate, EBSCO, ProQuest, Science Citation Index Thomson Reuters, DOAJ, SCOPUS, CAS, INSPEC, Socolar, Compendex, GALE, Springer, CiteSeer, Genomics, Google Scholar.

7	Citation Index – range /	18 (Google scholar)
8	SNIP	< 1
9	SJR	< 1
10	Impact Factor –	0.2-1.8
11	h-index	2 (Google scholar)

23. Details of patents and income generated

NIL

24. Areas of consultancy and income generated

Area /Name	Income generated
Pressure gauges from Kasturba Medical College and Hospital	Constituent institute of MU
Pressure gauges from Navyuga Constructions, Udupi.	Rs. 5000/-

25. Faculty selected nationally/ internationally to visit other laboratories in India and abroad

Dr. C. Gurudas Nayak, post- doctoral fellow from AL Jabal AL Gharbi University, Libya, Africa

Mr. Sreenivas C R, has visited Bosch labs, India in Bangalore during 2014.

26. Faculty serving in

a) National committees b) International committees c) Editorial Boards d) any other

- i. Prof. (Dr.) V I George [Vice President-ISSE society; Review Editors- JAER (Journal of Advanced Engineering Research), Senior Member IEEE]
- ii. Prof (Dr) Shreesha C [BOS- NMAMIT, Nitte, UPSC Expert]
- iii. Dr Surekha Kamath [Reviewer : International Journal on Medical Informatics]
- iv. Dr S Meenatchisundaram [Reviewer & Editorial member: Journal of Mechatronics and Automation (JoMA)]
- v. Dr. Santhosh KV [BOS: Malnad College of Engineering; Reviewer: Dyna Publisher, STM Journal, IEEE journal; Editorial Member: Journal of Control and Instrumentation]
- vi. Dr.I.Thirunavukkarasu (Evaluated Ph.D thesis for Anna University, Annamalai University and St. Peter's University, Chennai, SCSVMV University, Kanchipuram)

27. Faculty recharging strategies in the past FIVE Years (in details) :

#	Name	Designation	Workshops Attended	Faculty Development Programme	Staff Development Programme
1	Prof (Dr) Shreesha C	Professor	2	2	0
2	Prof (Dr) V I George	Professor	8	1	1
3	Dr. C Gurudas Nayak	Associate Professor	8	0	0
4	Dr SurekhaKamath	Associate Professor	8	4	4
5	Dr. I. Thirunavukkarasu	Associate Professor	2	6	0
6	Dr. S Meenatchisundaram	Associate Professor	8	3	1
7	Mrs Sandra D'Souza	Assistant Professor (Selection grade)	13	5	0
8	Dr. Santhosh KV	Assistant Professor (Sr.)	1	4	1
9	Cyril joseph	Assistant professor (Sr.)	5	4	0
10	Mrs Vidya S Rao	Assistant Professor (Sr.)	6	2	0
11	Mr Bipin Krishna	Assistant Professor (Sr.)	6	1	2
12	Mrs Bhagya R Navada	Assistant Professor (Sr.)	8	2	1
13	Ms PreetiMohanty	Assistant Professor	7	3	0
14	Mr C R Srinivasan	Assistant Professor (Sr.)	12	5	3
15	Mr. Anjan Gudigar	Assistant Professor (Sr.)	0	0	1
16	Mr Santhosh Kumar Choudhury	Assistant Professor	0	0	0
17	Dr. U Raghavendra	Assistant Professor	0	0	1
18	Mr Mukund Kumar Menon	Assistant Professor	4	3	0
19	Mr P ChenchuSaiBabu	Assistant Professor	3	0	0
20	Mrs Nanditha Nair	Assistant Professor	2	0	1
21	Aneesha Acharya K	Assistant Professor	6	4	1
22	D K Krishna Kumari	Assistant Professor	2	1	1
23	Winston Netto	Assistant Professor	5	3	2

#	Name	Designation	Workshops Attended	Faculty Development Programme	Staff Development Programme
24	K Ramakrishna Kini	Assistant Professor	3	0	1
25	V Sravani	Assistant Professor	0	0	1
26	Sumit Shindhe	Assistant Professor	2	0	1
27	Nevin Augustine	Assistant Professor	1	0	1
28	Kapil Sadani	Assistant Professor	2	1	1

28. Student projects :

	Students who have done In-House Projects including Inter-departmental Projects (in %)	Students doing Projects in collaboration with other universities /industries / institutes (in %)
Undergraduate (2005 – 2014)	67.389	32.611
Postgraduate(Control Systems) (2007 – 2014)	78.345	21.655
Postgraduate (Astronomy and Space Engineering) (2007 – 2014)	8.45	91.55

29. Awards / recognitions received at the national and international level

Faculty:

- Dr V I George: Rashtriya Gourav Award, Vikram Award, 2010
- Dr. C. GurudasNayak, post- doctoral fellow from AL Jabal AL Gharbi University, Libya, Africa

30. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any

Year	Major Event	Funding Agencies	Details about outstanding Participants
2012	Challenges in Space Science Engineering (CSSE)	CSIR, BRNS	1 Dr T P Das, Scientist, VSSC, Trivandrum 2 Dr Umapathy, Scientist, ISAC, Bangalore 3 Dr Guruprasad, Scientist, ISRO, Bangalore 4 Dr B S Shylaja, Scientist, JNP, Bangalore
	Workshop on Model Based Controller Design in Collaboration with M/s MOOG India (P) Ltd.	MU	Mr JeppuYogananda, Senior Manager, MOOG India (P) Ltd, Bangalore
	Faculty Development Program on LabVIEW (FDPLV)	MU, NI	1 Mr Manish Mohan, Technical Consultant, NI, Bangalore 2 Mr AyushGarg, Technical Consultant, NI, Bangalore
	IX Control Instrumentation System Conference (CISCON-2012)	DRDO, CSIR	1 Mr. Yogananda V. Jeppu, Senior Manager, MOOG India (P) Ltd, Bangalore 2 Mr. Chandra Dathan, Director, Satish Dhawan Space Centre, SHAR. 3 Mr. Vijayalayan, Senior Team Leader, MATHWORKS India Pvt. Ltd. Bangalore
2013	X Control Instrumentation System Conference (CISCON-2013)	CSIR	1 Dr. Venkateswarlu Andra, Asst. Vice President-Electronic Systems at Defiance Technologies, Blore 2 Dr. K Guruprasad Rao, Asst. Prof., Mechanical Engineering Department, NIT Suratkal

2014	Recent Trends in Process Control and Systems	AICTE	1 Dr.M.Chidambaram, Prof., Dept of Chemical Eng, IIT Madras 2 Dr.Raveendra Gudi, Prof. SYSCON group, IIT Bombay
	XI Control Instrumentation System Conference (CISCON-2014)	DRDO,CSIR	1 Dr. KLS Sharma, Advisor, Automation Education and training, Bangalore. 2 Mr.Sanjay Venugopal ,Sr. Technologist, YokogawaIA technologies, Bangalore. 3 Dr,KV Gangadharan, Prof. NIT K Surathkal.

31. Code of ethics for research followed by the departments

1. To protect the dignity, rights and wellbeing of the potential research participants
2. To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs
3. To assist in the development and the education of a research community responsive to local health care requirements.

32. Student profile course-wise

Name of the Course (refer to question no. 4)	Applications received	Selected (%)		Pass percentage	
		Male	Female	Male	Female
BTech (I and CE) 2008-2012	Admission is done as per Manipal University Admission policy. (Refer data from Admission department).	80	20	91.8	100
2009-2013		81.18	18.82	98.36	92.8
2010-2014		81.01	18.98	100	100

Name of the Course (refer to question no. 4)	Applications received	Selected (%)		Pass percentage	
		Male	Female	Male	Female
MTech (Control Systems) 2010-2012	Admission is done as per Manipal University Admission policy. (Refer data from Admission department).	66.66	33.33	100	100
2011-2013		72.22	27.77	100	100
2012-2014		72.22	27.77	92.3	80

Name of the Course (refer to question no. 4)	Applications received	Selected (%)		Pass percentage	
		Male	Female	Male	Female
MTEch (Astronomy and Space Engineering) 2010-2012 2011-2013 2012-2014	department).	68.875	31.125	90.90	100
		66.66	33.33	70	100
		55.55	44.44	100	100
PhD 2012 2013 2014				One NIL One	One NIL NIL

33. Diversity of students

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
BTech	Not applicable			
MTEch CS 2010-2012 2011-2013 2012-2014	- NIL NIL NIL	60% 55.55% 55.55%	40% 44.44% 44.44%	-
MTEch. ASE 2010-2012 2011-2013 2012-2014	NIL NIL 5%	62.5% 84.61% 66.66%	37.5% 15.39% 28.34%	-
PhD	40%	60%	-	-

34. Students who have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations

- GATE: 28 (2012 to 2014)
- CAT: 40 (2012 to 2014)

35. Student progression

Student progression	Percentage against enrolled
UG to PG	24
PG to MPhil	NIL
PG to PhD	10
PhD to Post-doctoral	NIL
Employed	
Campus selection	76
Other than campus recruitment	21
Entrepreneurs	3

Student progression	Percentage against enrolled
TOTAL	100%

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	3%
from other universities within the State	40%
from universities from other States	57%
from universities outside the country	0%

37. Number of faculty who were awarded PhD, DSc and DLitt during the assessment period

Four (04)

38. Present details of infrastructural facilities with regard to

Library: 273 volumes of books and 4 PhD theses (Department Library)

Internet facilities for staff and students:

For all faculty cabins in the Department + LAN connections in each laboratory

Total number of classrooms: 6

Class rooms with ICT facility: 6

Students' laboratories:

- Automation Lab
- Instrumentation / Transducers Lab
- Microprocessor and Microcontroller Lab
- Space Engineering Lab
- PC Instrumentation Lab
- Circuit Simulation Lab
- Circuit Measurements Lab
- Analog Electronic Circuits Lab
- Virtual Instrumentation Lab

Research laboratories:

- Process Control Laboratory
- Space Engineering Laboratory

39. List of doctoral, post-doctoral students and Research Associates

a) From the host university

- 1) Dr V I George
- 2) Dr Shreesha C
- 3) Dr C G Nayak
- 4) Dr SurekhaKamath
- 5) Dr I Thirunavukkarasu
- 6) Dr S Meenatchisundaram
- 7) Dr Santhosh KV
- 8) Dr U Raghavendra
- 9) Mr Cyril Joseph
- 10) Ms Vidya S Rao
- 11) Mr Bipin Krishna
- 12) Mr Anjan Gudigar
- 13) Mr Rajarshi Paul
- 14) Mr Dileep M V
- 15) Mrs. Dayakshini
- 16) Mr Akhil Appu Shetty
- 17) Mrs. Vinayambika S Bhat

b) From other universities

- 1) Mrs Sandra D'Souza

40. Number of postgraduate students getting financial assistance from the university.

20 per cent of postgraduate students from both Control Systems & Astronomy and Space Engineering branch, work as teaching assistants and assist the department in academic activities. University supports them with financial assistance.

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Input from Industries, Academicians and other stakeholders over a period of time.

42. Does the department obtain feedback from

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

The department, being a part of MIT, which is a constituent Institute of Manipal University, enjoys academic freedom. There are regular minor and major course revisions to the programmes. Minor revisions are being carried out at every semester

and major revision is carried out once in four years. All faculty members are involved in the curriculum revision at the entry level. The syllabus and the revision will be framed by the senior faculty and discussed at the department meeting attended by all the faculty members. Department Curriculum Committee (DCC) at the entry level should approve the programme revision. The DCC constitutes of department experts, student representatives as-well-as representatives from industries and academic institutions of repute.

The curriculum approved by the DCC at the Institute level passes through the BOS, which also consists of student representatives as-well-as experts from industries and academic institutions of repute. Final approval is given by the Academic Senate. The last major revision of syllabus was implemented from the academic year 2014-2015.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

We have faculty advisor scheme (for higher semester students), where each faculty member monitors a set of students. The students can approach the faculty advisor regarding their academic problems. Faculty advisor forms an interface between his /her students and the faculty members/administrators concerned in solving students' problems.

We have class committees represented by both teachers and students. The committee meets twice /thrice a semester to discuss and solve academic problems and other issues. There are section coordinators and lab- in- charges to try and resolve issues related to students in classes and laboratories. We have a process to address/counsel academically weak students. As per the process, an academically weak student needs to be identified and effort is made to see that they are going to be one in the mainstream.

Inputs from the above are utilized for counselling teachers as-well-as students by the HOD / senior faculty. With the support of teaching assistants and faculty, additional classes are conducted for academically poor students.

At the end of the course work, feedback on teaching- learning is collected from the students for further improvement of academic process.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

Exit survey of outgoing students, alumni survey and employer feedback are collected and duly utilized during curriculum revision. With the support and feedback from industries, department offers elective courses and undertakes modernization of various laboratories.

Representatives from industry are also part of the Departmental Curriculum Committee (DCC). Feedback from them will be taken into consideration and revisions are incorporated

43. List the distinguished alumni of the department (maximum 10)

Sl. NO.	Name and current position
1.	Vanshita sangal, Lead at Manipal Business solutions pvt ltd (2002)
2.	Siddhartha Anand, Head - Investor Facilitation Cell at Invest India - Make in India, (2003)
3.	Kshitij Dua, Manager-Business Development at Belliss India Limited (2005)
4.	Dr. P R Venkateshwaran, BHEL Thiruchy (2005)
5.	Dr. Shubha P Bhat, Principal Moodalkatte Institute of Technology (2009)

44. Details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

- Workshop by Resource persons from MOOG Ltd
- National Level Workshop on Applications of Lab VIEW [July 2012]
- Talk by Dr Umapathy, HoD, Department of I&CE, NIT-T
- Talk by CEO of MATHWORKS , MATLAB [Aug 2012]
- Special Lecture by Dr B N Suresh, Padmashree awardee, Former Director VSSC/ISST, Trivandrum [April 2012]
- Special Lecture by Dr P Sree Kumar, ISAC, Bangalore
- Guest lecture on Satellite Communication/ Antenna Technology by Dr N. Holla Retired Scientist ISRO, Bangalore [Sep 2012]
- Guest lecture on *Introduction to plasma physics* by Dr Sathish Thampi from VSCC Trivendrum [Aug 2014]
- Talk on *Emerging trends in Process Automation with DCS and PLC overview*, by Padma R, Deputy Manager(Training) -Customer Service Division, Yokogawa India Limited, Bangalore [Sep 2014]

45. List the teaching methods adopted by the faculty for different programmes.

- Black board teaching for subjects involving intensive mathematical analysis.
- Power Point Presentations for subjects involving complex diagrams. Also for some subjects such as Basic Electronics involving large number of sections, to ensure uniformity in content delivery, a common set of PPT slides are used.
- Case studies – Used in teaching design based and management subjects.
- Assignments – All subjects of all semesters: involves five assignments at regular intervals.
- Mini-projects and demonstrations – In subjects such as Microprocessor & Microcontroller, Analog Electronic, and Transducer students have to work on a mini project and demonstrate its working. In subjects such as Circuit design using P-Spice, DSP & Control System Simulation using MATLAB, teachers demonstrate the concepts through examples.
- Industry visits – Faculty guided visits to nearby industries MRPL, UPCL, Suzlon etc.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- Feedback from faculty, students, alumni and employers.
- Result analysis after examination, which includes counselling of under achievers.
- Regular revision of syllabus.
- Inputs from the placement cell.
- Number of students opting for higher education.
- Number of students doing mini projects related to the subjects they studied during their laboratory experiments as additional activity.
- Communication skills are assessed on seminars on technical topics that are assigned to the students.
- All student activities are evaluated to ensure the learning outcome.

47. Highlight the participation of students and faculty in extension activities.

#	Association / Technical club	Participation in extension activities such as
1	SSI student chapter	Technical workshops, seminars, guest lectures.
2	IAESTE , AIESEC	Student exchange programmes
3	Major interdisciplinary student Projects such as; PARIKSHIT, FORMULA MANIPAL, SOLAR MOBILE, ROBO MANIPAL, MANIPAL RACING.	Opportunity for the students to work in a large group, execute tasks with tight deadlines, develop leadership qualities and team spirit.
4	FDP, Guest talks, conferences and Workshops organized within and Outside.	Faculty and students are encouraged to participate
5	“Tech Tatva” and “REVELS”	Technical paper presentations, competitions and cultural events.
6	Voluntary Service Organisation (VSO)	Students Participate in Social service.
7	Department of Sports for students	Sports and games
8	Faculty club	Sports, games and cultural events

48. Details of “beyond syllabus scholarly activities” of the department.

S/N	Event	Beyond syllabus scholarly activities
1	Review / Edit of journal papers	Faculty are reviewers / editors of International journals.
2	Guest lectures / talks	Faculty are resource persons and have delivered technical talks in other institutions/ universities. Faculty from other institutions / industries are also invited to deliver talks.
3	Funded projects	Faculty are involved in research projects.
4	Technical associations /clubs	Students are actively involved in various activities of these associations / clubs. Faculty advisors

		monitor these activities.
5	National / International Conferences / workshops/Seminars/Guest talks	Department has been organizing these events for the benefit of faculty and students. Also faculty members are participating / presenting papers at workshops / conferences in India and abroad to improve their academic knowledge, skills and research capabilities.

49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details

Received Accreditation for five years for Undergraduate programme (F. No. NBA/ACCR-65/2001, July 19, 2008). The department has already submitted the Self-Assessment Report (SAR) and is currently waiting for the visit of NBA committee for renewal of accreditation for the same program.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

- Adaptive Predictive lighting controllers for daylight artificial light integrated schemes
- Optimal robust H^∞ Controller for integrating process with dead time
- Controller Synthesis for complementarity hybrid dynamical processes
- Fuzzy logic supervisory control of discrete event system
- Robust control strategy for blood glucose regulation system
- Control techniques for vibration isolation using smart materials
- Design, simulation and optimization of differential micro pressure sensors
- Design of smart sensing technique for measurement of process parameters
- Robust object detection and tracking using stereo-vision.

51. Future plans of the department

	<u>Future plans</u>
<u>Short term:</u>	<ol style="list-style-type: none"> 1. Organizing lecture series by faculty members in the area of specialization after attending workshop / FDP etc. 2. Applying for research grants 3. Setting up advanced instrumentation lab 4. At least one faculty member registration for PhD every year 5. Strengthening student chapter of department and its activities 6. Strengthening Industry institute interaction 7. Courses in collaboration with industries

<u>Long term</u>	<ol style="list-style-type: none"> 1. Starting of Dual degree PG programmes 2. Generation of patent and consultancy work 3. Starting of New Postgraduate programmes on Avionics/ Process Instrumentation and Control (depending on Institute policy) 4. Starting of New Undergraduate programmes on Applied Electronics and Instrumentation (Depending on Institute policy) 5. Development of a centre of Excellence in Process Instrumentation, Control and Automation 6. Development of Industry sponsored lab in automation 7. Development of Space Technology cell in collaboration with ISRO.
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52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department

#	<u>Strengths</u>	<u>Weaknesses*</u>
1	Young and dedicated faculty members.	Less industry-institute interaction.
2	Interdisciplinary courses and research opportunities	Inadequate skilled technical support staff
3	Excellent Infrastructure in terms of laboratories and equipment.	Away from industrial hubs
4	Consistent Placement record	Non-availability of students for in-house research due to industry internship.
5	Good number of research publication by faculty	Lack of Consultancy projects and IPR

	Opportunities:	Challenges:
1	Possibility of interdisciplinary research with the availability of Medical Sciences campus nearby.	Attracting external research funding/ consultancy.
2	Enhancement of research facilities through funded research projects.	Establishing Industry Institute Interactions/ collaboration
3	Better industrial engagement through alumni/parent support.	Attracting committed research scholars
4	Industrial and external universities (with international repute) collaborations	Student exchange programme with international university
5		Filing of IPR

1. **Name of the Department:** Information and Communication Technology

2. **Year of establishment:** 2001

3. **Is the Department part of a School/Faculty of the University?**

Department is Part of the Manipal Institute of Technology, Manipal University, Manipal.

4. **Names of Programmes//Courses offered (UG, PG, MPhil, PhD, Integrated Masters; Integrated PhD, etc.)**

UG	PG	PhD
B.Tech in Information Technology B.Tech in Computer & Communication Engineering	M.Tech in Network Engineering M.Tech in Software Engineering	All domains of I & CT

5. **Interdisciplinary courses and departments involved.**

U.G.

Sl. No.	Inter disciplinary courses	Departments involved
1	Engineering Mathematics – I	Mathematics
2	Engineering Mathematics- II	Mathematics
3	Mechanics of Solids	Civil
4	Basic Electronics	E&C Engineering
5	Mechanical Engineering Sciences	Mechanical
6	Engineering Physics	Physics
7	Communications Skills in English	Humanities and Management
8	Environmental Studies	Civil
9	Basic Electrical Technology	E&E
10	Problem Solving Using Computers	CSE
11	Engineering Chemistry	Chemistry
12	Engineering Graphics	Mechanical
13	Engineering Mathematics-III	Mathematics
14	Engineering Mathematics IV	Mathematics
15	Essentials of Management & Engineering Economics	Humanities and Management

P.G.

Sl. No.	Interdisciplinary Course	Department involved
1.	Probability and Stochastic Process	Mathematics
2.	Research Methodology and Technical Communication	Humanities and Management

6. Courses in collaboration with other universities, industries, foreign institutions, etc.

Sl. No.	University/ Institute	Course
1	TU/e, Eindhoven, Netherlands	Dual degree Masters programme for M.Tech. Software Engineering and M.Tech. Network Engineering.
2	ESIGELEC, France	Internship for Students

7. Details of programmes//courses discontinued, if any, with reasons: No courses were discontinued during this period.

8. Annual/Semester/Choice Based Credit System : Semester scheme with 10-point Credit System.

9. Participation of the department in courses offered by the other departments: Offering Open elective courses for other departments- Three.

10. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Assistant Professors)

Designation	Sanctioned	Filled
Professors	6	5
Associate Professors	11	2*
Assistant Professors	22	30
Total	39	37

*Based on seniority and completion of Ph.D, faculty who are currently Assistant Professor (Selection Grade) will be eligible.

11. Faculty profile with name, qualification, designation and specification (DSc/D.Litt./PhD / MPhil, etc.)

DEPT. OF INFORMATION & COMMUNICATION TECHNOLOGY						
#	Name of the Faculty	Designation	Qualification	Specialisation	No. of Years of Experience	No. of PhD student guided
1	Dr. Preetham Kumar	Professor and Head	B.Tech	Computer Science and Engineering	16	-
			M.Tech	Computer Science and Engineering		
			PhD	Information Technology		
2	Dr. ManoharaPai M M	Professor and Associate	B.E.	Electronics and Communication	25	02
			M.Tech	Digital		

		Director		Electronics and Advanced Communication		
			PhD	Computer Science and Engineering		
3	Dr. Radhika M Pai	Professor	B.E.	Computer Science and Engineering	24	-
			M.Tech	Computer Engineering		
			PhD	Information Technology		
4	Dr. Smitha N. Pai	Professor	B.E.	Electronics & Communication Engineering	20	-
			M.Tech.	Computer Science and Engineering		
			Ph.D.	Computer Science and Engineering		
5	Dr. Balachandra	Professor	B.E.	Computer Science and Engineering	21	-
			M.Tech	Computer Science and Engineering		
			PhD	Computer Science and Engineering		
6	Dr. Sanjay Singh	Assoc.Pr of.	AMIETE	Electronics and Telecommunications	12	-
			M.Tech	Digital Electronics and Advanced Communication		
			PhD	Electronics and Communication		
7	Dr. Poornalatha G	Assoc.Pr of.	B.E.	Computer Science & Engineering.	14	-
			M.Tech	Computer Science and Engineering		
			PhD	Information Technology		
8	Mrs. Chandrakala C B	Asst.Prof .- Selection Scale	B.E.	Electronics and Communications	16	-
			M.Tech	Software Engineering		

			PhD*	Computer Science and Engineering		
9	Mr. Santhosha Rao	Asst.Prof .- Selection Scale	B.E.	Electronics and Communications	17	-
			M.Tech	Digital Electronics and Advanced Communication		
			PhD*	Electronics and Communications		
10	Mr. Ghanashyama Prabhu	Asst.Prof .-Senior Scale	B.E.	Electronics and Communications	17	-
			M.Tech	Digital Electronics and Advanced Communication		
11	Mrs. Rashmi Naveen Raj	Asst. Prof.- Senior Scale	B.E.	Electrical and Electronics Engineering	13	-
			M.Tech	Digital Electronics and Advanced Communication		
			PhD*	Computer Science and Engineering		
12	Mr. Santhosha Kamath	Asst. Prof.- Senior Scale	B.E	Electronics and Communications	11	-
			M.Tech	Network Engineering		
			PhD*	Information and Communication Technology		
13	Mrs. Manjula C Belavagi	Asst.Prof .-Senior Scale	B.E.	Computer Science and Engineering	13	-
			M.Tech	Internet and Network Engineering		
			PhD*	Information and Communication Technology		
14	Mrs. Girija Attigeri	Asst.Prof .-Senior Scale	B.E.	Computer Science and Engineering	09	-
			M.Tech	Computer Science and Engineering		
			PhD*	Information and Communication Technology		

1 5	Mrs. Divya S	Asst.Prof .-Senior Scale	B.E.	Electrical and Electronics Engineering	09	-
			M.Tech	Digital Electronics and Advanced Communication		
1 6	Mrs. Diana Olivia	Asst.Prof .-Senior Scale	B.E.	Computer Science and Engineering	09	-
			M.Tech	Network Engineering		
1 7	Mrs .Sucheta Kolekar	Asst.Prof .-Senior Scale	B.E.	Information Technology	10	-
			M.Tech	Information Technology		
			PhD*	Information and Communication Technology		
1 8	Mr. Raghavendra Ganiga	Asst. Prof.- Senior Scale	B.E.	Information Science and Engineering.	05	-
			M.Tech	Network Engineering		
			PhD*	Information and Communication Technology		
1 9	Mr. K. Krishna Prakash	Asst. Prof.- Senior Scale	B.E.	Information Science	07	-
			M.Tech	Computer Network Engineering		
			PhD*	Information and Communication Technology		
2 0	Mr. Ramakrishna M	Asst. Prof.- Senior Scale	B.E.	Computer Science and Engineering	06	-
			M.Tech	Network Engineering		
			PhD*	Department of Computer Applications		
2 1	Mr. Sanoop M	Asst. Prof.- Senior Scale	B.Tech	Information Technology	05	-
			M.Tech	Cyber Security		
			PhD*	Information and Communication Technology		
2 2	Mr. Akshay K C	Asst. Prof.	B.E.	Information Science and Engineering.	06	-

			M.Tech	Software Engineering		
2 3	Mrs. Aiswarya	Asst. Prof.	B.Tech	Information Technology	05	-
			M.Tech	Software Engineering		
2 4	Mrs. Veena K M	Asst. Prof.	B.E.	Information Science and Engineering.	05	-
			M.Tech	Software Engineering		
2 5	Mrs. Archana Bhat	Asst. Prof.	B.E.	Information Science and Engineering.	05	-
			M.Tech	Network and Internet Engineering		
2 6	Mr. Rajesh K.	Asst.Prof .	B.E.	Computer Science and Engineering	04	-
			M.Tech	Computer Science and Information Security		
			PhD*	Computer Science and Engineering		
2 7	Mrs. Veena Mayya	Asst.Prof .-on contract	B.E.	Computer Science Engineering	03	-
			M.Tech*	Software Engineering		
2 8	Ms. Aparna Nayak	Asst.Prof .-on contract	B.E.	Information Science and Engineering.	03	-
			M.Tech*	Network Engineering		
2 9	Mrs. Swathi B.P.	Asst.Prof .-on contract	B.E.	Computer Science and Engineering	03	-
			M.Tech*	Software Engineering		
3 0	Ms. Chetana Pujari	Asst.Prof .	B.E.	Information Science and Engineering	03	-
			MTech	Computer Science and Engineering		
3 1	Ms. Namratha Nayak	Asst. Prof.	B.E.	Computer Science and Engineering	03	-
			M.Tech.	Software		

				Engineering		
3 2	Mrs. Sangeetha T S	Asst. Prof.	B.Tech	Computer Science and Engineering	05	-
			M.Tech	Computer Science and Engineering		
3 3	Ms. Anju R	Asst. Prof.	B.Tech	Computer Science and Engineering	02	-
			MTech	Information Technology		
3 4	Ms. Pooja B	Asst. Prof.	B.E.	Electronics & Communication Engineering	02	-
			M.Tech	Network Engineering		
3 5	Ms. Smitha A	Asst. Prof.	B.E.	Electronics & Communicatio n Engineering	02	-
			M.Tech	Network Engineering		
3 6	Mr. Tribikram Pradhan	Asst. Prof.	B.Tech	Computer Science and Engineering	02	-
			M.Tech	Software Technology		
3 7	Ms. Namrata Mariam Chacko	Asst. Prof.	B.E.	Computer Science and Engineering	02	-
			M.Tech	Network and Internet Technology		

12. List of senior Visiting Fellows, faculty, adjunct faculty, emeritus professors

Sr. Number	Name	Adjunct faculty
1	Prof. Dr. Mark van den Brand	Tu/e Eindhoven, Netherlands
2	Dr. Prashant Bhat	MDN, Manipal
3	Dr. Supratim Biswas	Indian Institute of Technology, Bombay
4	Dr. T. V. Ravi	Philips Innovation, Bangalore
5	Dr. Ashok Tiwari	School of Computer Science at the University of Hertfordshire, UK.

13. Percentage of classes taken by temporary faculty – programme - wise information

NIL

14. Programme wise Student Teacher Ratio

#	Course	Faculty to Student Ratio as per AICTE norms
1	UG	1:15
2	PG	1:12

15. Number of academic support staff (technical) and administrative staff: sanctioned and filled

#	Technical Staff	Sanctioned	Filled
1	Junior Engineer	4	4
2	Senior Technician	2	2
3	Senior Clerk / Clerk	2	2
4	General Duty Worker	3	3

16. Research thrust areas recognized by funding agencies:

Big data Analytics and Cloud computing, Wireless Sensor Networks, VANETs, Data Mining.

17. Number of faculty with on-going projects from a) National b) International funding agencies and c) Total grant received. Give the names of funding agencies and grants received project wise.

Application for the grants has been sent during this period.

Project Name	Funding Agency
Connected Car Services and Apps Development and Deployment of Predictive Analytics VANET application on IBM BlueMix cloud	IBM Private Limited
Cloud Enabled Application Development and Deployment for Drones using IBM BlueMix cloud	IBM Private Limited

18. Inter-institutional collaborative projects and grants received

a) All India collaboration

A research project titled “A Cloud based approach for secured storage & retrieval of standard electronic health record” is in collaboration with health science department of Manipal University.

b) International - Nil

19. Department projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received.

- PG students undergo internship with stipend at industries such as INTEL, IBM, EMC², ORACLE, Juniper Networks etc.
- IAESTE students go abroad and execute live projects with scholarship in various countries.
- IAESTE students coming from abroad work on MU funded projects.
- Full time research scholars with internal funding by the University. They work in the areas of Video and Image Processing, Wireless Sensor Networks, Web Mining, Big data Analytics, Cloud computing, VANETs, Cryptography, Underwater Sensor Networks,

20. Research facility//centre with

- * **State recognition**
- * **National recognition**
- * **International recognition**
 - MUTBI is a central facility funded by state and central government and Manipal University. Office space, support for setting up a start-up and seed money are provided to entrepreneurial students. To identify potential business ideas, the centre conducts provenance, an annual event.
 - Central Instrumentation Facility funded by Manipal University to meet the requirements of various research projects.

21. Special research laboratories sponsored by/created by Industry or Corporate bodies.

Sl. No.	Laboratory	Sponsorship
1.	Microsoft Innovation Centre	Microsoft
2.	Software Quality Engineering	Schneider Electric, Bengaluru
3.	Robotics and Automation	TE Connectivity

22. Publications:

- * Number of papers published in peer reviewed journals (national / international)

	2012	2013	2014
Completed funded research projects	21	27	25
Completed non-funded research projects	-	-	-
Completed PhD research projects	-	-	-
Completed PG research projects	9	9	9

Completed UG research projects		3	6	7
Publications (JOURNALS)	International	17	09	11
	National	-	-	-
Books		-	-	-
Chapters in books		-	-	-
Conference presentations	International	10	18	25
	National	-	-	01

International Conference Papers					
#	Name of the Faculty	Title of the Paper	Date of Conference	Name of the Conference	Place
2012					
46	Vijay S Purohit, Manohara Pai MM,	Efficient Object Motion Prediction Using Fuzzy Petri Net Based Modelling In A Robot Navigational Environment	2012	International Journal of Vehicle Autonomous Systems	
47	Hegde, Manu S, Jnanamurthy, H K, Singh Sanjay	Modelling And Verification Of Extensible Authentication Protocol Using Spin Model Checker.	2012	International Journal of Network Security & Its Applications	
48	Vivek Vishal, Sagar Gugwad, Sanjay Singh	Modeling And Verification Of Agent Based Adaptive Traffic Signal Using Symbolic Model Verifier	2012	International Journal Of Computer Application	
49	Balachandra, Prema K.V, Sushmanayak	Creating Virtual Hierarchy In Peer-To-Peer Pki To Simplify Certificate Path Discovery	2012	International Journal Of Computer Applications	

50	Raghavendra Ganiga, Balachandra	Characteristic Analysis Of VOIP Traffic For Wireless Networks In Comparison With Cbr Using Qualnet Network Simulator	2012	International Journal Of Computer Applications	
51	Balachandra D N Kartheek	An Overview On Security Issues In Cloud Computing	2012	IOSR Journal Of Computer Engineering	
52	Balachandra Muniyal, Krishna Prakash, Shashank Sharma	Wireless Public Key Infrastructure For Mobile Phones	2012	International Journal of Network Security & Its Applications	
53	Vinayak Mantoor, KrishnamoorthyMakkittaya, Chandrakala C B	Effect Of Different Distance Measures On The Performance Of C-Fuzzy Decision Tree	2012	ICACT Journal On Soft Computing	
54	Santhosha Rao, Kumara Shama	Cross Layer Protocols For Multimedia Transmission In Wireless Networks	2012	International Journal Of Computer Science & Engineering Survey	
55	Ashish Jaiswal, Santhosha Rao, Kumara Shama,	Application Aware Energy Efficient Geographic Greedy Forwarding In Wireless Multimedia Sensor Networks	2012	International Journal Of Engineering & Advanced Technology	
56	Sunil Kumar S, Santhosha Rao, Shivray Pai	Moving Object Detection Using Frame Interleaving And Clustering Based Compression	2012	International Journal Of Computer Technology And Applications	

57	M. Ramakrishna	DBR: Distance Based Routing Algorithm For Vanets	2012	International Journal Of Information and Electronics Engineering	
58	Nayak, Sushma.M, Ramakrishna	Certificate Path Discovery By Constructing Virtual Hierarchy To Administer Trust Relationship Using Peer To Peer Pki In Manet	2012	International Journal Of Information And Electronics Engineering	
59	Sunil Kumar S., Shyam Karanth S, Akshay K C, Ananth Prabhu, Bharathraj Kumar M	Improved Apriori Algorithm Based On Bottom Up Approach Using Probability And Matrix	2012	International Journal Of Computer Science	
60	Balachandra Muniyal, Prema K.V, Mamatha	Comparison Of Certificate Polices For Measuring Public Key Infrastructures During Merger And Acquisition Of Companies	2012	International Journal Of Network Security & Its Applications	
61	M. S. Hegde, H. Jnanamurthy, S. Singh	Modeling And Verification Of Extensible Authentication Protocol Using Spin Model Checker	2012	International Journal Of Network Security And Its Applications	
62	V. Vishal, S. Gugwad, S. Singh	Modeling And Verification Of Agent Based Adaptive Traffic Signal Using Symbolic Model Verifier	2012	International Journal Of Computer Applications	

63	Sanoop Mallissery, Shahana Sathar	Machine Learning Based Intrusion Detection Systems using RSC	5-7 Mar 2012	International Engineering Symposium	Japan
64	JeevanPrabhu, Alexander Serebrenik, Sanjay Singh	Complexity Analysis of Simulink Models to Improve the Quality of Outsourcing in an Automotive Company	5-7 Mar 2012	International Engineering Symposium	Japan
65	Pradeep HanumanthappaSanjay Singh	Privacy Preserving and Ownership Authentication in Ubiquitous Computing Devices using Secure Three Way Authentication	25-27 Apr 2012	International Conferences on Innovations in Information Technology	Abu Dhabi UAE
66	Diana Olivia, Ramakrishna M, Divya S.	Minimizing Energy of Scalable Distributed Least Squares Localization	9-11 Aug 2012	International Conference Eco-friendly Computing and Communication Systems, ICECCS 2012	Kochi Kerala
67	Preetham Kumar, V.S. Ananthanarayana	Attributed – TID Method for Discovering Sequence of Attributes	Jul 2012	International Conference on Data Engineering and Management	Tiruchirappalli, India
68	C.B Chandrakala, K.V Prema, K.S Hareesha	A Study of Location-Based Data Replication Techniques and Location Services for MANETs	25-27 May 2012	International Conference on Computer Science, Engineering and Applications	New Delhi, India
69	G. Poornalatha, S.R. Prakash	Web sessions clustering using hybrid sequence alignment measure (HSAM)	2012	International Journal on Social Network Analysis and Mining (SNAM)	

70	Keerthi Shetty, Swaraj Bhat, Sanjay Singh	Symbolic Verification of Web Crawler Functionality and Its Properties	2012	International Conference on Computer Communication and Informatics	Coimba tore
71	Amit K Maurya, Murari S Choudhary, Ajeyaraj P, Sanjay Singh	Modelling and Verification of Fiat-Shamir Zero Knowledge Authentication Protocol	2-4 Jan 2012	International Conference on Computer Science & Information Technology (CCSIT 2012)	Bangal ore
72	Pradeep B.H, Sanjay Singh	Privacy Preserving and Ownership Authentication in Ubiquitous Computing Devices using Three Way Authentication	18-20 Mar 2012	International Conference on Innovations in Information Technology (IIT'12)	Abu Dhabi, UAE
2013					
73	Pallavi R. Mane, M.Sathish Kumar, Sudhakar G, Ghanashyama Prabhu	Throughput Analysis Of Wlan With Network Coding	2013	International Journal Of Future Computer And Communication	
74	Christhu Raj M.R, Namrata Marium Chacko, John Major, Shibin	A Comprehensive Overview On Different Simulators	2013	International Journal Of Engineering And Technology	
75	Namrata Marium Chacko, Getzi Jeba	A Reactive Protocol For Privacy Preserving Using Location Based Routing In Manets	2013	International Journal Of Computer Science And Network	
76	Bhawna Ahuja, Adit Popli, Krishna Prakash K, Balachandra Muniyal	Solution For Mutual Exclusion	2013	International Journal Of Application Or Innovation In Engineering & Management.	

77	Shoham Das, Ayushlodha, Amitan, Dr. S. Shanmugapriya , Dr. Manohara Pai M. M.	Studies On Solar Radiation Estimation, Modeling and Analysis For Manipal	2013	Iracst – Engineering Science And Technology: An International Journal	
78	Tribikram Pradhan, Ajit Kumar Sahoo, Dharitri Talukdar, Pramod Kumar	A Solution For Network Life Time Problem Using Content Based Energy Efficient Routing Algorithm	2013	International Journal Of Engineering And Technology	
79	Tribikram Pradhan, Pramod Kumar, Anil N S., Amit Bakshi	Design Of Framework For Logic Synthesis Engine	2013	International Journal Of Engineering And Technology.	
80	Mansoor Ahmed, Krishna Prakash	Optimization To The Mutual Exclusion Problem	2013	International Journal Of Application Or Innovation In Engineering & Management.	
81	Supriyaa, Krishna Prakasha K	Efficient Portal For Idea Generation And Exchange	2013	International Journal Of Information Technology.	
82	Santhosh Kamath	Energy Efficient Data Aggregation Using Bitmask Techniques For Wireless Sensor Networks	13-14 July 2013	International Conference On Future Trends In Computing And Communication.	Bangko k, Thailan d
83	Chandrakala C B, Prema K.V, Hareesha K.S	Improved Data Availability And Fault Tolerance In Manet By Replication	22-23 Feb 2013	IEEE International Advance Computing Conference(IACC)	Ghazia bad India
84	Raghavendra Ganiga, Sanoop Mallissery	A Detailed Study Of Transport Layer Sct Protocol And Its Security Solutions	13-14 July 2013	International Conference On Future Trends In Computing & Communication (FTCC)	Bangko k, Thailan d

85	Sanoop Mallissery, Sucheta Kolekar, Raghavendra Ganiga	Accuracy Analysis Of Machine Learning Algorithms For Intrusion Detection System Using Nsl-Kdd Dataset	13-14 July 2013	In International Conference On Future Trends In Computing & Communication (FTCC)	Bangkok, Thailand
86	Namrata Marium Chacko, Shini Sam, Getzi Jeba	A Survey On Various Privacy And Security Features Adopted In Manets Routing Protocol	22-23 March 2013	IEEE International Conference	Sjctet, Pallai, Kerala.
87	Smitha A, Manohara Pai M.M., Ajam, N.Joseph Mouzna	An Optimized Adaptive Algorithm For Authentication Of Safety Critical Messages In Vanet	2013	International Conference on Communications and Networking in China	Guilin, China
88	Pooja B., Manohara Pai M.M., Radhika M.Pai	A Dual Cloud Based Secure Environmental Parameter Monitoring System : A WSN Approach	2013	International Conference On Cloud Computing	Wuhan, China
89	Hegde, Manu S, Singh. Sanjay	Alert-BDI: BDI Model With Adaptive Alertness Through Situational Awareness	22-25 Aug 2013	International Conference On Advances In Computing, Communications And Informatics (ICACCI)	SJEC, Mysore
90	Rahul, Arpit, Satakshi, Singh Sanjay	<i>Contextual Information Based Recommender System Using Singular Value Decomposition.</i>	22-25 Aug 2013	International Conference On Advances In Computing, Communications & Informatics (ICACCI)	SJEC, Mysore

91	Jnanamurthy, H K, Singh Sanjay	<i>Detection And Filtering Of Collaborative Malicious Users In Reputation System Using Quality Repository Approach.</i>	22-25 Aug 2013	International Conference On Advances In Computing, Communications And Informatics (ICACCI)	SJEC, Mysore
92	Hegde, Manu S And Singh, Sanjay	<i>Aware-BDI: An Extension Of The BDI Model Incorporating Situational Awareness</i>	6-8 Apr 2013	International Conference On Communication Systems And Network Technologies	Gwalior , India
93	Khirbat, Gitansh, Gupta, Rahul, Singh Sanjay	<i>Optimal Neural Network Architecture For Stock Market Forecasting.</i>	6-8 Apr 2013	International Conference On Communication Systems And Network Technologies	Gwalior , India
94	Gupta, Rahul, Nidhi, Singh Sanjay	<i>Stock Market Prediction Accuracy Analysis Using Kappa Measure</i>	6-8 Apr 2013	International Conference On Communication Systems And Network Technologies	Gwalior , India
95	Kumar, Sharath, Singh Sanjay	<i>Detection Of User Cluster With Suspicious Activity In Online Social Networking Sites</i>	6-8 Apr 2013	International Conference On Advanced Computing, Networking And Security	Gwalior , India
96	Pradeep, B H, Singh, Sanjay	<i>Ownership Authentication Transfer Protocol For Ubiquitous Computing Devices.</i>	4-6 Jan 2013	International Conference On Computer Communication And Informatics	Coimbatore, India
97	Jnanamurthy, H K And Warty, Chirag, Singh, Sanjay	<i>Threat Analysis And Malicious User Detection In Reputation Systems Using Mean Bisector Analysis And Cosine Similarity (MBACS).</i>	13-15 Dec 2013	Annual IEEE India Conference	Mumbai, India

98	Sucheta V. Kolekar, Radhika M. Pai, Manohara Pai M. M	The Impact Of Adaptive Learning Material Based On Learning Styles In E-Learning Portal Using Empirical Study	2013	International Conference On Information Technology In Education & E-Learning - ITEEL	Kuala Lumpur , Malaysia
99	Tribrikram Pradhan, Pramod Kumar	Detection Of A Brain Tumor From Mri Scan Using Genetic Algorithm(Ga) Based Clustering Method, Intensity Based Asymmetric Map And Region Growing Technique	2013	Series Of Publications	India
2014					
100	Harini Peri, Preetham Kumar	Application of Association Rule Mining to Help Determine the Process of Career Selection	2014	International Journal of Computer Applications	
101	Sneha, Akshatha B Bhat, Preetham Kumar	Weighted Summarization Of Student Feedback Using Sentiment Analysis	2014	International Journal Of Computer Applications	
102	Ajinkya A. Dhaigude, Preetham Kumar	Improved Slicing Algorithm For Greater Utility In Privacy Preserving Data Publishing	2014	International Journal Of Data Engineering	
103	Kishore Birdar, Radhika M.Pai, Manohara Pai M.M, Joseph Mouzana,	Secure Adaptive Traffic Lights System For Vanets	2014	Journal Of Advances In Intelligent System And Computing	

104	J.Thejokishan, Manohara Pai M.M., Radhika M.Pai	Cluster-Based Routing For Optimal Communication In Port Logistics	2014	Journal Of Advances In Intelligent System And Computing	
105	Tribikram Pradhan, Harsh Anand, Akul Goel	Tha-A Hybrid Approach For Rule Induction System Using Rough Set Theory, Genetic Algorithm And Boolean Algebra	2014	Global Journal Of Researches In Engineering	
106	M. S. Hegde, S. Singh	Safe Buzz: Adaptive Security For Multi-Agents Through Situational Awareness	2014	International Journal Of Autonomous And Adaptive Communication Systems	
107	R. Mishra, M. Zeeshaan, S. Singh	Two Way Concurrent Buffer System Without Deadlock In Various Time Models Using Timed Automata	2014	International Journal Of Computer Information Systems And Industrial Management Applications	
108	Tribikram Pradhan	Enhancement Of Turing Machine To Universal Turing Machine And Its Jflap Simulation	2014	International Journal Of Hybrid Information Technology	
109	SmithaN.Pai, K.C.Shet, Mruthyunjaya H.S	In-Network Aggregation Using Efficient Routing Techniques For Event Driven Sensor Network	2014	International Journal Of Computer Networks & Communications	
110	Krishna Prakash, Balachandra	Optimizing Public Key Infrastructure For Mobile Devices	2014	International Journal Of Computer Applications	

111	Ramakrishna, M, Karunakar A	Estimation Of Scalable Video Adaptation Parameters For Media Aware Network Elements	6-10 Jan 2014	International Conference On Communication Systems And Networks	Bangalore India
112	Sanoop Mallissery, Manohara Pai M.M., Smitha A., Radhika M.Pai, Joseph Mouzna	Improving The Public Key Infrastructure To Build Trust Architecture For Vanet By Using Short Time Certificate Management And Merkle Signature Scheme	10-12 Feb 2014	Asia-Pacific Conference on Computer Aided System Engineering (APCASE)	Bali, Indonesia
113	Pooja B. Manohara Pai M.M., Radhika M.Pai, Nabil Ajam, Joseph Mouzna	Mitigation Of Insider And Outsider Dos Attack Against Signature Based Authentication In Vanets	10-12 Feb 2014	Asia-Pacific Conference on Computer Aided System Engineering (APCASE)	Bali, Indonesia
114	Tribikram Pradhan, Akash, Manish Sharma	Solving the 0-1 Knapsack Problem using Genetic Algorithm, and rough set theory	8-10 May 2014	IEEE international conference on advance communication control and computing technology(ICACCCT)	Ramathapuram, Tamilnadu, India.
115	C.B.Chandrakala, K.V. Prema, K.S. Hareesha	Data Availability in MANETs by using Cluster based Data Replication and Time indexing	25-27 July 2014	International Conference on Computer communication networks	Bangalore India
116	Tribikram Pradhan, Harsh Anand, Akul Goel	A rule mining using THA-hybrid approaches of rough set theory, genetic algorithm and Boolean algebra	2014	International Conference on emerging research in Computing, information, communication and applications	Bangalore India

117	Tribikram Pradhan, Ankit Yadav, Santosh S.patil	An error detection and correction technique based on graceful code for data transfer	2014	International Conference on emerging research in Computing, information, communication and applications	Bangalore India
118	Tribikram Pradhan, Satya Ranjan Mishra, Veerendra Kumar Jain	An Effective Way to Achieve Excellence in Research Based Learning Using Association Rules	5-6 Sept 2014	International Conference on Data Mining and Intelligent Computing (ICDMIC)	Delhi
119	Tribikram Pradhan, Vaibhav Walia, Rohini Kapoor, Dr. Sameer Saran	Optimizing Land Use Classification Using Decision Tree Approaches	5-6 Sept 2014	International Conference on data mining and intelligent computing (ICDMIC)	Delhi
120	B. Pradeep, S. Singh	Three way authentication protocol for privacy preserving and ownership authentication transfer for ubiquitous computing	2014	WSEAS Transactions on communications	
121	M. Ahmed, A. Sriram, S. Singh	Short term firm-specific stock forecasting: A computational intelligence approach	2014	IEEE Transactions on Pattern Analysis and Machine Intelligence	
122	Sucheta V. Kolekar, Radhika M. Pai, Dr. Manohara Pai M. M	Modified Literature Based Approach to Identify Learning Styles in Adaptive E-learning	24-26 June 2014	International Conference on Advanced Computing, Networking, and Informatics	Kolkata, India
123	Satvik Sachdev, Aparna Nayak, Tribikram Pradhan	Data Hiding in Halftone Images using Mathematical Morphology and Conjugate Ordered Dithering	22-24 Dec 2014	The International Conference on High Performance Computing and Applications (ICHPCA-2014)	Odisha, India

124	Arjun Choudhury, Tribikram Pradhan, Santosh Kamath	Improving Performance of MANET via Cooperative Communication with Selective Cooperation method considering Dynamic Traffic Pattern using NS2	22-24 Dec 2014	The International Conference on High Performance Computing and Applications (ICHPCA-2014)	Odisha, India
125	Sanoop Mallisery, Manohara Pai M.M., Radhika M. Pai, Smitha A.,	Cloud Enabled Secure Communication in Vehicular Ad-hoc Networks	3-7 Nov 2014	International Conference on Connected Vehicles and Expo (ICCVE)	Vienna, Austria
126	Patil, A, Singh, S	Differential private random forest	24-27 Sept 2014	Advances in Computing, Communications and Informatics (ICACCI)	Delhi, India
127	Ahmed, M., Sriram, A.; Singh, S	Towards a generic framework for short term firm-specific stock forecasting	24-27 Sept 2014	Advances in Computing, Communications and Informatics (ICACCI)	Delhi, India
128	Singh, V. Dahiya, P.; Singh, S.	Smart card based password authentication and user anonymity scheme using ECC and steganography	24-27 Sept 2014	Advances in Computing, Communications and Informatics (ICACCI)	Delhi, India
129	Krishna Prakash, Balachandra	Public key infrastructure for mobile devices	2014	International Conference on Security & Authentication	Ernakulam
130	Krishna Prakash, Balachandra	Mobile computing and M-Commerce Security issues	13-14 Sept 2014	International Conference on Networks, Mobile Communications and Telematics	Bangalore
131	Krishna Prakash, Balachandra	Enhancing PKI for Mobile Commerce Security	2014	International conference on science, engineering and management research	Chennai
132	Krishna Prakash, Balachandra	WPKI : A security Architecture for wireless devices	2014	National conference on computer networks and information security	Hyderabad

133	Nihit Vyas, Vish Kallimani, Balachandra, JyothiKallimani	GIS based real time assessment of wildfire and other changes in a forest”	2014	International conference & exhibition on remote sensing & GIS	Kuala Lumpur , Malaysia
134	Ajitha Shenoy K B , Somenath Biswas, Piyush P Kurur	Performance of Metropolis Algorithm for the Minimum weight code word problem	12-16 July 2014	Annual Conference on Genetic and Evolutionary Computation	Vancouver, Canada
135	Balachandra, Prema K V,	Comparison and assessment of certificate polices for unification of PKIs	2014	Global Manipal Alumni Health Science and Technology Convention	Kuala Lumpur , Malaysia
136	Manohara Pai, Pooja B, Radhika M.Pai	A WSN based Environment and Parameter Monitoring System for Human Health Comfort: A cloud enabled Approach	2014	EAI Endorsed Transactions on Scalable Information Systems	

- * Number of papers, listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.):

Scopus:	50
Google Scholar:	226
Scopus Citation Index – range / average:	0-12/1.35
Google Scholar Citation Index – range / average:	0-44/6.1
SNIP average:	< 1
SJR average:	< 1
Impact Factor – range / average:	0-2.31 / <1
Google Scholar H-index average:	< 1
Scopus H-index average:	< 1

23. Details of patents and income granted

1. Multi-service adaptable routing protocol for wireless sensor networks

Sl. No	Name	Income Generated
1	Mr. Arvind K G	\$ 2500
2	Dr. Manohara Pai M.M.	

2. Interactive Region of Interest scalability for wavelet Based scaled video coder.

Sl. No.	Name	Income Generated
1	Dr. Manohara Pai M.M.	\$ 750
2	Mr. Karunakar A.K	

3. Efficient object motion prediction using fuzzy Petri net based modelling in a robot navigational environment.

Sl. No.	Name	Income Generated
1	Dr. Manohara Pai M.M.	\$ 750
2	Mr. Vijay S Rajpurohit	

4. Enhanced multimedia mobility management supporting vertical handoff

Sl. No.	Name	Income Generated
1	Ms. Shreya Adyanthaya	\$ 3000
2	Dr. Manohara Pai M.M.	

24. Areas of consultancy and income generated.

Area of Image Processing, for TE connectivity, Bengaluru

25. Faculty selected nationally/internationally to visit other laboratories in India and abroad.

Faculty have visited / worked at:

IRSEEM, ESIGELEC, Rouen, France.

Telecommunications Lab, Saarland University, Saarbrucken, Germany.

Computer Science Lab, IIT Bombay.

Information Technology Lab, NITK.

26. Faculty serving in

#	Name	National committees	International committees	Editorial Boards	Any other (please specify)
1	Dr. Manohara Pai M.M	Nil	Visiting Professor at ESIGELEC, France, PhD Committee member. at ESIGELEC, France and Tu/e Eindhoven, Netherlands	Nil	ACM Member, IEEE Member, ISTE Life Member

2	Dr.Radhika M.Pai	Member of BOE and BOS NMAMIT, Nitte.	Nil	Nil	ACM Member
3	Dr. Smitha N. Pai	Nil	Nil	Nil	ISTE Life Member
3	Dr. Sanjay Singh	Nil	Nil	International Journal of Cryptography and Information Security. International Journal of Chaos, Control, Modeling and Simulation. American Journal of Signal Processing. International Journal of Information Sciences and Techniques. Recommending Editor for academia.edu	ACM Member ASL Member, ISTE Life Member ACP Member SSI Life Member, IAENG Member IACSIT Senior Member IEEE senior Member
4	Dr. Poornalatha G	Nil	Nil	Nil	TCP member/ reviewer ICACCI 2013, ADCONS 2013, ICACCI 2014.
5	Mrs. Chandrakala C. B	Member of BOE NMAMIT, Nitte.	Nil	Nil	Nil
6	Mr. Santhosha Rao	Member of BOE, NMAMIT, Nitte.	Nil	Nil	Nil

27. Faculty recharging strategies

The department has organized workshops, conferences, training programs guest lectures from which faculty are benefited.

#	Strategies
1	Faculty members are encouraged to avail financial benefit to participate and present papers in India and abroad under Faculty Development Programme (FDP).
2	Under Quality Improvement Programme (QIP), a faculty member can pursue his/her Ph.D. in premier institutions in India and abroad.
3	Faculty members are permitted to participate in seminars/lectures/workshops etc., conducted by the department and other departments/institutions of the University to enhance their technical knowledge and skills.
5	Faculty are trained by industry to offer relevant courses.
6	Internal FDP with senior faculty as resource persons.

#	Name Of the workshop	Year of conduction	Number of participants	Place
1	2 week ISTE workshop on Advanced database systems under NMEICT (MHRD) govt. of India.	2013	25	Seminar Hall I, Department of ICT, MIT
2	2 week ISTE workshop on computer programming under NMEICT (MHRD) govt. of India.	2014	25	Seminar Hall I, Department of ICT, MIT

28. Student projects

• UG- B.E / B.Tech (Information Technology)

Year	Student Strength	Projects in house	Percentage	Projects in Collaboration with Industry / Institute	Percentage
2012	124	56	45.16	68	45.833
2013	102	57	55.88	45	44.11
2014	128	66	51.56	62	48.43

- **PG- M.Tech (Network Engineering)**

Year	Student Strength	Projects in house	Percentage	Projects in Collaboration with Industry / Institute	Percentage
2012	18	10	55.55	8	44.44
2013	18	11	61.11	7	38.89
2014	18	8	44.44	10	55.55

- **PG - M.Tech (Software Engineering)**

Year	Student Strength	Projects in house	Percentage	Projects in Collaboration with Industry / Institute	Percentage
2012	18	10	55.55	8	44.44
2013	18	12	66.66	6	33.33
2014	18	9	50	9	50

29. Awards//recognition received at the national and international level by

- **Faculty :**

- The Paper titled “Mitigation of insider and outsider DoS attack against signature based authentication in VANETs” by Pooja B, Manohara Pai M.M. & Radhika M. Pai has been awarded the Best Paper Award at APCASE ‘14’ held at Bali, Indonesia from 10-12th Feb. 2014.
- The Paper titled “Improvising the public key infrastructure to build trust architecture for VANET by using short – time certificate management and merkle signature scheme” by Sanoop Mallissery, Manohara Pai M.M., Smitha A. & Radhika M. Pai has been awarded the Best Paper Award at APCASE ‘14’ held at Bali, Indonesia from 10-12th Feb. 2014.
- Mr. Ramakrishna M. and Karunakar A. K., has awarded with “Best Poster Award” for his paper entitled “Estimation of Scalable Video adaptation parameters for media aware network elements”, in sixth International Conference on Communication Systems and Networks (COMSNETS-2014), held at Bangalore, INDIA from 7th-10th Jan., 2014.
- Dr. Manohara Pai M.M. is a visiting professor at ESIGELIC.
- Dr. Manohara Pai M.M. is a Ph.D. committee member at ESIGELEC, Rouen, France and Tu/e, Eindhoven, Netherlands.

- **Student:**

- Ms. Kavya Srinet, has been awarded TMA Pai Gold medal by Manipal University. And also she was conferred “TCS best student award” on August, 2012.
- Mr. Ranjeet Kumar, has been selected for MS at Memorial University Canada with full financial funding
- Mr. Geetansh Kirbath, was awarded “TCS best student award” 2013.

- Mr. Anshul Anand, has won first place in "Microsoft Azure Challenge" part of "Microsoft Imagine Cup 2013" event held in Saint Petersburg, Russia.
- Mr. Ashish Jain, has been awarded "Best Project Award" 2010.
- Mr. Shashwat Aditya, has been awarded "Best Project Award".

30. Seminars/Conferences//Workshop organized and the source of funding (National//International) with details of outstanding participants, if any.

#	Title of Seminar/Workshop/Conference	Year	Source of funding	Details of Resource persons
1	Ping 2.0.1.0, National level workshop on "Wireless Application Development"	2010	SBI, Manipal	Deviprasad, Aravind K. G.
2	Ping 2.0.1.1, National level workshop on "4G Technologies and Wireless Application Development"	2011	SBI, Manipal	Mr. Vinayaka Ahobala Shastri and Mr. Raghurama Bhat
3	Seminar on "Research in I&CT at KTH"	2011	NA	Prof. Urabn Westergren
4	Ping 2.0.1.2 on "Big Data Analytics"	2012	Syscomp, Compshop, Softpro, SBI Manipal, Syndicate Bank MIT Manipal.	Mr. D. Bhattacharya
5	Guest lecture on "Technology Story : Knowledge Economy and Disruptive Power of Technology"	2013	NA	Mr. K.V. Kamath, Chairman, Infosys Ltd
6	Technical Talk on "Openstack"	2013	NA	Mr. Mohit Sethi, HP India R&D.
7	Technical Session on "Visual Effects"	2013	NA	Mr. Abhimanyu, HP India
8	Technical talk on Topic: "Data Warehousing Concepts"	2013	NA	Mr. Venugopal Krishnan, Senior Consultant, TCS, Bangalore.
9	Technical Talk on "Cloud Computing Architecture & Security Reliability"	2013	NA	Dr. N. M. Bhatta, TCS
10	A Guest Lecture on "Innovative Solutions for Medical Care And Treatments: IT Research for E-Health"	2013	NA	Prof. Nicolas
11	A Guest lecture on "Higher Education Internship and Opportunities at EFREI"	2013	NA	Dr. Christiane
12	Technical Talk on "Information Systems Strategy"	2014	NA	Dr. Ashok Tiwari, Principal Lecturer, School of Computer Science at the University of Hertfordshire, UK

13	Technical Talk on “Automatic Parallelization of Programs for contemporary architectures”	2014	NA	Dr. Supratim Biswas, Professor, Computer Science & Engineering Indian Institute of Technology, Bombay
14	Technical Talk on “Large Scale Visual Content Analysis”	2014	NA	Dr. Nikhil Rasiwasi Scientist, Yahoo Labs, Bangalore
15	Ping 2.0.1.4 on “Trends in Data Analytics”	2014	NA	Mr. Srinivasan Subramaniam, Infosys Mr. Sudhir Rawat, Microsoft

31. Code of ethics for research followed by the departments

As per Manipal University guidelines

The basic responsibility of an EC (Ethical Committee) is to ensure a competent review of all ethical aspects of the project proposals received and execute the same free from any bias and influence that could affect their objectivity. EC should provide advice to the researchers on all aspects of welfare and safety of the research participants after ensuring the scientific soundness of the proposed research through appropriate Scientific Review Committees. In smaller institutions the EC can up the dual responsibility of Scientific and Ethical Review.

The responsibilities of an EC can be defined as follows:

1. To protect the dignity, rights and well-being of the potential research participants
2. To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs

To assist in the development and the education of a research community responsive to local health care requirements.

32. Student profile course-wise:

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage (in first attempt)	
		Male	Female	Male	Female
2008-09 - B.E. (IT)	Admission is being done as per Manipal University admission policy	52	21	88	100
2009-10 - B.E. (IT)		51	17	88	100
2010-11 - B.Tech. (IT)		40	23	88	86
2011-12 - B.Tech. (IT)		80	26	79	77
2012-13 - B.Tech. (IT)		62	29	84	90
2013-14 - B.Tech. (IT)		90	49	93	92

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage (in first attempt)	
		Male	Female	Male	Female
2008-09 - M.Tech (Software Engineering)	Admission is being done as per Manipal University admission policy	7	6	100	100
2009 -10 - M.Tech (Software Engineering)		14	4	100	100
2010-11 - M.Tech (Software Engineering)		15	3	100	100
2011-12 - M.Tech (Software Engineering)		14	4	100	100
2012-13 - M.Tech (Software Engineering)		10	4	100	100
2013-14 - M.Tech (Software Engineering)		12	6	100	100

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage (in first attempt)	
		Male	Female	Male	Female
2008-09 - M.Tech (Network Engineering)	Admission is being done as per Manipal University admission policy	16	4	100	100
2009 -10 - M.Tech (Network Engineering)		16	2	100	100
2010-11 - M.Tech (Network Engineering)		14	4	92	100
2011-12 - M.Tech (Network Engineering)		11	7	100	100
2012-13 - M.Tech (Network Engineering)		10	7	90	100
2013-14 - M.Tech (Network Engineering)		13	5	100	100

33. Diversity of students (with available data)

Name of the Course (Refer to question number 4)	Per cent of students from the same University	Per cent of students from other universities within the State	Per cent of students from universities outside the State	Per cent of students from other countries
B.E./B.Tech. (IT)	0	8	91	1
M.Tech(Network Engineering)	2	36	60	2
M.Tech(Software Engineering)	2	42	56	0

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Competitive Exam	Number
GATE	02
CAT	04
GRE	14
TOEFEL	10

Registration number	Name	Percentile	University	Course name
80911330	Nadia Maria Antony	GMAT 650	NUS Singapore	MTech in Enterprise Business Analytics
80911348	Mohit Dhawan	GRE 308, TOEFL 98	University of Southern California	MS in Computer Science
80911360	Sahil Singh	GRE 317, TOEFL 108	New York University, New York	MS in Management of Technology
80911408	Rahul Singh	CAT 96.64	IIM Trichy	MBA
80911414	Supraj Sudharma Iruvanti	CAT 95.85 percentile	IIT Kharagpur	MBA (General Management)
80911430	Amritanshu Joshi	GRE 315, TOEFL 101	Indiana University, Bloomington	MS in Computer Science
80911446	Sanket Bhattamishra	GRE 325	Texas A&M, College station.	MIS
90911007	Gitansh Khirbat	NA	University of Melbourne, Melbourne Australia	PhD in Computer Science
90911407	Anvita Ratan	GRE 307 TOEFL 101	TU DRESDEN, GERMANY	Distributed System Engineering
90911493	Ashish kumar	GRE 326	University of Melbourne	
100911229	Anupama Kumar	CAT 98.74 percentile, GRE 318, TOEFL 117	MDI Gurgaon	MBA in Marketing & Finance
100911347	Matrika Rohatgi	GRE 320	NCSU, Raleigh, USA	MS in Computer Networks
100911516	Mansoor Ahmed	GRE 335, TOEFL 118	ETH Zurich	MS in Computer Science
100911545	Sahil Aggarwal	GRE 315	NYU, New York City	MS in Computer Science
110911003	Malitha Thirumalai Ananthampillai	GRE 316, TOEFL 104	Clemson University, Clemson	Ms in computer science
110911168	Vandit Agarwal	GRE: 324, TOEFL: 117	Admission awaited	MS in Computer Science

Registration number	Name	Percentile	University	Course name
110911272	Divyam Hansaria	GRE 315, TOEFL 112	Boston university, Boston, USA	MS in Computer Science
110911460	Saloni Sharma	GRE 311, TOEFL 105	NA	MS in Computer Science
100911555	Aman Bedi	CAT 99.6	FMS, Delhi	Associate Member, Corporate Relations and Placements at Faculty of Management Studies, Delhi

35. Student progression(With available data)

Student progression	Percent against enrolled
UG to PG	4
PG to MPhil	NIL
PG to PhD	7
PhD to Post-Doctoral	NIL
Employed	
• Campus selection	85
• Other than campus recruitment	3
Entrepreneurs	1

36. Diversity of staff (joined 2008 onwards)

Percent of faculty who are graduates	
of the same University	22
from other universities within the State	67
from universities from other States	11
from universities outside the country	0

37. Number of faculty who were awarded PhD, DSc and Dlitt during the assessment period

#	Name of the Researcher	Title	Date of Completion	Guide
1	Dr. Balachandra	Design and Implementation of a Public Key Infrastructure to Handle Interoperability Issues	24-05-2011	Dr. Prema K.V, Professor, Department of CSE, MIT, Manipal

2	Dr. Smitha N. Pai	Energy Conservation Protocols for Wireless Sensor Network	22-05-2014	Dr. K. C. Shet, Department of CSE, NITK, Surathkal
3	Dr. Sanjay Singh	Investigations on Performance Enhancement of Multicarrier Modulation Systems through PAPR Reduction Techniques	21-11-2010	Dr. M. Satish Kumar, Department of E & C, MIT, Manipal
4	Dr. Poornalatha G.	Web UR- Effective Techniques for Web Usage Mining and Recommender System.	25-10-2013	Dr. Ananthanarayana V. S. Professor, Department of IT NITK, Surathkal, Co- guide : Dr. Prakash Raghavendra, Assistant Professor NITK, Surathkal
5	Dr. Preetham Kumar	Abstraction based quantitative association rules mining	26-05-2010	Dr. Ananthanarayana V. S. Professor, Department of IT NITK, Surathkal

38. Present details of infrastructural facilities with regard to

a) Library

Number of books: 166

Digital library facility is available for students and staff using which they can access reputed journals like IEEE, Springer, Science Direct etc.

b) Internet facilities for staff and students

High-speed internet connectivity is provided to all the faculty cabins. All the labs provide high-speed internet facility to facilitate the student research activities.

c) Total number of class rooms

6 classrooms.

d) Class rooms with ICT facility

All the classrooms are equipped with LCD projectors.

e) Students' laboratories

Department has 8-labs (Lab 1 to lab 8) Lab-wise distribution of PCs is as follows:

Lab No.	Name	No. of PCs
1	Database Management Systems Lab	39
2	Computer Network Lab	35
3	Advanced Programming Lab	41
4	Project Lab	38
5	Software Engineering Lab	37

6	Wireless Networks Lab	23
7	Computing Lab-1	40
8	Computing Lab-2	40

f) Research laboratories

Department has research lab with 24 PCs in addition to AICTE sponsored cluster computing facility with IBM workstations. The lab also provides Wireless Sensor Network Test bed.

39. List of doctoral, post-doctoral students and Research Associates

a) From the host university

#	Name of the Researcher	Title	Date of Reg.	Guide
1	Mrs. Chandrakala C. B.	Effective Data Sharing in Mobile Ad-hoc Networks by Using Improved Replication Techniques	17-9-2010	Dr Prema K. V. (Guide) Dr Hareesha K. S. (Co-Guide)
2	Mr. Santhosha Rao	Design & Implementation of Cross - Layer Model for Multimedia Transmission in Energy Constrained Wireless Networks	17-4-2010	Dr Kumara Shama
3	Mr. Ramakrishna M.	Scalable Video Adaptation Using Media Aware Network Elements	31-3-2012	Dr Karunakar A. Kotegar
4	Mrs. Sucheta V. Kolekar	Adaptive Interface for E-learning based on Learning Styles Using Web Logs	10-3-2012	Dr Radhika M. Pai (Guide) Dr Manohara Pai M. M. (Co-Guide)
5	Mrs. Shreema	Design and Development of Optimized Algorithms for Routing and Application Functionalities of Underwater Wireless Sensor Networks	02-11-2012	Dr.Radhika M. Pai (Guide) Dr.Manohara Pai M.M. (Co- Guide)
6	Mr. Sabu G. R.	Development of Fraudulent Activity Detection and Recognition Algorithm: A Emotion and Facial Expression Based Approach	02-11-2012	Dr.ManoharaPai M.M. (Guide) Dr.Radhika M. Pai (Co- Guide)

7	Mr. Krishna Prakash K.	Design and Implementation of an Efficient Wireless Public Key Infrastructure in M - Commerce.	25-05-2013	Dr. Balachandra
8	Mr. Sanoop M.	Cloud Enabled Secure and Adaptive Traffic Alerts Management System	23-11-2013	Dr. Manohara Pai M. M. (Guide) Dr. Radhika M. Pai (Co-Guide)
9	Mrs. Girija V. A.	Efficient Methodology to Identify the Outliers in Financial Big Data for Fraud Detection	23-12-1013	Dr. Manohara Pai M. M. (Guide) Dr. Radhika M. Pai (Co-Guide)
10	Mr. Rajesh K.	Role Based Utility Computing for Cloud Applications in Emergency Situations	09-12-2013	Dr. Ashalatha Nayak
11	Mr. Raghavendra Ganiga	A Cloud Based Approach for Secured Storage & Retrieval of Standard Electronic Health Record	09-12-2013	Dr. Radhika M. Pai (Guide) Dr. Manohara Pai M. M. (Co-Guide) Dr. Rajesh Kumar Sinha (Co-Guide)
12	Mrs. Manjula C. B.	Traffic Prediction Based Intrusion Detection for Wireless Sensor Networks	19-7-2014	Dr. Balachandra

b) **from other universities:** NIL

40. **Number of postgraduate students getting financial assistance from the university.**

Year	No. Of Students	
	Software Engineering	Network Engineering
2012 –13	3	1
2013-14	2	4
2014-15	3	2

Year	Student Registration number	Name
2012	120928023	Vikram B N
	120928018	Anal B
	120928012	Ajith Wali
	120927016	Yeshwanth Reddy
2013	130928020	Sahana D N
	130927010	Shwetha B
	130927006	Supriya G
	130927012	Kedar N R
	130927022	Shaleen Sharda
	130928004	Abhiram Holla
2014	140928010	Shyam Kumar Singh
	140927005	Venkatesh Kulkarni
	140927006	Harsh Rajora
	140928004	Hinshu Sagar
	140928002	Rohit Gupta

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Yes/no	Input
Yes	Experts from industry and academia, stake holders

42. Does the department obtain feedback from

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes. The department, being a part of MIT, which is a constituent Institute of Manipal University, has all the rights to change curriculum. There are regular minor and major course revisions to the programmes. Minor revisions are being carried out at every semester and major revision is carried out once in four years. All faculty members are involved in the curriculum revision at the entry level. Faculty handling subjects will have the privilege to suggest any up-gradation/amendment to the syllabus based on the upcoming technologies. The syllabus and the revision will be framed by the senior faculty and discussed at the department meeting attended by all the faculty members. Department Curriculum Committee (DCC) at the entry level should approve the programme revision. The

DCC constitutes of department experts, student representatives as-well-as representatives from industries and academic institutions of repute.

The curriculum approved by the DCC at the Institute level passes through the BOS, which also consists of student representatives as-well-as experts from industries and academic institutions of repute. Final approval is given by the Academic Senate.

The last major revision of syllabus was implemented from the academic year 2014-2015.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

We have faculty advisor scheme (for higher semester students), where each faculty member monitors a set of students. The students can approach the faculty advisor regarding their academic problems. Faculty advisor forms an interface between his /her students and the faculty members/administrators concerned in solving students' problems.

We have class committees represented by both teachers and students. The committee meets twice /thrice a semester to discuss and solve academic problems and other issues. There are section coordinators and lab- in- charges to try and resolve issues related to students in classes and laboratories. We have a process to address/counsel academically weak students. As per the process, an academically weak student needs to be identified and effort is made to see that they are going to be one in the mainstream.

Inputs from the above are utilized for counselling teacher's as-well-as students by the HOD / senior faculty. With the support of teaching assistants and faculty, additional classes are conducted for academically poor students.

At the end of the course work, feedback on teaching- learning is collected from the students for further improvement of academic process.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

Exit survey of outgoing students, alumni survey and employer feedback are collected. Alumni feedback is used for updating lab and theory courses. The department has taken initiative by introducing a new Elective- Internetworking with TCP/IP based on the feedback given by CISCO. Alumni feedback is also encouraged while revising the syllabus so as to update syllabus at par with Industry requirement.

43. List the distinguished alumni of the department (maximum 10)

#	Name	Degree	Achivement
1	Mr. Nitin Maslekar	M.Tech. (Network Engineering)	Research Project Manager, Sustainable Future Mobility, Germany.
2	Mr. Harsh Beohar	M. Tech. (Software Engineering)	Postdoctoral Researcher at University of Duisburg-Essen, Duisburg, Nordrhein-Westfalen, Germany
3	Mr. Debjyothi Bera	M.Tech. (Software Engineering)	Postdoctoral Researcher at Eindhoven University of Technology, Netherlands
4	Ms. Madhavi Sewak	B.E. (IT)	Product Manager, Google, San Francisco
5	Mr. Akash Budhia	B.E. (IT)	Co-Founder at CronJ IT Technologies Pvt. Ltd., Bengaluru
6	Mr. Pranav Dangi	B.E. (IT)	Co-Founder, The Hosteller, New Delhi
7	Mr. Raj Choudasia	B.E. (IT)	Co-founder & CTO at Campus Diaries, Bengaluru
8	Mr. Jaideep Rao	B.E. (IT)	Co-Founder at KnowYourStar.com and Senior Developer at SAP, Bengaluru.

44. Give details of student enrichment programmes (special lectures//workshops//seminar) involving external experts.

#	Workshop / Lecture	Date	Theme
1	Ping 2.0.1.0	30 th and 31 st Dec, 2010	Wireless Application Development
2	Ping 2.0.1.1	14 th and 15 th Nov, 2011	4G Technologies and Wireless Application Development
3	Guest Lecture by EMC Corporation, Bangalore	1 st April 2011	Cloud Computing
4	Ping 2.0.1.2	14 th and 15 th Nov, 2012	Big Data Analytics
5	Ping 2.0.1.4	28 th Feb. & 1 st March 2014	Trends in Data Analytics

45. List the teaching methods adopted by the faculty for different programmes.

- Power Point Presentations is used for most of the subjects.
- Black board teaching is selectively used for the algorithms based problem solving subjects.
- Case studies – Used in teaching operating systems, programming languages and software engineering based subjects.
- Assignments – Every subject involves five assignments at regular intervals.
- Mini-projects are part of most of the programming languages, database and software engineering subjects. Students have to design, develop, test the

application/product and then demonstrate its working.

- Seminars – Facilitates the students to explore latest technologies.
- Industrial Training – Adopted to expose students to the industrial environment.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- Feedback from faculty members, students, alumni and employers.
- Result analysis after the examinations and counselling of under performers.
- Regular revision of syllabus.

47. Highlight the participation of students and faculty in extension activities.(for University)

- Supervision of International student's internship (IAESTE)
- Placement
- Counselling for UG/PG
- Convocation
- Participation on social organizations & student clubs.
- Participation in cultural and technical events within and outside the university.

48. Give details of “beyond syllabus scholarly activities” of the department.

S/N	Event	Beyond syllabus scholarly activities
1	Review / Edit of journal papers	Faculty are reviewers / editors of International journals.
2	Guest lectures / talks	Faculty have delivered technical talks in other institutions/ universities. Faculty from other institutions and renowned personnel from Industry/NITs/IITs industries are also invited to deliver talks.
3	Funded projects	Faculty are involved in research projects.
4	Technical associations /clubs	Students are actively involved in various activities of these associations / clubs. Faculty advisors monitor these activities.
5	Workshops/Seminars/Guest talks	Department has been organizing these events for the benefit of faculty and students. Also faculty members are participating / presenting papers at workshops / conferences in India and abroad to improve their academic knowledge, skills and research capabilities.
6	Placement training	Evening classes are conducted by the faculty to train the students for placements.

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details.

Yes. B.E. (IT) course is accredited by NBA in the year 2009 for 3 years. The department has already submitted the Self Assessment Report(SAR) in August 2014 and is currently waiting for the visit of NBA committee for renewal of accreditation.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

In the following way, the department contributes to the generation of new knowledge.

1. Technical publications in national and international journals / conferences.
2. Execution of socially relevant UG and PG projects.
3. Delivering keynote, invited, guest lectures.
4. Resource persons in workshops and FDPs.
5. The department also arranges webinars organized by industries.
6. Filing of IPR.

51. Future plans of the department.

- Establishment of New Labs
 - a) Artificial Intelligence Lab - This lab will facilitate students to apply the concepts of AI in various fields.
 - b) Network Security Lab - This lab requires hardware components and security software.
 - c) Big Data Analytics Lab - To be set up from the support of EMC Corporation, Bangalore.
 - d) Wireless Sensor Network Lab in collaboration with Innovation Centre, MIT.
- Workshops, Guest Lectures and Technical Talks
 - a) Annual workshops PING.
 - b) Technical Talks and Hands-on Demonstrations by the Department Faculty.
- Initiatives towards non-teaching Staff
 - a) Non-teaching staff will be encouraged to undergo training in cutting edge technologies. They will also be motivated to acquire higher qualifications.

- Research and Funding
 - a) Submitting Project Proposals to external funding agencies, which are expected to attract a minimum 10 lakhs per year.
 - b) Revenue generation from software consultancies.
 - c) New Initiatives of B.Tech Programme
 - d) To launch a new B.Tech Course in Computer and Communication with an intake of 60 students.
 - e) Planning to go for consultancy.
 - f) Planning for industry sponsorship for setting up new laboratory.

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strength

1. Availability of experienced and well qualified faculty.
2. Collaboration with International Universities of repute.
3. State-of-the art laboratories.
4. Practice school Concept
5. Department provides collaborative interaction of students with Industry Experts.
6. Department has good number of placement record.

Weaknesses

1. Non availability of students for in house research activities and project work.
2. Lack of consultancy work, grants and patents and sponsored projects from external agencies.

Opportunities

1. University provides large opportunity for intra disciplinary research work among technical and health sciences.
2. Collaboration with international universities for student and faculty exchange programme.
3. Large number of women faculty in the department gives scope for applying the grants specially designed for women.
4. International research collaboration for qualified faculty members for research and teaching.

Challenges

1. New competitive institute are emerging.
2. Retention of faculty with industry exposure.
3. Attracting dedicated research scholars.
4. Attracting external funding for research and consultancy.

1. **Name of the Department:** Mathematics
2. **Year of establishment:** 1957
3. **Is the Department part of a School/Faculty of the university?:** Part of Manipal Institute of Technology
4. **Names of Programmes/Courses offered:** Teach Mathematics for B. Tech. students
5. **Interdisciplinary Courses and Departments involved:** Yes
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** Nil
7. **Details of Programmes/Courses discontinued, if any, with reasons:** Nil
8. **Annual/Semester/Choice Based Credit System:** Semester Based 10-point Credit System
9. **Participation of the Department in the courses offered by other Departments:** Yes

Sl. No.	Interdisciplinary Course	Department involved
1.	Engineering Mathematics I	All Branches of Engg.
2.	Engineering Mathematics II	All Branches of Engg.
3.	Engineering Mathematics III	All Branches of Engg.
4.	Engineering Mathematics IV	All Branches of Engg.
5.	Applied Graph Theory – VI &M.Tech	All Branches of Engg.
6.	Applied Numerical Methods VI &M.Tech	All Branches of Engg.
7.	Applied Linear Algebra VI &M.Tech	All Branches of Engg.
8.	Mathematical Modelling VI &M.Tech	All Branches of Engg.
9.	Stochastic Processes and Reliability VI &M.Tech	All Branches of Engg.
10.	Optimization Techniques VI &M.Tech	All Branches of Engg.
MTECH		
1	Probability, random variables and stochastic processes	EC/BME
2	Mathematical and numerical techniques in Chemical and biological engineering	BT /CHE
3	Statistics, probability and reliability	CME/EM/PME
4	Computational methods and optimization techniques	ENVIRONMENTAL ENGG
5	Optimization techniques for engineering design	STRUCTURAL ENGG

6	Computational methods and stochastic processes	CSE
7	Computational methods and applied linear algebra	E&E
8	Applied linear algebra and probability	ICE
9	Applied numerical methods	CAMDA/NE/MET
10	Probability and stochastic process	ICT

10. Number of teaching posts sanctioned and filled: (Professors/Associate Professors/Assistant Professors)

Faculty	Sanctioned	Filled
Professor	08	08
Associate Professors	12	12
Assistant Professors	24	24
Total	44	44

11. Faculty profile with name, qualification, designation and specialization: (DSc/DLitt/PhD/MPhil, etc.)

#	Name	Qualification	Designation	Specialization	No. of Years of Experience	No of PhD students guided for the last 4 years
1	Dr P G Bhat	MSc, PhD	Professor and HoD	Graph Theory	29	02
2	Dr G M J Bhat	MSc, PhD	Professor	Functional Analysis	40	-
3	Dr Nityanand Pai	MSc, PhD	Professor	Differential equations	28	-
4	Dr Ramesha C	MSc, PhD	Professor	Geometric Function Theory	32	01
5	Dr Sudhakara G	MSc, MPhil, PhD	Professor	Graph Theory	28	01
6	Dr Sesappa A Rai	MSc, PhD, PDF	Professor	Numerical Methods	34	-
7	Dr Nagaraj N Katagi	MSc, MPhil, PhD,	Professor	Computer Oriented Numerical Techniques	17	-
8	Dr Kuncham Syam Prasad	MSc, MPhil, PhD	Professor	Algebra	16	01
9	Dr RaviShankarBhat	MSc, PhD	Assoc. Prof.-Senior Scale	Graph Theory	29	-
10	Dr Indira K P	MSc, , PhD	Assoc. Prof.-Senior Scale	Complex Analysis	18	-
11	Dr Kedukodi Babushri Srinivas	MSc, PhD,	Assoc. Prof.-Senior Scale	Algebra	11	-
12	Dr Girish M Sajjanshettar	MSc, PhD	Assoc. Prof.	Topology	14	-
13	Dr Srivatsa Kumar B R	MSc, PhD	Assoc. Prof.	Number Theory	14	-
14	Dr Baiju T	MSc, PhD	Assoc. Prof.	Fuzzy Topology	13	-

#	Name	Qualification	Designation	Specialization	No. of Years of Experience	No of PhD students guided for the last 4 years
15	Dr Vadiraja Bhatta	MSc, PhD	Assoc. Prof.	Number Theory	9	-
16	Dr Manjunatha Gudekote	MSc, PhD	Assoc. Prof.	Bio Mechanics	16	-
17	Dr Sumathi K	MSc, PhD	Assoc. Prof.	Statistics	16	-
18	Dr Rekha G Pai	MSc , PhD	Assoc. Prof.	Fluid Mechanics	13	-
19	Dr Harikrishnan P K	MSc, PhD	Assoc. Prof.	Functional Analysis, Operator Theory	9	-
20	Dr Prathima J	MSc	Asst. Prof. - Selection Grade	Special Functions	17	-
21	Mrs AnithaRaghunath	MSc	Asst. Prof. - Senior Scale	Algebra	22	-
22	Dr Devadas Nayak C	MSc., PhD	Asst. Prof. - Senior Scale	Graph theory	15	-
23	Dr Sujatha H S	MSc, , PhD	Asst. Prof. - Senior Scale	Grapy theory	14	-
24	Mrs Soumya K V	MSc	Asst. Prof. - Senior Scale	Graph Theory	10	-
25	Mrs.Sabitha D'Souza	M.Sc.	Asst. Prof. - Senior Scale	Graph Theory	10	-
26	Dr Shobha M.E	M.Sc., Ph.D	Asst. Prof. - Senior Scale	Functional Analysis	2	-
27	Mr Mohandas	MSc	Asst. Prof.	Complex Analysis	5	-
28	Mrs DivyaShenoy	MSc	Asst. Prof.	Linear Algebra	6	-
29	Ms SmithaHolla	MSc	Asst. Prof.	Graph Theory	7	-
30	Mrs Vidya H C	MSc	Asst. Prof.	Number Theory	11	-
31	Mrs ArathiBhat	MSc	Asst. Prof.	Graph Theory	4	-
32	Mrs Kavitha Koppula	MSc, B Ed	Asst. Prof.	Operation Research	6	-
33	Mr Sayinath Udupa N	Msc	Asst. Prof.	Graph Theory	3	-
34	Dr.Sona Jose	M.Sc., , PhD	Asst. Prof.	Graph Theory	1.5	-
35	Ms AshwiniBhat	MSc	Asst. Prof.	Numerical Analysis	2	-
36	Ms Swati S Nayak	MSc	Asst. Prof.	Graph Theory	3.7	-
37	Mr Vinay Madhusudan	MSc	Asst. Prof.	Algebra	4	-
38	Ms Selvine G Mathias	MSc	Asst. Prof.	Linear Algebra	4	-
39	Ms D.AnuRadha	MSc	Asst. Prof.	Graph Theory	2	-
40	Mr.Sampath Kumar V.S	MSc	Asst. Prof.	Computational Methods	<1	-
41	Mrs.Amrithalakshmi	MSc	Asst. Prof.	Graph Theory	1yr 8m	-
42	Ms.Shahistha K.	MSc	Asst. Prof.	Graph Theory	<1	-
43	Mrs.Sandhya S Pai	MSc	Asst. Prof.	Statistics	<1	-
44	Ms.Divya Baliga	MSc	Asst. Prof.	Graph Theory	<1	-

12. List of Senior Visiting Fellows, Faculty, Adjunct Faculty, Emeritus Professors:

Nil

13. **Percentage of classes taken by temporary faculty – programme-wise information:** Nil
14. **Programme-wise Student Teacher Ratio:** As per AICTE norms (1 : 15)
15. **Number of academic support staff (technical) and administrative staff sanctioned and filled:**

Staff	Sanctioned	Filled
Clerk	01	01
General Duty Worker	01	01
House Keeping Staff	02	02
Total	04	04

16. **Research thrust areas recognized by funding agencies:** Nil
17. **Number of faculty with on-going projects from:** Nil
 a) National b) international funding agencies and c) total grants received.

Give The names of the funding agencies and grants received project-wise.: Nil
18. **Inter-institutional collaborative projects and grants received:** Nil
 a) All India collaboration b) International
19. **Departmental projects funded by DST-FIST, UGC-SAP/CAS, DPE, DBT, ICSSR, etc.; total grants received.:** Nil
20. **Research facility/centre with:**
- **state recognition:** Nil
 - **national recognition:** Nil
 - **international recognition:** Nil
21. **Special research laboratories sponsored by/created by industry or corporate bodies:**

Nil

22. Research output in last three years

		2012	2013	2014	2015
Completed funded research projects		-	-	-	
Completed non-funded research projects		-	-	-	-
Completed PhD research projects		-	-	-	-
Completed PG research projects		-	-	-	-
Completed UG research projects		-	-	-	-
Publications	International	21	16	15	07
	National	2	-	2	-
Books		1	1	1	-
Chapters in books		-	-	-	-
Conference presentations	International	14	10	-	12
	National	2	8	08	4

Publications:

- * **Number of papers published in peer reviewed journals**
(national/international):65

National

#	Name of Faculty Member	Name of the Journal	Title	Year of Publication
1.	Dr.Sudhakara.G and Sujatha H.S	Advances and Applications in Discrete Mathematics	Partition of a Graph with its Complete Sub-graphs.	Volume 10, Number 1, pp 1-22, 2012
2.	Dr. Srivatsa Kumar B R	J. Of Rmanujan Society of Math. And Math. Sci.,	Evaluations of Ramanujan's Cubic Continued fraction $G(q)$ by Modular Equations	Vol. 1, No. 1 (2012), pp. 49-68 2012
3.	R.S.Bhat	Block degree and Block regular graphs	Proceedings of National conference on Graph Networks	PP 213- 221, 2014
4.	Sujatha H. S.	Matrix product(modulo-2) of graphs	Indian Journal of Pure and Applied Mathematics	Volume 45, 851-860, December-2014

International

#	Name of Faculty Member	Name of the Journal	Title	Year of Publication
1.	Pradeep G. Bhat and Devadas Nayak C	International Mathematical Forum	Mean K_{Δ} -Edge Equitable Vertex Labeling Of Barycentric Subdivision Of Graphs	VOL. 7, 2012, No. 22, 1057-1063

2.	Pradeep G. Bhat and Devadas Nayak C	International Journal Of Computer Applications	Balanced Labeling And Balance Index Set Of One Point Union Of Two Complete Graphs	(0975 - 8887) VOL. 52 -No. 13, PAGE No. 1 – 5, AUGUST 2012
3.	Pradeep G Bhat	International Journal Of Computer Applications,	Inverse Independence Of A Graph	Vol.42 No. 5, 2012
4.	Pradeep G Bhat	Journal Of International Academy Of Physical Sciences	Mixed Block Domination In Graphs	pp 345-357 2012
5.	Rai, Sesappa A	International Journal Of Mathematics Research	<i>Additional Parameter Methods For Second Order Initial Value Problems.</i>	4 (4),pp 421-429, 2012
6.	Ramesha, C And Indira K.P	Int. J. of Mathematical Sciences and Applications	On Integral Operators Defined On Some Subclasses Of S.	Vol.(2) pp 471-475.
7.	Indira KP And Ramesha C	Far East Journal of Mathematical Sciences(FJMS)	On A New Subclass Of Univalent Functions	Vol.68 No.2 , PP. 227-238
8.	Sudhakara G	International Journal of Computer Applications (0975 – 8887)	Data Communication in Mobile Wireless Sensor Networks	Volume 56– No.17, October 2012
9.	Sudhakara G	proceedings of icadc, aisc 174, pp. 441–454, Springerlink.com © springer india 2012	A Quantitative Approach using Goal-oriented Requirements Engineering Methodology and Analytic Hierarchy process in selecting the best Alternative	2012
10.	Nagaraj N. Katagi	Advances In Applied Science Research, Pelagia Research Library, Issn: 0976-8610, Coden (Usa): Aasrfc	Computer Extended Series Solution For The Flows In A Nonparallel Channels	3 (4),PP. 2413-2423, 2012
11.	Nagaraj N. Katagi	Journal Of Applied Mathematics	Kelvin-Helmholtz Instability In A Fluid Layer Bounded Above By A Porous Layer And Below By A Rigid Surface In Presence Of Magnetic Field	Vol. 3, No. 6, PP. 564-570
12.	Kuncham Syam Prasad	International Journal Of Computer Applications	Some Results On Degree Of Vertices In Semitotal-Block Graph And Total-Block Graph	(19 –22) Volume 50 – No.9, July 2012
13.	R S Bhat	Applied Mathematical Sciences	Strong / Weak Edge Edge Domination Number Of A Graph	VOL. 6, NO. 111, PP. 5525 – 5531, 2012
14.	R S Bhat	International Journal Of Mathematics And Computer Applications Research,	Strong(Weak) Matchings And Edge Coverings Of A Graph	VOL.2, ISSUE PP, 85-91, 2012
15.	R S Bhat	Int.Journ.Math.Sciences	Strong / Weak Edge Vertex Domination Number Of A Graph	VOL.11 (3-4), PP. 433- 444 (2012)
16.	Girish M. Sajjanshettar	International Journal Of Mathematical Sciences And Applications	Some Properties Of (S,P) - Open And (S,P)-Closed Functions	Vol.2 , PP.13 - 16
17.	Baiju T.	Mathematical sciences	Covering Dimension and Normality in L-topological	OA, PP. 6 – 35, 2012

			Spaces	
18.	Prathima J	International Journal Of Contemporary Mathematical Sciences	Some Theorems On Multiple A-Function Transform	7 (20). pp. 995-1004. ISSN 1314-7544
19.	Rekha.G.Pai	Applied Mechanics and materials, Trans tech Publications	Entrance region flow of Casson fluid in a circular tube	Vols. 110-116 (2012) Pp 698-706
20.	Harikrishnan P.K.	Journal of Prime Research in Mathematics (JPRM)	Some results of Accretive operators and Convex sets in 2-Probabilistic Normed Spaces	Vol. 8(2012), 76-84.
21.	Kavitha Koppula	International Journal of Research in Commerce, IT & Management	Job Scheduling Of Nurse Staffing:A Dynamic Programming Approach”,	Vol 2 No.1, pp. 66-69 , 2012
	2013			
1.	P. G. Bhat, R. S. Bhat and Surekha R. Bhat	Discrete Mathematics, Algorithms and Applications World Scientific Publishing Company DOI: 10.1142/S1793830913500183	Relationship Between Block Domination Parameters Of A Graph	Vol. 5, No. 3 (2013) 1350018
2.	P. G. Bhat and Sabitha D'Souza	Transaction on Combinatorics	Energy of binary labeled graphs,	Vol 2, No.3, Sept. 2013 PP : 53 – 67
3.	N.P.Pai and N.N.Katagi and	American Journal of Computational Mathematics	Semi Numerical Solution for a boundary value problems	3, 43- 47, 2013
4.	R.S.Bhat	An improved bound on weak independence number of a Graph	World Congress of Engineering, London	Vol I,WCE 2013 pp 208 - 210
5.	Nagaraj N. Katagi	International Journal of Advances in Science and Technology	Rayleigh-Taylor instability in a non-Newtonian fluid in the presence of electric field	Vol. 6, No.5, 2013, ISSN 2229-5216
6.	K B Srinivas K Syam Prasad	International Journal of Contemporary Mathematical Sciences	C-Prime Ideals in $R^n[x]$	Volume 8 2013 (3) 133 - 137
7.	Srinivas K.B., Syam Prasad K.	International Mathematical Forum	‘Nearing Ideals, Graphs and Cliques’,	Volume 8, 2013, no. 2, 73-83.
8.	B. R. Srivatsa Kumar	Int. J. Contemp. Math. Sciences	Two identities of Ramanujan’s Cubic Continued Fraction by Modular Equations”	Vol. 8, 2013, No. 6, 271 – 280 (ISSN 1312-7586) (Print) (ISSN 1314-7544)
9.	B. R. Srivatsa Kumar	International Journal of Mathematical Combinatorics	Modular equations for Ramanujan’s cubic continued fraction and its evaluations”	Vol. 3, 2013 1-15 (ISSN 1937 - 1055)

10.	Prathima J	International Journal of Mathematics and statistics Invention (IJMSI)	Multidimensional Mellin Transforms Involving I – Functions of Several complex Variables	Vol 1, Issue 2, PP 25 – 30, 2013
11.	Sumathi, K.	South African Statistical Journal	Tests for Cured Proportion for Recurrent Event Count Data when the data are censored	Pages: 226-238, 2013
12.	G. Sudhakara , H. S. Sujatha and M.Vinay,	Proceedings of Combinatorial Matrix Theory and Generalized Inverses of Matrices, Springer	Matrix Product of Graphs	PP, 41-56 2013.
13.	Rekha G Pai	Applied Mechanics and Materials, , Trans Tech Publications, Switzerland	Core Variation in the Entrance region Flow of Casson Fluid in an Annuli	Vols.391 (2013), pp. 376-381
14.	Mr. Mohandas Ramesha C Indira K.P	International Journal of Mathematical Sciences and Applications	Integral Operators Defined On Certain Subclasses Of Analytic Functions	Volume 3, No. 1, Pages 145-152 (June 2013)
15.	Indira K P Ramesha C, Mohandas	International Journal of Mathematical Sciences	Certain Subclass of Univalent Functions	33(2013), 1126-1129
16.	Indira K P, Ramesha C and Mohandas	Far East Journal of Mathematical Sciences	On Starlike Functions and Srivastava-Attiya Operator	Vol 83, No 2, 2013, 223 – 232.
	2014			
1.	Pradeep G. Bhat and Devadas Nayak C.	Friendly Index Sets and Friendly Index Numbers of Some Graphs	International Journal of Mathematical combinatorics	Vol.3 Pp -55 – 69, 2014
2.	Pradeep G. Bhat and Devadas Nayak C.	On Balance Index Set of Double graphs and Derived graphs	International Journal of Mathematics and Soft Computing	Vol.4, No.2 PP – 81 -93, 2014
3.	Dr. Pradeep G. Bhat and Sabitha D'Souza	Minimum covering energy of binary labeled graph	International Journal of Mathematics and soft computing	Vol.4, No.2 PP – 153-164 2014
4.	Nityanand P Pai and Nagaraj N Katagi	<i>A semi analytic approach to coupled Boundary value problems,</i>	American Journal of computational Mathematics	Vol. 4 PP – 311 -316
5.	Satyanarayana Bhavanari, Mohammad Yahya Abbasi, Abul Basar and Syam Prasad Kuncham	Some Results on Abstract Affine Gamma Near-Rings	International Journal of Pure and Applied Mathematical Sciences. ISSN 0972-9828	7 PP 43-49, 2014
6.	Bhavanari Satyanarayana Devanaboina Srinivasulu Kuncham Syam Prasad	Line Graphs and Quasi-total Graphs	<i>International Journal of Computer Applications (0975 – 8887)</i>	<i>Volume 105 – No. 3, 12-16, 2014</i>

7.	Baiju T., Sunil Jacob John	On submetacompactness in fuzzy topological spaces	Annals of Fuzzy Mathematics and Informatics	In Press, 2014
8.	Sumathi K & Aruna Rao K	Tests for cured proportion for recurrent event count data-Uncensored case with covariates	IOSR Journal of Mathematics	10, pp - 47-59, 2014
9.	Veena Shetty1, Katherine Trumbull2, Amitha Hegde3, Vijaya Shenoy4, Raghavendra Prabhu5, Sumathi K6 , Elizabeth Palavecino7, Avinash K. Shetty8	Prevalence of Community-Acquired Methicillin-Resistant <i>Staphylococcus aureus</i> Nasal Colonization Among Children	Journal of Clinical and Diagnostic Research	08, pp 12-15 , 2014
10.	Rekha G. Pai and A.Kandasamy	Entrance Region Flow of Herschel-Bulkley Fluid in an Annular Cylinder	<i>Applied Mathematics</i> , http://www.scirp.org/journal/am http://dx.doi.org/10.4236/am.2014.513189	vol.5, pp.1964-1976, 2014
11.	Rekha G. Pai and A.Kandasamy	Entrance Region Flow of Bingham Fluid in an Annular Cylinder	<i>International Journal of Applied Engineering Research</i> ,	Vol. 9, Number 20, pp. 7083-7101 2014
12.	Prathima J Vasudevan Nambisan T.M and Shantha Kumari K	A Study of I-Function of Several Complex Variables	International Journal of Engineering Mathematics	Volume 11 pages, 2014
13.	Prathima J, vasudevan Nambisan T.M	Multidimensional integral transform involving I-function of several complex variables as kernel	IOSR Journal of Mathematics	Volume 10 Pp - 73-80, 2014
14.	Prathima J, vasudevan Nambisan T.M	Multiple integral transforms involving I-function of several complex variables	Journal of Inequalities and Special Functions	Volume 5, PP 13-20, 2014
15.	K. Manjunatha Prasad, G. Sudhakara, H. S. Sujatha, and K. V. Soumya,	Matrix product (modulo-2) of graphs	Indian journal of Pure and applied Mathematics, Indian national science academy, Springer India,	Volume 45,, 851-860 , 2014
16.	B. R. Srivatsa Kumar and H. C. Vidya	Some More Relations on Ramanujan's Cubic Continued Fraction and a Continued Fraction of Order 12	<i>Advanced studies in contemporary mathematics</i>	24(2) , 191-196, 2014
17.	Krishna B.C, N.N.Katagi, VB Awati	Effect of Boundary roughness on Kelvin-Helmholtz, instability in couple stress fluid layer bounded above by porous layer and below by rigid surface	<i>Internal Jr. Computational Engg.Research</i>	Vol 4 (1), 35, 20-14
2015				
1.	Kuncham, Syam Prasad and Jagadeesha, B and	<i>Interval valued L-fuzzy cosets of nearrings and isomorphism theorems.</i>	Afrika Matematika	ISSN 1012-9405 DOI

	Kedukodi, Babushri Srinivas			10.1007/s13370 -015-0348-1 May 2015
2.	Jagadeesha, B and Kedukodi, Babushri Srinivas and Kuncham, Syam Prasad	<i>Interval valued L-fuzzy ideals based on t-norms and t-conorms.</i>	Journal of Intelligent & Fuzzy Systems	20 (1 – 11), 2015
3.	Baiju, T and John, Sunil Jacob	<i>On submetacompactness in fuzzy topological spaces.</i>	Annals of Fuzzy Mathematics and Informatics	9 (4) pp. 593-600, ISSN 2287- 6235
4.	Srivatsa Kumar, B R and Navada, Sowmya and Nayak, Ranjani	<i>Some identities on Schaefli-type mixed modular equations.</i>	Notes on Number Theory and Discrete Mathematics,	21 (1).pp. 86- 91. ISSN 1310– 5132
5.	Pradeep G Bhat and Sabitha D'Souza	Colour Laplacian energy of a graph	Proceedings of the Jangieon Mathematical society	No.3, 18 (2015) PP – 321 – 330
6.	Pradeep G Bhat, Sabitha D'Souza, Swati S Nayak	Laplacian Energy of Binary Labeled Graph	International Jr. of Maths combin.	Vol 2, 106 – 121
7.	Girish Sajjanshettar	Contra (s,p) – open and Contra (s,p) – closed functions	International journal of Engg. Trends in Engg. And development	Issue 5 Vol. 2, 260 - 263 ISSN 2249 - 6149
8.	Manjunatha Gudekote, K.S.Basavaraja ppa, V.K.Katiyar	Mathematical Modelling on Pulsatile Flow in Carotid Artery Bifurcation In Referene to Atherosclerosis with Varying Frequencies	National conference on Global Journal of Pure and Applied Mathematics	Vol 11 No. 5, PP – 3467 – 3475, 2015

* **Monographs:** Nil

* **Chapters in Books:** Nil

* **Edited Books:** Nil

* **Books with ISBN with details of publishers:** 03

#.	Name of Faculty Member	Name of the Book	Name of the Publisher	Year of Publication
1	Dr.Baiju T	Topics in Fuzzy Topology: Noncompact	LambertAcademic Publishing Germany	2012

		Covering Properties	ISBN978-3-659-26206-7	
2	Bhavanari Satyanarayana <i>Acharya Nagarjuna University</i> Kuncham Syam Prasad <i>Manipal Institute of Technology</i> <i>Manipal University</i>	Nearrings, Fuzzy Ideals and Graph Theory	ISBN 13: 9781439873106 Chapman & Hall, Taylor & Francis Group (London, New York)	2013
3	Panackal Harikrishnan	Probabilistic Normed Spaces	Imperial College Press (World Scientific) ISBN: 978-1-78326-468-1 (hardcover) ISBN: 978-1-78326-470-4 (e-book)	2014
4	Satyanarayana Bhavanari & Syam Prasad Kuncham	Discrete Mathematics and Graphs Theory	PHI Learning Private Limited ISBN: 978-81-203-4948-3	2014

* **Number listed in International Database (For e.g.Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.):**

* **Citation Index – range/average:** 4

* **SNIP:** -

* **SJR:** -

* **Impact Factor – range/average :** 0.83 – 3.03 / 1.1

* **h-index:** -

23. **Details of patents and income generated:** Nil

24. **Areas of consultancy and income generated:** Nil

25. **Faculty selected nationally/internationally to visit other laboratories in India and abroad:**

Nil

26. Faculty serving in:

- a) **National Committees** b) **International Committees** c) **Editorial Boards** d) **Any other(please specify): Nil**

27. Faculty recharging strategies:

1	Conducting Conference /Workshop
2	Invited Lectures by Eminent Speakers
3	Deputing faculty to International and National conferences
4	Encouraging faculty to pursue further studies

28. Student projects:

- **percentage of students who have done in-house projects including inter-departmental projects: NA**
- **percentage of students doing projects in collaboration with other universities/industry/institute: NA**

29. Awards/recognitions received at the national and international level by

- **Faculty: Nil**
- **Doctoral/Post-doctoral fellows: Nil**
- **Students: Nil**

30. Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any:

#	Title of Seminar/Workshop/Conference	Source of funding	Details of Resource persons
1	Getting Started with MATLAB and Simulink (GSMS) in July, 2012.	Sponsored by different Companies	1. Dr.Ciji Pearl Kurian, MIT, Manipal 2. Dr.Shubhanga K.N, MIT, Manipal 3. Mrs. R.C Mala, MIT, Manipal 4. Dr. Vinod V. Thomas, MIT, Manipal 5. Dr. Sesappa A. Rai, MIT, Manipal
2.	Computer Applications based on Modern Algebra in January, 2013	DST, UGC, CSIR, NBHM	1.Dr. Yajnanarayana, IIIT, Hyderabad 2. Dr. K. T. Arasu, USA 2. Dr.Ambedkar, IISC

			3.Dr.Bhavanari Sathynarayan, AP
3	Perspectives in Science Education and their Relevance for Technology(PSERT)in March, 2013.	Sponsored by different Companies	1.Dr M I Savadatti, Dharvad, 2. Dr.L.Sudershan Reddy, M.R.I.T., Bangalore 3. Dr.A.M.Khan, Mangalore University 4.Dr.D.Ravindranath, ISRO-MCF, Hassan 5. Dr.GopalVaidyanathan, B'lore
	Conference - 2015		
1	Nearings, Nearfields and Related Topics, July 5 – July 12 th 2015.	DST-DRDO-ISRO-KSTA	1 Booth G. L. , Nelson Mandela Metropolitan University, South Africa 2.Sudhir R. Ghorpade , Indian Institute of Technology Bombay, (IIT Bombay) India 3.Wen Fong Ke , National Cheng Kung University, Taiwan 4.I.B. S. Passi , Indian Institute of Science Education and Research Mohali (IISER), India 5.Bhavanari Satyanarayana , Acharya Nagarjuna University, India 6.Johan Meyer , University of the Free State, South Africa 7.Nico Groenewald , Nelson Mandela Metropolitan University, South Africa 8.Stefan Veldsman , Nelson Mandela Metropolitan University, South Africa 9.Gary F. Birkenmeier , University of Louisiana at Lafayette, USA 10.Stuart D. Scott , University of Auckland, New Zealand 11.Tim Boykett , Institute for Algebra, Johannes Kepler University, Austria 12.Ambedkar Dukkupati , Indian Institute of Science, (IISc.) India 13.Shankar B R , National Institute of Technology Karnataka, (NITK) India 14. Davvaz Bijan , Yazd University, Iran 15. Ayman Badawi , American University of Sharjah, UAE 16. Juglal S. , Nelson Mandela Metropolitan University, South Africa 17. Rajan A. R. , University of Kerala, India 18.Kent Neuerburg , Southeastern Louisiana University, USA 19.Om Prakash , Indian Institute of Technology, (IIT Patna), India 20T. Srinivas , Kakatiya University, India 21.S. Parameshwara Bhatta , Mangalore University, India 22.Y.V. Reddy , Acharya Nagarjuna University, India 23.Mark Farag , Fairleigh Dickinson University, USA 24.B.S. Kiranagi , University of Mysore, India

31. Code of ethics for research followed by the Departments:

THE ROLE AND RESPONSIBILITIES OF ETHICS COMMITTEE (EC)

The basic responsibility of an EC is to ensure a competent review of all ethical aspects of the project proposals received and execute the same free from any bias and influence that could affect their objectivity. EC should provide advice to the researchers on all aspects of welfare and safety of the research participants after ensuring the scientific soundness of the proposed research through appropriate Scientific Review Committees. In smaller institutions the EC can up the dual responsibility of Scientific and Ethical Review.

The responsibilities of an EC can be defined as follows:

1. To protect the dignity, rights and well being of the potential research participants
2. To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs
3. To assist in the development and the education of a research community responsive to local health care requirements.

32. **Student profile course-wise:** NA

33. **Diversity of students:** NA

34. **How many students have cleared Civil Services and Defence Services Examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.:** NA

35. **Student progression:** NA

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	Nil
from other universities within the State	80
from universities from other States	20
from universities outside the country	Nil

37. **Number of faculty who were awarded PhD, DSc and DLitt during the assessment period:**

1.	Dr.VadirajaBhatta G.R	2012
2.	Dr.Sumathi K	2012
3.	Dr.Harikrishnan P.K	2013
4	Dr.Indira K.P	2014
5.	Dr.Sona Jose	2015
6.	Dr.Devadas Nayak C	2015
7.	Dr.Sujatha H.S	2015
8.	Dr. Rekha G Pai	2015
9.	Dr Prathima J	2015

38. **Present details of infrastructural facilities with regard to**

- a) **Library:** Department Library with 178 books
- b) **Internet facilities for staff and students:** All faculty members
- c) **Total number of classrooms :** Shared classrooms
- d) **Class rooms with ICT facility :** Shared classrooms
- e) **Students' laboratories :** 01
- f) **Research laboratories :** 01

39. List of Doctoral, Post-Doctoral Students and Research Associates:

a) From the host University: 07

Full time:

#	Name of the faculty	Topics	Year	Guide
1	Mrs.Harinakshi Karkera	Wavelets applications to boundary value problems	2014	Dr.Nagaraj N Katagi
2.	Ms.Hamsa Nayak	Ideal like substructures related to gamma nearings	2014	Dr.Kuncham Syam Prasad
3.	Mr. Gowtham H. J	Labeling and Energy of Graphs	2015	Dr Pradeep G Bhat
4.	Rajashekhar v choudhari	Study of some physiological parameters of blood in comparison with variation of viscosity in normal and diseased cases using mathematical modelling”	2015	Dr Manjunatha Gudekote

Part time:

#	Name of the faculty	Topics	Year	Guide
1	Mrs Sabitha D'Souza	Energy of Graphs	2012	Dr Pradeep G Bhat
2	Ms.Divya Shenoy.P	Generalized inverses of matrices over rings and their applications,Linear Algebra	2012	Dr Manjunatha Prasad K
4	Ms.Smitha Holla	Mixed domination and related parameters of a graph	2013	Dr Ravi Shankar Bhat
5.	Ms.Vidya H.C	Some studies in the field of Modular equations and two dimensional series evaluations.	2013	Dr. Srivatsa Kumar B.R
6	Mrs ArathiBhat	Graph parameters and algorithms	2013	Dr Sudhakara G

7	Mrs KavithaKoppula	Ideals and their difference prime forms in seminearrings	2013	Dr Kedukodi Babushri Srinivas
8.	Mr.Sayinath Udupa	Strong (Weak) Block Domination and related parameters in graphs	2014	Dr.Ravishankar Bhat
9.	Mrs.Ashwini Bhat	Numerical and Semi-numerical solution for boundary value problems arising in fluid dynamics”	2014	Dr.Nagaraj N Katagi
10	Ms.Swati S Nayak	Energy of graph and its generalised complements	2014	Dr.Pradeep G Bhat
11	Ms.Selvine G Mathias	Spectrum Related Parameters and Properties of Resolvents of Linear Operators	2014	Dr.Indira K.P
12.	Mr.Sampath Kumar V.S	Analysis of boundary value problems using semi analytical techniques	2015	Dr.Nityanand Pai

b) **From other universities: Nil**

40. **Number of post graduate students getting financial assistance from the University:**

Nil

41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology:** Expert opinion and feedback taken from relevant stake holders.

42. **Does the department obtain feedback from**

a. **Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?**

Discussed in the departmental meeting at the end of the semester and upgraded the syllabus / lesson plan.

b. **Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?**

Suggestions are given to improve the quality of teaching, evaluation etc.

c. **Alumni and employers on the programmes offered and how does the department utilize the feedback?** NA

43. **List the distinguished alumni of the Department (maximum 10):** NA
44. **Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts:** Workshops and guest lectures were organized for students and faculty in a regular basis.
45. **List the teaching methods adopted by the faculty for different programmes:**
- Explaining theory /problems by black board
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**

1	By continuous assessment
2	By continuous evaluation and monitoring the quality of education to improve teaching learning process.
3	By obtaining feedback from faculty, students and employees.
4.	By conducting result analysis after examination which includes under performance.
5	By revising syllabus regularly

47. **Highlight the participation of students and faculty in extension activities:**

Participating in Social organization
Faculty club and various student clubs activities.

48. **Give details of beyond syllabus scholarly activities” of the Department:**
Workshops and guest lectures were organized for students and faculty in a regular basis.
49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details:** NA
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied:** Students attend Guest Lectures.
51. **Future plans of the Department:**

1	Starting MTech Programme (Industrial Mathematics)
2	Those who do not have PhD and joined the Institute to register for PhD
3	Developing PG/Research Lab.
4	Developing the Departmental Library.
5	Enhancing number of research publications.

6	Planning to conduct one National/International Level Conference
7.	Conducting UGC/DST sponsored summer courses for research scholars and faculty
8	Getting funded projects from AICTE/UGC/DST/CSIR.
9	Collaborative work with premier institutions in Medicine and Engineering
10	Encouraging faculty to participate as resource persons in seminar/conferences
11	Establishment of Center for Discrete & Applied Mathematics

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the Department

- **Strengths:**
 - i. Well qualified and experienced faculty with diversified specializations.
- **Weakness:**
 - i. Lack of external research funding
 - ii. Lack of inter-disciplinary research
- **Opportunities:**
 - i. Expansion of research activities in frontier fields in Mathematics.
- **Challenges:**
 - i. Attracting quality faculty from reputed Institutions.
 - ii. Diversifying the student base.
 - iii. Attracting external research funding.

- Name of the Department:** **Mechanical and Manufacturing Engineering**
- Year of establishment:** 1960
- Is the Department part of a School/Faculty of the university?**

Department is the part of Manipal Institute of Technology which is a constituent institute of Manipal University.

- Names of Programmes/Courses offered: (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)**

BTech (4 years)	MTech (2 years)
Mechanical Engineering	Computer Aided Mechanical Design and Analysis (CAMDA)
Industrial & Production Engineering	Manufacturing Engineering and Technology (MET)
	Advanced Thermal Power and Energy Systems (ATPES)
Ph. D. (Areas of Research)	
Turbomachinery, Solar thermal energy, CFD analysis for heat and fluid flow, FEM analysis of machine components, Alternative fuels, Bio-fuel blends for IC Engines, Machining of metals and composites, Biomechanics, Tribology, Fatigue and fracture, Measurement of aqueous corrosion of metals and alloys, Mechanical Vibrations, Surface Engineering, Material Characterization, Heat treatment of materials, System dynamics, Non-Conventional Machining, Cellular manufacturing and System Design, Condition monitoring.	

- Interdisciplinary courses and departments involved:**

ODD SEMESTER

Third Semester Mechanical Engineering	
Engineering Mathematics III	Department of Mathematics
Third Semester Industrial and Production Engineering	
Engineering Mathematics III	Department of Mathematics
Seventh Semester Mechanical Engineering	
Mathematic Modeling of Mechanical Systems	Department of Mathematics
Essentials of Management & Engg. Economics	Humanities and Management
Seventh Semester Industrial and Production Engineering	
Essentials of Management & Engg. Economics	Humanities and Management

I M. Tech - CAMDA	
Research Methodology and Technical Communication	Humanities and Management
Applied Numerical Methods	Department of Mathematics
I M. Tech - MET	
Research Methodology and Technical Communication	Humanities and Management
Applied Numerical Methods	Department of Mathematics
I M. Tech - ATPES	
Research Methodology and Technical Communication	Humanities and Management
Applied Numerical Methods	Department of Mathematics

EVEN SEMESTER

Fourth Semester Mechanical Engineering	
Engineering Mathematics IV	Department of Mathematics
Fourth Semester Industrial and Production Engineering	
Engineering Mathematics IV	Department of Mathematics

6. Courses in collaboration with other universities, industries, foreign institutions, etc.

Details of Courses offered under “Quality Enhancement in Engineering Education (QEEE)” of the Department of Higher Education, MHRD

Sl No	Course Details	Faculty	Period
1	Heat Transfer -6 th Sem Mech	Prof. C Balaji, IITM	Jan-April 2014
2	Computational Methods in Thermal and Fluid Engineering- 6 th Sem Mech/IP	Prof. Kannan Iyer, IITB	
3	Engineering Fluid Mechanics- 4 th Sem Mech/IP	Prof. BS Murthy, IITM	
4	Engineering Thermodynamics-4 th Sem Mech/IP	Prof. PMV Subbarao, IITD	
5	Machine Design-5th Sem Mech/IP	Prof. Narasimhan Swaminathan, IITM.	Aug-Nov 2014
6	Intoduction to Operations Research-5th Sem Mech/IP	Prof. Jayendran Venkateshwaran, IITB Prof. Ashutosh Mahajan, IITB.	

7. **Details of programmes/courses discontinued, if any, with reasons:**

M.Tech. (Nuclear Engineering): Discontinued from 2013 admission onwards due to limited number of student admission.

M.Tech. (Engineering Management): 2012-14 Batch onwards transferred to Department of Humanities and Management.

8. **Annual/Semester/Choice Based Credit System:** Semester Based 10-point Credit System

9. **Participation of the department in the courses offered by other departments:**

<p>JANUARY –MAY 2014</p> <p>IV SEMESTER PRINTING</p> <p>Machine Graphics & Computer Aided Drafting Lab.</p> <p>II SEMESTER ICAS</p> <p>Engineering Graphics – I</p> <p>Fluid Mechanics (Theory + Lab)</p> <p>IV SEMESTER ICAS</p> <p>Material science & Metallurgy</p> <p>Thermodynamics & Fluid Mechanics (Theory + Lab)</p> <p>Power Plant Engineering</p>	<p>JULY – DECEMBER 2014</p> <p>V SEMESTER PRINTING</p> <p>Theory of Machines & Machine Design</p> <p>III SEMESTER ICAS</p> <p>Principles of Thermodynamics</p>
<p>JANUARY – MAY 2013</p> <p>IV SEMESTER PRINTING</p> <p>Machine Graphics & Computer Aided Drafting Lab.</p> <p>VI SEMESTER MECHATRONICS</p> <p>Automation Lab</p> <p>II SEMESTER ICAS</p> <p>Engineering Graphics – I</p> <p>Fluid Mechanics (Theory + Lab)</p> <p>Thermo Fluids (Theory + Lab)</p> <p>IV SEMESTER ICAS</p> <p>Creative Thinking</p> <p>Thermodynamics & Fluid Mechanics (Theory + Lab)</p>	<p>JULY – DECEMBER 2013</p> <p>V SEMESTER PRINTING</p> <p>Theory of Machines & Machine Design</p> <p>VI SEMESTER MECHATRONICS</p> <p>Mechatronics Lab</p> <p>VII BIOMEDICAL</p> <p>Operations Research</p> <p>III SEMESTER ICAS</p> <p>Principles of Thermodynamics</p> <p>Statistical Quality Control</p>
<p>JULY – NOVEMBER 2012</p> <p>ThirdSemester Mechatronics</p> <p>Engineering Thermodynamics</p> <p>Material Science</p> <p>Fifth Semester Mechatronics</p> <p>Fluid Mechanics and Machines</p> <p>Metrology and Measurements</p>	<p>JANUARY – MAY 2012</p> <p>Fourth Semester Printing</p> <p>Machine Graphics and Computer Aided Drafting Lab.</p> <p>Sixth Semester Printing</p> <p>Theory of Machines and Machine Design</p>

Nano Technology	Instrumentation and Control
Fifth Semester Automobile	Sixth Semester Computer Science
Metrology	Financial Management
Fifth Semester Printing	Second Semester ICAS
Theory of Machines and Machine Design	Human Factors in Engineering and Design
Seventh Semester Mechatronics	Fluid Mechanics (Lab + Theory)
Engineering, Economics & Financial Mgmt.	Engineering Graphics
Composite Materials	Thermo Fluids (Theory + Lab)
Operations Research	Fourth Semester ICAS
Seventh Semester Bio Tech	Creative Thinking
Operations Research	Thermodynamics and Fluid Mechanics (Theory)
Seventh Semester Bio Medical	Thermodynamics and Fluid Mechanics (Lab)
Operations Research	
III ICAS	
Principles of Thermodynamics	
Statistical Quality Control	

10. **Number of teaching posts sanctioned and filled (Professors/Associate Professors/Assistant Professors)**

	Sanctioned	Filled
Professor	12	13
Associate Professors	24	18
Assistant Professors	45	51
Total	81	82

11. **Faculty profile with name, qualification, designation and specialization (D.Sc./D.Litt./Ph.D./M.Phil. etc.)**

#	Name of the Faculty	Degree	Designation	Specialization	EXPERIENCE (No. of Years)		No. of Ph.D. students guided for the last 4 years
					Industry	Teaching	
1	Dr. DivakaraShetty S	PhD	Professor	Corrosion Engineering.	NIL	31	01
2	Dr. RaghuvirPai B	PhD	Professor	Tribology	NIL	33	01
3	Dr. N Yagnesh Sharma	PhD	Professor	Gas turbine combustion	01	34	01
4	Dr. Raviraja	PhD	Professor	Tribology	NIL	29	-
5	Dr. Jagannath K	PhD	Professor	Tribology	NIL	32	-

6	Dr. S S Sharma	PhD	Professor	Materials Engineering.	NIL	29	01
7	Dr. N S Mohan	PhD	Professor	Composite Materials	01	28	-
8	Dr. D Srikanth Rao	PhD	Professor	Tribology	05	24	-
9	Dr. Rajendra B	PhD	Professor	Mechanical Vibrations	NIL	32	-
10	Dr. Anjaiah D	PhD	Professor	Non-Traditional Machining	<01	31	01
11	Dr. K Vasudeva Karanth	PhD	Professor	Turbo Machinery	NIL	27	-
12	Dr. P Krishnananda Rao	PhD	Professor	Industrial Engineering.	NIL	23	-
13	Dr. AchuthaKini U	PhD	Professor	Corrosion Engineering.	<01	31	-
14	Kantharaj A N	MTech	Assoc. Prof. – Senior. Scale	Engineering Management	NIL	34	-
15	Ramadev Herle	MTech	Assoc. Prof.– Senior. Scale	Engineering Management	NIL	30	-
16	H Rajaram Hande	MTech	Assoc. Prof.– Senior Scale	Engineering Management	NIL	27	-
17	Nagaraja	MTech	Assoc. Prof.– Senior. Scale	Engineering Management	02	27	-
18	Rajagopala Chadaga	MTech	Assoc. Prof.– Senior. Scale	Production Engineering	NIL	28	-
19	Pradeep Kumar Shetty	ME	Assoc. Prof.– Senior. Scale	Production Management and Marketing	<01	29	-
20	Dr. Krishna Murthy	MTech	Assoc. Prof.– Senior. Scale	Heat power Engineering	NIL	28	-
21	Augustine B V Barboza	MTech	Assoc. Prof.– Senior. Scale	Engineering Management	NIL	26	-
22	Dr. M VijayaKini	PhD	Assoc. Prof.– Senior. Scale	Composite Materials	06	20	-
23	Dr. Arunachala U Chandavar	PhD	Assoc. Prof.– Senior. Scale	Solar Thermal Engineering.	<01	18	-
24	Dr. Vijay G S	Ph.D	Assoc. Prof.– Senior. Scale	Production Engineering & Systems Technology	NIL	19	-
25	Dr.Raviraj Shetty	PhD	Assoc. Prof. – Senior Scale	Machining	NIL	15	-
26	Dr. C Raghavendra Kamath	PhD	Assoc. Prof. – Senior Scale	Manufacturing Engineering	NIL	12	-
27	Dr. Shiva Kumar	PhD	Assoc. Prof.	I.C. Engines	06	15	-
28	Dr.Y Srihari Upadhyaya	PhD	Assoc. Prof.	Machine Design	03	19	-
29	Dr. Murthy B. R. N	PhD	Assoc. Prof.	Materials Engineering	NIL	16	-
30	Dr. Raghvendra Prabhu P	PhD	Assoc. Prof.	Engineering Management	01	11	-
31	S V Udaykumar Shetty	MTech	Asst.Prof. – Sl. Grade	Engineering Management	01	28	-
32	Dr. B. Shivamurthy	MSc (Engg.)	Asst. Prof.– Sl. Grade	Mechanical Engineering	09	15	-
33	Sathish Rao U	MTech	Asst. Prof. – Sl. Grade	Advanced Manufacturing	05	16	-

34	Rajesh Nayak	MTech	Asst. Prof. – Sl. Grade	Advanced Manufacturing Engineering	NIL	16	-
35	Jayashree P K	MTech	Asst. Prof. – Sl. Grade	Production Engineering & Systems Technology	NIL	15	-
36	Chandrakant R Kini	MTech	Asst. Prof. – Sl. Grade	Heat Power Engineering	02	12	-
37	U. Satisha Prabhu	MTech	Asst. Prof.- Sr. Scale	Advanced Manufacturing Methods.	05	18	-
38	Dr. Deepak D	MTech	Asst. Prof.– Sr. Scale	Production Engineering & Systems Technology	NIL	11	-
39	Rakesh L	MTech	Asst. Prof.– Sr. Scale	Industrial Engineering	01	14	-
40	Dr. Shivaprakash Y M	MTech	Asst. Prof.– Sr. Scale	Machine Design	02	12	-
41	Gowrishankar M C	MTech	Asst. Prof. – Sr. Scale	Machine Design	07	10	-
42	A Amar Murthy	MTech	Asst. Prof.– Sr. Scale	Machine Design	NIL	09	-
43	Ashwin Kumar Devraj	MTech	Asst. Prof.– Sr. Scale	CAMDA	04	06	-
44	Madhwesh N	MTech	Asst. Prof.– Sr. Scale	Energy Systems	NIL	08	-
45	Dr. S M Abdul Khader	MTech	Asst. Prof.. – Sr. Scale	CAMDA	NIL	08	-
46	Kevin Mathias	MTech	Asst. Prof. – Sr. Scale	CAMDA	NIL	08	-
47	Manjunath M S	MTech	Asst. Prof.– Sr. Scale	Thermal Engineering	01	08	-
48	Vishal Shenoy P	MTech	Asst. Prof.– Sr. Scale	CAMDA	NIL	07	-
49	Srinivas Shenoy H	MTech	Asst. Prof.– Sr. Scale	Manufacturing Engineering & Technology	03	10	-
50	Anupama Hiremath	MTech	Asst. Prof. – Sr. Scale	Thermal Power Engineering	NIL	09	-
51	S Narayanan	MTech	Asst. Prof. – Senior Scale	Manufacturing Engineering & Technology	03	24	-
52	Subhash Acharya	MTech	Asst. Prof. – Senior Scale	CAMDA	NIL	06	-
53	Harisha S R	MTech	Asst. Prof. – Senior Scale	Manufacturing Engineering	01	05	-
54	Aruna Prabhu	MTech	Asst. Prof. – Senior Scale	Engineering Management	02	05	-
55	Suhas Y Nayak	MTech	Asst. Prof. – Senior Scale	Manufacturing Engineering & Technology	04	08	-
56	Sawan Shetty	MTech	Asst. Prof.	Manufacturing Engineering & Technology	01	07	-
57	Bhagyalaxmi S. Hegde	MTech	Asst. Prof.	Manufacturing Engineering & Technology	NIL	05	-

58	Nitesh Kumar	MTech	Asst. Prof.	CAMDA	NIL	05	-
59	Gurumurthy B M	MTech	Asst. Prof.	Mechatronics	NIL	05	-
60	Ritesh Bhat	MTech	Asst. Prof.	Product Design	NIL	04	-
61	George Varghese	MSc (Engineering.)	Asst. Prof.	Thermal Engineering	NIL	04	-
62	Ramakrishna Vikas S	MTech	Asst. Prof.	Manufacturing Engineering & Technology	NIL	05	-
63	Navaneet Krishna Vernekar	MTech	Asst. Prof.	CAMDA	NIL	05	-
64	Nithesh Naik	MTech	Asst. Prof.	CAMDA	03	03	-
65	Rohit N Shenoy	MTech	Asst. Prof.	Industrial Refrigeration and Cryogenics Engineering.	NIL	05	-
66	Suhas Kowshik	MTech	Asst. Prof.	Manufacturing Engineering & Technology	<01	03	-
67	Krishna Kumar P	MTech	Asst. Prof.	CAMDA	NIL	04	-
68	Pramod Mallar	MTech	Asst. Prof.	Manufacturing Engineering & Technology	<01	07	-
69	Gowrava Shenoy B	MTech	Asst. Prof.	CAMDA	NIL	03	-
70	Jamaluddin Hindi	MTech	Asst. Prof.	CIM	NIL	03	-
71	Arunkumar H.S.	MTech	Asst. Prof.	Thermal Power Engineering	NIL	02	-
72	Pavan Hiremath	MTech	Asst. Prof.	Manufacturing Engineering & Technology	NIL	01	-
73	Ganesha A.	MTech	Asst. Prof.	CAMDA	NIL	01	-
74	Jonathan Monteiro	MTech	Asst. Prof.	CAMDA	NIL	02	-
75	Muralishwara K.	MTech	Asst. Prof.	CIM	NIL	01	-
76	Vinyas	MTech	Asst. Prof.	CAMDA	NIL	01	-
77	Harishkumar Kamath	MTech	Asst. Prof.	CAMDA	NIL	02	-
78	Ranju Mamachan	MTech	Asst. Prof.	Thermal Engineering	NIL	02	-
79	Manjunath Shettar	MTech	Asst. Prof.	Production Engineering & Systems Technology	>1.5	04	-
80	Nakul Shreedhar	MTech	Asst. Prof.	Heat Power Engineering	NIL	02	-
81	Dilifa Josley Noronha	MTech	Asst. Prof.	CAMDA	02	01	-
82	Dr. Nagaraj Shetty	PhD	Asst. Prof.	Composite Materials	01	01	-

12. List of senior Visiting Fellows, faculty, adjunct faculty, emeritus professors:

Visiting Faculty					
S. No.	Name of the Staff	Qualification	Courses taught	Experience (No. of Years)	
				Industry	Teaching
1	Prof. K J Kamath	B.E., P.G. Diploma	<ul style="list-style-type: none"> • Engineering Economics • Operations Research • Production Planning & Control • Statistical Quality Control • Plant Layout & Material Handling 	NIL	48
2	Prof. Ramachandra	M.Tech.	<ul style="list-style-type: none"> • Theory Of Machines • Jigs And Fixtures • Dynamics Of Machinery • Engineering Graphics • Manufacturing Processes 	NIL	41

S. No.	Name of the Adjunct Faculty	Organisation/Institute
01	Dr. Shuichi Torii	Assistant Director, Centre for Globalization, Kumamoto University 2-40-1 Kurokami, Kumamoto, 8608555, Japan.
02	Dr. R. Srivenkatesan	Head, Reactor Physics Design Division, Bhabha Atomic Research Centre, Mumbai, Maharashtra, 400085.
03	Dr. Arun Kumar Bhaduri	Scientific Officer-H+; Associate Director, Materials Development and Technology Group; Professor, Homi Bhabha National Institute, Indira Gandhi Centre for Atomic Research, Kalpakkam 603102, Tamilnadu.

13. Percentage of classes taken by temporary faculty – programme-wise information:

UG - 1.36%, PG - 0%

14. Programme-wise Student Teacher Ratio:

UG	1:15
PG	1:12

15. **Number of academic support staff (technical) and administrative staff: sanctioned and filled:**

Staff	Sanctioned	Filled
Academic support staff (technical)	36	36
Administrative staff	16	16

16. **Research thrust areas recognized by funding agencies:** Biomechanics, Composite Materials, and Solar Thermal Energy.

17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise.**

PROJECT TITLE	Mechanical and Tribological study on Jatropa Polymer composites
PROJECT TEAM	Prof. Shivamurthy, Prof. Krishnamurthy
CONTACT	b_shivamurthy@yahoo.co.in, krishnamurthy24@rediffmail.com
INDUSTRY GOVERNMENT PARTNER	Karnataka State Bio Fuel Development Board
Grant Received : Rs. 0.62 lakhs	

PROJECT TITLE	Fundamental study of the use of water and environmentally sustainable water based lubricants in multi axial groove bearings
PROJECT TEAM	Dr. RaghuvirPai B.
CONTACT DETAILS	raghuvir.pai@manipal.edu
INDUSTRY GOVERNMENT PARTNER	Manipal Centre for European Studies
Grant Received : Rs. 10 Lakhs	

18. Inter-institutional collaborative projects and grants received

a) All India collaboration b) International

#	Institute	Project Title	Year
1	Manipal College of Dental Sciences (MCO DS)	Evaluation of volume in tooth pulp	2011-12
2	Yenepoya Dental College	Study of efficacy of forsus fatigue resistant device – a three dimensional - finite element study	2013-14
3	Yenepoya Dental College	Evaluation of Lingual Orthodontic Appliances	2013-14
4	A.B Shetty Dental College	3D-finite element analysis of stress in the maxillary complex of a uNilateral cleft lip and palate on simulated occlusal loading	2013-14
5	Sharavathi Dental College, Shimoga	Comparison of the stress distribution and deflection in an ARAMANY class II Obturator fabricated with CO-Cr alloys and Titanium alloys using 3D Finite element analysis.	2014-15
6	Sharavathi Dental College, Shimoga	Optimum Thread Type in Implants to Achieve Optimal Biomechanical Properties by Using 3D Finite Element Method	2014-15

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received:

The Faculty members have applied for 3 grants with reputed research agencies.

20. Research facility/centre with

- state recognition
- national recognition
- international recognition

NIL

21. Special research laboratories sponsored by/created by industry or corporate bodies:

Center of excellence in Renewable Energy in collaboration with EcoSpace, New Delhi

22. Research output in last three years

		2012	2013	2014
Completed funded research projects		01	NIL	NIL
Completed non-funded research projects		NIL	NIL	03
Completed PhD research projects		04	NIL	03
Completed PG research projects		40	40	33
Completed UG research projects		24	22	34
Publications	International	25	36	39
	National	03	02	NIL
Books		01	NIL	NIL
Chapters in books		NIL	NIL	NIL
Conference presentations	International	20	37	47
	National	03	01	NIL

Publications:

- * **Number of papers published in peer reviewed journals (national/international) :**

Journal publications: 105

Conference presentations: 108

- * **Monographs: NIL**

- * **Chapters in Books: NIL**

- * **Edited Books: NIL**

National Journals (2012)

#	Name of the Faculty	Title of the Research Paper	Publication Details	Name of the Journal
01	Vijay G. S., Kumar H S, Srinivasa P Pai, Sriram N. S.	Support Vector Machine based bearing defect classification using wavelet denoised vibration signal	Volume 2, June 2012, pp. 27-32	NMAMIT Annual Research Journal
02	George Varghese, Mohan P.	A study of emission characteristics and performance of Biodiesel prepared using waste cooking oil with cyclo-hexane as additive	Volume 21, Number 1, July 2012, pp. 26-33.	NITK Research Bulletin

03	Shivakumar A., Srinivasa Pai, Shrinivasa Rao B. R.	Prediction of performance parameters using artificial neural network and regression models in a bio-diesel engine using Honge methyl ester	Volume 11, Number 1, March 2012, pp.1-13	TERI - Energy and Management
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International Journals (2012)

#	Name of the Faculty	Title of the Research Paper	Publication Details	Name of the Journal (refereed)
01	Krishna Murthy, Madhwesh N, Shrinivasa Rao B R	Influence Of Injection Timing On The Performance Of Dual Fuel Compression Ignition Engine With Exhaust Gas Recirculation	Vol. 1, Issue 11(July 2012) pp. 36 – 42.	International Journal of Engineering Research and Development
02	Satish Rao U, Lewlyn L. Raj Rodrigues	Applying Wear Maps In The Optimization Of Machining Parameters In Drilling Of Polymer Matrix Composites – A Review	Vol. 1, Number 5, May 2012, pp. 75-82	Research Journal of Recent Sciences
03	Y S Upadhyaya, B K Sridhara	Fatigue Life Prediction: A Continuum Damage Mechanics And Fracture Mechanics Approach	Vol. 35, March 2012, pp.220-224.	Materials & Design
04	U Achutha Kini, Prakasha Shetty, S. Divakara Shetty, Arun Isloor, Ramdev Herle	Propanoyl(1Z)-N-(2,6-Dimethylphenyl)-2-Oxopropanehydrazonoate as inhibitor for corrosion of 6061 al alloy 15 % (V) sic _(p) composite in hydrochloric acid media	Vol. 13, Number 2, 2012, pp.121-129.	IIUM Engineering Journal
05	Vijay G.S., Kumar H. S., Srinivasa Pai, Sriram N. S., Raj B. K. N. Rao	Evaluation of effectiveness of Wavelet based Denoising schemes using ANN and SVM for bearing condition classification	Volume 2012	Computational Intelligence & Neuroscience (Hindawi Pub. Corp.)
06	Y. S. Upadhyaya, B. K. Sridhara	Strain controlled Fatigue life prediction of materials	Volume 1, Number 3, 2012, pp. 153-157.	International Journal of Research in Engg. and Tech.
07	Rajesh Nayak, Raviraj Shetty, Sawan Shetty	Experimental and finite element analysis on Chip formation mechanism in machining of elastomers	Volume 2, Number 2, 2012, pp. 10-13.	Bonfring International Journal of Industrial Engg. and Management Science

08	A. B. V. Barboza, C.V. Sudhir, N. Yagnesh Sharma	Performance, Emissions & Cyclic Combustion studies of C I Engine using Jatropa B20 fuel	Volume 5, Number 4 (02), 2012, pp.1073-1077.	International Journal of Earth sciences and Engg.
09	Chandrakanth R. Kini, Satish Shenoy B., N. Yagnesh Sharma	Numerical analysis of Gas turbine HP Stage blade cooling with new cooling duct geometries	Volume 5, Number 4 (02), 2012, pp.1057-1062.	International Journal of Earth sciences and Engg.
10	P. R. Prabhu, S. M. Kulkarni, S. S. Sharma	Experimental investigations of process parameters influence on surface roughness in deep cold rolling of AISI 4140 Steel	Volume 1, Number 3, 2012, pp. 159-163.	International Journal of Research in Engg. and Tech.
11	Chandrashekar Bhat, Anoop A D, Gopinath K, Jagannath K, S S Sharma, Raghavendra Prabhu	Surface failure and fatigue life investigation of Boron Steel	Volume 1, Number 3, 2012, pp. 167-171.	International Journal of Research in Engg. and Tech.
12	S. S. Sharma, Jagannath K., Chandrashekhar Bhat, P. R. Prabhu	Cold deformation effect on the conventionally aged stircast iron powder reinforced aluminium alloy metal matrix composites	Volume 1, Number 3, 2012, pp. 172-176.	International Journal of Research in Engg. and Tech.
13	U Achutha Kini, Prakasha Shetty, S. Divakara Shetty, Arun Isloor,	Corrosion inhibition of 6061 al alloy 15 % (V) sic _(p) composite in 0.5 M hydrochloric acid solution	Volume 1, Number 3, 2012, pp. 77-81.	International Journal of Biological, Ecological and Environmental Sciences
14	B. S. Shenoy, K. G. Binu, Raghuvir Pai, D. S. Rao, R. S. Pai	Effect of nanoparticles additives on the performance of an externally adjustable fluid film bearing	Volume 45, Issue 1, January 2012, pp. 38-42.	Tribology International
15	B. Rajesh Kumar, Harsha Vardhan, M. Govindaraj, G. S. Vijay	Regression analysis and ANN models to predict rock properties from sound levels produced during drilling	Volume 58, February 2013, pp. 61-72.	International Journal of Rock Mechanics and Mining Sciences
16	B. Shivamurthy, K. Udaya Bhat, S. Anandan	Mechanical and sliding wear properties of multi-layered laminates from glass fabric/graphite/epoxy composites	Volume 44 (2013), pp. 136-143.	Materials and Design

17	Nagaraj S. Nayak, Kapilan N., Sadashiva Prabhu S.	Modeling of Urea – water solution injection spray in SCR System	Volume 232 (2012), pp. 583-587.	Applied Mechanics and Materials
18	Manoj Kumar A. P., Nagaraj S. Nayak	Calculation of friction coefficients in journal bearings to determine the turning gear motor power	Volume 232 (2012), pp. 869-873.	Applied Mechanics and Materials
19	A.B.V. Barboza, Madhwesh N.,C.V.Sudhir, N.Yagnesh Sharma	Influence of injection timing and injector opening pressure on Combustion performance and p- θ characteristics of a C I engine operating on Jatropa B20 fuel	Volume 70, 2012, pp. 628- 633.	World Academy of Science, Engg. and Technology
20	Deepak D., Anaiah D., Yagnesh Sharma N.	Numerical analysis of flow through abrasive water suspension jet: The effect of garnet aluminium oxide and Silicon carbide abrasive on skin friction coefficient due to wall shear and jet exit kinetic energy	Volume 70, 2012, pp. 628- 633.	World Academy of Science, Engg. and Technology
21	Deepak D, D. Anjaiah, K. vasudeva Karanth, N. Yagnesh Sharma	CFD simulation of flow in an abrasive water suspension jet: The effect of inlet operating pressure and volume fraction on skin friction and exit kinetic energy	Volume 2012 (2012), 8 Pages	Advances in Mechanical Engg., Hindawi Publishing Corporation
22	Pratik, Mohammed Arshad Emran, Deepak D., Anjaiah Devineni	Investigations on the effect of process parameters on the quality of machined surface in laser beam machining of mild steel	Volume 1, Number 2, April 2012	International Journal of Research and review in engineering sciences (IJRRES)
23	Pradeep Kumar Shetty, K.V.M. Varamballi, Lewlyn L. R. Rodrigues	A Methodology for Implementing Total Productive Maintenance in Manufacturing Industries – A Case Study	Volume 5, Issue 2, December 2012, pp. 32-39	International Journal of Engg. Research and Development
24	Rodrigues L L R, Kantharaj A N, Kantharaj B, Freitas W R C, Murthy B R N	Effect of Cutting Parameters on Surface Roughness and Cutting Force in Turning Mild Steel	Vol. 1(10), 19- 26, October (2012)	Research Journal of Recent Sciences
25	B N Ramesh, B Suresha, G Chandramohan, D Anjaiah	Three Body Abrasive Wear Behavior of Microfiller- Filled Carbon Epoxy Composites: A Factorial Design Approach	Vol. 18, 2012, pp. 783-800	Composite Interfaces

National Conferences (2012)

#	Name of the Faculty	Title of the Research Paper	Date of Conference	Name of the Conference	Place
01	Vijay G. S., Srinivasa P. Pai, N. S. Sriram	Genetic Algorithm based Neural Network for Classification of Rolling Element Bearing Condition	December 5-7, 2012	National Symposium on ACOUSTICS	K S R Institute for Engg. & Tech., Tamilnadu
02	U Achutha Kini, Prakasha Shetty, S. Divakara Shetty, Arun Isloor	Corrosion Inhibition of 6061 Al alloy 15 vol % SiC (p) Composite in 0.1 M Hydrochloric Acid	June 2, 2012	National Conference on Mech. Engg. Tech.	SJCET, Palai, Kerala
03	Sathyashankara Sharma	Effect of Precipitation Hardening and Thermo Mechanical treatments on the characteristics of Aluminium alloys	June 2, 2012	National Conference on Mech. Engg. Tech.	SJCET, Palai, Kerala

International Conferences (2012)

#	Name of the Faculty	Title of the Research Paper	Date of Conference	Name of the Conference	Place
01	Rajesh Nayak	Experimental And Finite Element Analysis On Chip Formation Mechanism In Machining Of Elestromers	April 18-19, 2012	International Conference on Engineering and Technology (ICET2K12)	Sri Venkatesh wara College of Engineering and Technology, Thiruvallur
02	Chandrakant R Kini, Satish Shenoy B, N Yagnesh Sharma	Numerical Analysis Of Gas Turbine HP Stage Blade Cooling With New Cooling Duct Geometries	March 5 -7, 2012	2 nd International Engineering Symposium – IES 2012	Kumamoto University, Japan
03	U Achutha Kini	Propanoyl(1E)-N-(2-Acetylphenyl)-2-Oxopropanehydronoa	June 16-17, 2012	International Conference on	Bangkok, Thailand

		te As A Corrosion Inhibitor For 6061 Al Alloy- 15 Vol % Sic(P) Composite In 0.5 M Hcl Acid Solution		Mechanical, Production and Materials Engineering(I CMPME'2012)	
04	P Raghavendra Prabhu	Deep Cold Rolling Process On AISI 4140 Steel And Optimization Of Surface Roughness By Response Surface Methodology	June 16-17, 2012	International Conference on Mechanical, Production and Materials Engineering(I CMPME'2012)	Bangkok, Thailand
05	Arunachala U C, Shreepathi L K, Siddhartha Bhatt M	Assessment Of Blockage In Thermosiphon Flat Plate Solar Water Heater In Scaling Environment	April 12-13, 2012	2012 International Conference on Power and Energy Systems (ICPEs 2012)	Hong Kong
06	Shivakumar, Srinivas Pai P, Shrinivasa Rao B R	Performance And Emission Prediction In A Biodiesel Engine Run On Honge Methyl Ester Using Rbfnn And Regression Models	April 12-13, 2012	2012 International Conference on Power and Energy Systems (ICPEs 2012)	Hong Kong
07	A B V Barboza, C V Sudhir, N Yagnesh Sharma	Performance, Emissions & Cyclic Combustion Studies Of CI Engine Using Jatropa B20 Fuel.	March 5 -7, 2012	2 nd International Engineering Symposium – IES 2012	Kumamoto University, Japan
08	Y S Upadhyaya, B K Sridhara	Fatigue Crack Initiation And Propagation Life Prediction Of Materials	March 17-18, 2012	International Conference on Mechanical, Electrical and Mechatronics Engineering (ICMEME 2012)	Bangkok, Thailand
09	Satish Rao U, Lewlyn L. Raj Rodrigues	Applying Wear Maps In The Optimization Of Machining Parameters In Drilling Of Polymer Matrix Composites – A Review	Jan 28-29, 2012	International Conference on Futuristic Trends in Mechanical Engineering (ICFTME-12)	Thiruvalluvar College of Engineering, Tamilnadu

10	Chandrashekar Bhat, Anoop A D, Gopinath K, Jagannath K, S S Sharma, Raghavendra Prabhu	Experimental Investigation Of Surface Failure And Fatigue Life Of Boron Steel	June 16-17, 2012	International Conference on Mechanical, Production and Materials Engineering(I CMPME'2012)	Bangkok, Thailand
11	Jagannath K, S.S.Sharma, Chandrashekar Bhat, Raghavendra Prabhu.	Thermal Expansion Coefficient for Lead-Graphite and Lead-Iron Metal Matrix Composites	June 16-17, 2012	International Conference on Mechanical, Production and Materials Engineering(I CMPME'2012)	Bangkok, Thailand
12	S. S. Sharma, Jagannath K., Chandrashekhar Bhat, P. R. Prabhu	Age hardening and Thermomechanical Treatment of Stircast Iron Powder Reinforced Al Alloy Metal Matrix Composites	June 16-17, 2012	International Conference on Mechanical, Production and Materials Engineering(I CMPME'2012)	Bangkok, Thailand
13	Satish Shenoy B., Raghuvir Pai B., Rammohan S Pai B., Shrikanth Rao D.	Effect of turbulence and offset loading on the performance of a single pad externally adjustable fluid film bearing	November 9-15, 2012	International Mechanical Engg. Congress &Exposition (IMECE2012) [ASME]	Houston. Texas, USA
14	Y. S. Upadhyaya, B. K. Sridhara	Strain controlled fatigue crack initiation life prediction of materials	December 5-8, 2012	Asian Conference on mechanics of functional materials and structures (ACMFMS 2012)	IIT, Delhi
15	Rajesh Nayak, Raviraj Shetty, Divakar Shetty S.	Experimental investigation on cutting force and chip morphology under ambient and cryogenic condition during machining of elastomers	August 19, 2012	International Conference on Mech. & Industrial Engg.(ICMIE 2012)	Goa

16	Prakash Shetty, U. Achutha Kini, S. Divakara Shetty, Arun Isloor	Ethyl (2E)-2-[2-(chlorophenyl)hydrazinylidene]-3-oxobutanoate as a corrosion inhibitor for 6061 Al alloy-15 vol % SiC (p) composite in HCl medium	June 10-12, 2012	International Conference on Trends in Chemical sciences going beyond frontiers	Kuala Lumpur, Malaysia
17	B. Shivamurthy, Krishna Murthy, Peter C. Joseph	Wear and Mechanical properties of Jatropha seed Cake Particulate/Epoxy Composites	October 26-28, 2012	International Conference on Natural Polymers, Bio-Polymers, Bio-Materials, their Composites, Blends, IPNs, Polyelectrolytes and Gels: Macro to Nano Scales (ICNP 2012)	Mahatma Gandhi University, Kottayam, Kerala
18	Nagaraja, Mervin A. Herbert, B. Shivamurthy	Effect of drilling parameters on Carbon fabric reinforced epoxy composite laminate	October 26-28, 2012	International Conference on Natural Polymers, Bio-Polymers, Bio-Materials, their Composites, Blends, IPNs, Polyelectrolytes and Gels: Macro to Nano Scales (ICNP 2012)	Mahatma Gandhi University, Kottayam, Kerala
19	A.B.V. Barboza, Madhwesh N., C.V. Sudhir, N. Yagnesh Sharma	Influence of injection timing and injector opening pressure on Combustion performance and $p-\theta$ characteristics of a C I engine operating on Jatropha B20 fuel	October, 24-25, 2012	International Conference on Fluids & Thermal Engg. (ICFTE-2012)	Bali, Indonesia
20	Manjunath M S, K Vasudeva Karanth, N Yagnesh Sharma	A Comparative CFD study on Solar Dimple Plate Collector with Flat Plate Collector to Augment the Thermal Performance	July 2012	World Academy of Science, Engineering and Technology	London, UK

National Journals (2013)

#	Name of the Faculty	Title of the Research Paper	Publication Details	Name of the Journal (refereed)
01	Kumar H. S., Srinivasa Pai P., N. S. Sriram and Vijay G. S.	Rolling element bearing condition classification using Hoelder Exponents	Vol.3, October 2013, pp 43-48.	NMAMIT Annual Research Journal
02	Herle, Ramadev and Shetty, Prakash and Shetty, Divakara S and Kini, Achutha U	Inhibition of corrosion of stainless steel (304 SS) by N-(2-mercaptophenyl)-N'-phenyl thiourea in hydrochloric acid	20 (5). pp. 317-322 , 2013	Indian Journal of Chemical Technology

International Journals (2013)

#	Name of the Faculty	Title of the Research Paper	Publication Details	Name of the Journal (refereed)
01	Shiva Kumar, Srinivas Pai P, Shrinivasa Rao B R	Influence of injection timings on performance and emissions of a biodiesel engine operated on blends of Honge methyl ester and prediction using artificial neural network	Vol. 5(1), January 2013, pp 5- 20,	Journal of Mechanical Engineering Research
02	B Shivamurthy, S Anandhan, K Udaya Bhat	Epoxy / Glass – Fabric/ Silica Hybrid Composites: Mechanical Properties and Wear Behavior	Vol 5, 2013, pp. 1 – 6,	Advanced Science Engineering and Medicine
03	Raghuandana K, John, Kantharaj A N	Stability of Journal Bearings considering Slip condition: A non linear transient analysis	Vol 3 Issue 1, pp. 46-51, Jan – Feb 2013	International Journal of Applied Science and Technology Research Excellence
04	U C Arunachala, L K Shreepathi, M Siddhartha Bhatt	Analytical studies on drop of H- W-B constants due to scaling in natural circular flat plate solar water heater	Vol. 33, Issue 1, Jan 2013, pp. 192-202	International Journal of Sustainable Energy
05	B Shivamurthy, K Udaya Bhat, S Anandhan	Mechanical and sliding wear properties of multi layered laminates from glass fabric/ graphite/ epoxy composites	Vol. 44, February 2013, pp. 136 – 143	Materials and Design
06	S M Abdul Khader, Anurag Ayachit, Raghuvir Pai, Md.	Study of the influence of Normal and High blood pressure on normal and	Vol. 315(2013) pp 982-986	Applied Mechanics and Materials

	Zubair, K A Ahmed, V R Rao	stenosed Carotid Bifurcation using Fluid- Structure Interaction		
07	Nitesh Naik, Chandrasekhar Bhat, Pallanti Rao, J Christopher, Faber Arlington Saldanha, Prajjwal Shenoy	Simulation of contact bouncing behavior in starter solenoid and exploring potential feasible solution	Vol. 367,2013, pp. 204-208	Applied Mechanics and Materials
08	Gowri Shankar M C, Jayshree P K, Achutha Kini, Sharma S S	Individual and Combined effect of Reinforcements on Stir Cast Aluminium Metal Matrix Composites-A Review	Vol.3, No.3 Aug 2013, pp. 922-934.	International Journal of Current Engg. & Tech. (INPRESSCO)
09	Jayshree P K, Gowri Shankar M C, Achutha Kini, Sharma S S, Rviraj Shetty	Review on Effect of Silicon Carbide (SiC) on Stir Cast Aluminium Metal Matrix Composites	Vol.3, No.3 Aug 2013, pp. 1061-1071.	International Journal of Current Engg. & Tech. INPRESSCO
10	Nagraja, Mervin A Herbert, Divakara Shetty, Raviraj Shetty, B Shivamurthy	Effect Of Process Parameters On Delamination, Thrust Force And Torque In Drilling Of Carbon Fiber Epoxy Composite	Vol.2(8), August 2013, pp.47-51	Research Journal of Recent Sciences
11	Nagraja, Mervin A Herbert, Divakara Shetty, Raviraj Shetty, Murthy B R N	Investigation Into The Effects Of Process Parameters On Delamination During Drilling Of BD-CFRP Composite Using Taguchi Design of Experiments and Response Surface Methodology	Vol.4, Issue 3, May-June 2013, pp. 136- 148	International Journal of Mechanical Engineering and Technology (IJMET)
12	Chandrashekar Bhat, Deepak P. D., Ramkumar B. V. N, Jagannath K., Sharma S. S., Achutha Kini U	Numerical Investigation of Heat Transfer Characteristics of Nozzle Ribs in a Gas Turbine Blade	Vol.2, No.5 2013, pp. 209- 217.	International Journal of Research in Engineering and Technology (IJRET)
13	Shivaprakash Y M, Dr. K V Sreenivasa Prasad, Dr. Yadavalli Basavaraj	Dry Sliding Wear Characteristics of Fly Ash Reinforced AA2024 Based Stir Cast Composite	Vol.3, No.3 Aug 2013, pp. 911-921.	International Journal of Current Engg. & Tech. (INPRESSCO)
14	Jagannath Korody, S S Sharma, Chandrashekar	Low Cost Traction Control System for Two Wheeler	Vol.2, No.3 2013, pp. 122- 126.	International Journal of Research in

	Bhat, Achutha Kini, Prannoy Prakash			Engineering and Technology (IJRET)
15	Shivaprakash Y M, K V Sreenivasa Prasad, Yadavalli Basavaraj	Production And Tribological Characteristics of Heat Treated AA2024- Fly Ash Composite	Vol.3, No.3 Aug 2013, pp. 1029-1041.	International Journal of Current Engg. & Tech. (INPRESSCO)
16	S. S Sharma, K Jagannath , C Bhat , U Achutha Kini, P R Prabhu, Jayshree P K, Gowrishankar M C	Improvement in Mechanical Properties of AISI4147 Spring Steel through Heat Treatment Technique	Vol.2, No.3 2013, pp. 127- 131.	International Journal of Research in Engineering and Technology (IJRET)
17	U Achutha Kini, Jaganath K, S S Sharma, C Bhat, Prakash Shetty, S Divakara Shetty	Effect of Ethyl-2-phenyl- hydrozono-3-oxobutyrate on the Corrosion inhibition of AA6061 in HCl medium	Vol.2, No.3 2013, pp. 132- 136.	International Journal of Research in Engineering and Technology (IJRET)
18	Shivaprakash Y M, Gourishankar M C, K V Sreenivasa Prasad, Yadavalli Basavaraj	Investigations on ALFA Composite produced by Powder Metallurgy Route	Vol.6, No.4 (1), 2013, pp. 816-820.	International journal of Earth Sciences and Engineering
19	Shivaprakash YM, K V Sreenivasa Prasad, Yadavalli Basavaraj	Synthesis and mechanical characterization of ALFA Composites	Vol.1, Issue 2, 2013, pp. 115- 126.	International journal of Engg. & Social Science
20	Gowri Shankar M C, Shiva Prakash Y M, Jayashree P K, S S Sharma	Study on Chip Morphology in Turning of Ti – 6Al – 4V Alloy under High Pressure Neat Oil and Soluble Oil	Vol.6, No. 4(1), 2013, pp. 832-837.	International journal of Earth Sciences and Engineering
21	Madhwesh N, K Vasudeva Karanth, N Yagnesh Sharma	Effect of Staggered Splitters on the Flow Characteristics in a Centrifugal Fan – A Numerical Study	Vol.6, No. 4(1), 2013, pp. 821-825.	International journal of Earth Sciences and Engineering
22	S S Sharma, P Raghavendra Prabhu, Jayashree P K, M C Gowrishankar	The Tensile and Wear property Enhancement of Al-Zn-Mg alloys by precipitation hardening and thermomechanical treatments	Vol.3, No.4, 2013, pp. 1510-1515.	International Journal of Current Engineering and Technology (INPRESSCO)
23	Shivaprakash YM, K V Sreenivasa Prasad, Yadavalli Basavaraj	Production and Tribological Characteristics of Heat Treated AA2024-Fly Ash Composite	Vol.3, No.4, 2013, pp. 1029-1041.	International Journal of Current Engineering and Technology (INPRESSCO)

24	Shiva Kumar, P Shrinivasa Pai, B R Shrinivasa Rao	Prediction in a Biodiesel Engine using MLP and RBFNN networks – A Comparison	Vol. 2, No.5, 2013, pp. 287-291	International Journal of Research in engineering Technology
25	K Vasudeva Karanth, Manjunath M S, N Yagnesh Sharma	Three dimensional CFD analysis of Solar Air Heater for enhancement of Thermal performance using surface corrugation	Vol. 6, No. 4(1), August 2013, pp. 851-855	International journal of Earth Sciences and Engineering
26	Manjunath M S, K Vasudeva Karanth, N Yagnesh Sharma	Numerical analysis of a Convex corrugated Solar absorber plate configuration for enhanced heat transfer characteristics	Vol. 6, No. 4, August 2013, pp. 708-713	International journal of Earth Sciences and Engineering
27	S S Sharma, Jagannath K, P R Prabhu	Microstructure and Mechanical characterization of heat treated stir cast Silica (sea sand) Reinforced 7XXX Al alloy MMCs	Vol. 7, No. 1, 2013, pp. 1356-1361.	International journal of Industrial Science and Engineering
28	Jagannath K, S S Sharma, N S Mohan, P R Prabhu	Characteristic study for low melting point MMC using stir casting technique	10(6), 2013, pp. 529-534	World journal of engineering
29	Shiva Kumar, K Vasudev Karanth	Numerical analysis of a helical coiled heat exchanger using CFD	Vol.3, No.4, December 2013, pp. 126-130.	International journal of thermal techniques
30	Nagaraja, Mervin A Herbert, Divakara Shetty, Vijay G S, Raviraj Shetty	Evaluation of thrust force in drilling of BD-CFRP composite using Taguchi analysis, Response Surface Methodology and Neural Network	Vol.9, No.27, September 2013 pp. 147-164.	European Scientific Journal
31	Nagaraja, Mervin A Herbert, Divakara Shetty, Vijay G S, Raviraj Shetty	Investigation into the Effects of Process Parameters on Surface Roughness in Drilling of BD-CFRP Composite Using HSS Twist Drills	Vol.3, No.4 (October 2013), pp. 1320-1326.	International Journal of Current Engineering and Technology
32	Shivaprakash Y M, Yadavalli Basavaraj, K V Shrinivasa Prasad	Comparative study of Tribological characteristics of AA2024a+10% fly ash composite in non-heat treated and heat treated conditions	Vol. 2, Issue 11, Nov 2013, pp.275-280.	International Journal of Research in Engg. & Tech.(IJRET)
33	Murthy B R N, Lewlyn L R Rodrigues	Analysis and optimization of surface roughness in GFRP drilling through	Vol. 2(5), 1-8, May 2013, pp. 1-6.	Research journal of Engg. science

		integration of Taguchi and response surface methodology		
34	Murthy B R N, Lewlyn L R Rodrigues	Process parameters optimization using Taguchi and RSM to minimize the damage in the drilling of GFRP composites	Vol. 6, No. 4(1), August 2013, pp. 842-846.	International journal of Earth Sciences and Engineering
35	Murthy B R N, Lewlyn L R Rodrigues	System dynamics approach for optimization of process parameters to reduce delamination in drilling of GFRP composites	Vol.3, No.3, August 2013, pp. 1013-1019	International Journal of Current Engineering and Technology
36	Lewlyn L R Rodrigues, Murthy B R N	Optimization of the process parameters to minimize the surface roughness in drilling of CFRP composites using Taguchi method and RSM	Vol.3, No.3, August 2013, pp. 1007-1012.	International Journal of Current Engineering and Technology

National Conferences (2013)

#	Name of the Faculty	Title of the Research Paper	Date of Conference	Name of the Conference	Place
1	S. S. Sharma	Microstructure and some Mechanical properties of Fly Ash Particulate Reinforced Aluminium alloy composites prepared by different casting procedures with and without Wetting Agents	25-26 Oct 2013	Chemignite 2k13	MIT, Manipal

International Conferences (2013)

#	Name of the Faculty	Title of the Research Paper	Date of Conference	Name of the Conference	Place
01	Manjunath M S, K Vasudeva Karanth, N Yagnesh Sharma	Numerical Analysis of a Convex Corrugated Solar Absorber Plate Configuration for Enhanced Heat Transfer Characteristics	March 4 - 6, 2013	3 rd International Engineering Symposium – IES 2013	Japan

02	K Vasudeva Karanth, Manjunath M S, N Yagnesh Sharma	Three Dimensional CFD Analysis of Solar Air Heater for Enhancement of Thermal Performance using Surface Corrugation	March 4 - 6, 2013	3 rd International Engineering Symposium – IES 2013	Japan
03	Gowri Shankar M C, Shiva Prakash Y M, Jayashree P K, S S Sharma	Study on Chip Morphology in Turning of Ti – 6Al – 4V Alloy under High Pressure Neat Oil and Soluble Oil	March 4 - 6, 2013	3 rd International Engineering Symposium – IES 2013	Japan
04	Shiva Prakash Y M , Gowri Shankar M C, K V Shreenivasa Prasad	Investigations on ALFA Composite produced by Powder Metallurgy Route	March 4 - 6, 2013	3 rd International Engineering Symposium – IES 2013	Japan
05	Madhwesh N, K Vasudeva Karanth, N Yagnesh Sharma	Effect of Staggered Splitters on the Flow Characteristics in a Centrifugal Fan – A Numerical Study	March 4 - 6, 2013	3 rd International Engineering Symposium – IES 2013	Japan
06	Murthy B R N, Dr. L L Raj Rodrigues	Process Parameters Optimization using Taguchi and RSM to Minimize the Damage in the Drilling of GFRP Composites	March 4 - 6, 2013	3 rd International Engineering Symposium – IES 2013	Japan
07	S M Abdul Khader, Raghuvir Pai B, Anurag Ayachit, K A Ahmed, V R K Rao, S Ganesh Kamath	Comparative study of blood flow through normal and stenosed common carotid artery using Fluid- Structure Interaction	March 4 - 6, 2013	3 rd International Engineering Symposium – IES 2013	Japan
08	Raghuvir Pai B, S M Abdul Khader, Anurag Ayachit, K A Ahmed, V R K Rao, S Ganesh Kamath	Patient specific Fluid – Structure Interaction study of cerebral aneurysm	March 4 - 6, 2013	3 rd International Engineering Symposium – IES 2013	Japan
09	Rajesh Nayak, Raviraj Shetty, Sawan Shetty	Machinability study on Elastomer under ambient and cryogenic conditions using Taguchi's Design of Experiments	January 7 – 9, 2013	3 rd International Conference on Recent Advances in Material Processing	Kovilpatti , Tamilnad u

				Technology (RAMPT' 13)	
10	P Raghavendra Prabhu, S M Kulkarni, S S Sharma	Turning Aided Deep Cold Rolling- a Cost Effective Mechanical Surface Treatment Technique for Surface Hardness Enhancement	January 7 – 9, 2013	3 rd International Conference on Recent Advances in Material Processing Technology	Kovilpatti, Tamilnadu
11	S S Sharma, P Raghavendra Prabhu, Jayashree P K, M C Gowrishankar	The Tensile and Wear Property Enhancement of Al – Zn – Mg Alloys by Precipitation Hardening and Thermo mechanical Treatments	January 7 – 9, 2013	3 rd International Conference on Recent Advances in Material Processing Technology	Kovilpatti, Tamilnadu
12	Gowrishankar M C, P Raghavendra Prabhu, Jayashree P K, S S Sharma, U Achutha Kini	Machinability Study on Turning of Ti – 6Al – 4V Alloy under High Pressure Neat Oil and Soluble Oil	January 7 – 9, 2013	3 rd International Conference on Recent Advances in Material Processing Technology	Kovilpatti, Tamilnadu
13	Arunachala U. C., Siddhartha Bhatt M., Sreepathi L.K.	Experimental and Theoretical validation of Numerical code to analyze the performance of Thermosiphon flat plate solar water heater	April 29 – 30, 2013	International Conference on Mechanical, Automotive and Materials Engineering (ICMAME – 2013)	PSRC, Singapore
14	Shiva Kumar, P. Shrinivasa Pai, B. R. Shrinivasa Rao	Prediction of performance and emission parameters of a Biodiesel engine – A comparison of neural networks	April 29 – 30, 2013	International Conference on Mechanical, Automotive and Materials Engineering (ICMAME – 2013)	PSRC, Singapore
15	S. S. Sharma, K. Jagannath, C. Bhat, U. Achuta Kini, P.R. Prabhu, Jayashree P. K., Gowrishankar M. C.	Effect of heat treatment on Mechanical properties of AISI 4147 spring steel	April 29 – 30, 2013	International Conference on Mechanical, Automotive and Materials Engineering (ICMAME – 2013)	PSRC, Singapore

16	U. Achuta Kini, K. Jagannath, S. S. Sharma, C. Bhat, Prakash Shetty, S. Divakara Shetty	Corrosion inhibition of AA 6061 in Acidic medium using Ethyl-2-Phenyl-Hydrozono-3-oxobutyrate	April 29 – 30, 2013	International Conference on Mechanical, Automotive and Materials Engineering (ICMAME – 2013)	PSRC, Singapore
17	K. Jagannath, S. S. Sharma, Chandrashekar Bhat, Achutha Kini, Prannoy Prakash	Traction control system-An integrated safety for two wheeler	April 29 – 30, 2013	International Conference on Mechanical, Automotive and Materials Engineering (ICMAME – 2013)	PSRC, Singapore
18	Chandrashekar Bhat, Deepak P. D., Ramkumar B. V. N, Jagannath K., Sharma S. S., Achutha Kini U.	Design and analysis of nozzle ribs in a gas turbine	April 29 – 30, 2013	International Conference on Mechanical, Automotive and Materials Engineering (ICMAME – 2013)	PSRC, Singapore
19	Satish Rao U, Dr. L L Raj Rodrigues	Application of Taguchi analysis and ANOVA to determine the influence of process parameters on tool wear in drilling of polymer matrix composites	May 23 – 24, 2013	International Conference on Engineering Materials and Processes (ICEMAP – 2013)	Tagore Engineering College, Chennai
20	Faber Arlington Saldanha, Dr Venkateswara Rao, J Christopher, Dr Raviraja Adhikari, Nagabhushana Pujar	Investigations on concepts for modularizing a horizontal axis wind turbine blade	May 9 - 10 , 2013	2013 Ansys Convergence Conference	Bangalore
21	Ritesh R. Bhat, Dr. Raviraj R. Shetty	Investigation of lean tools to enhance productivity in manufacturing sector	July 20-21, 2013	International Conference on Emerging Trends in Engg. and Management (ICETEM 2013)	Haryana

22	N S Mohan	Strategic approach of human resource management (SHRM) towards Indian	June 07-08, 2013	International Multidisciplinary Research Foundation(ICMBE 2013)	Vijayawada, AP, India
23	Divakara Shetty, U. Achuta Kini, Prakash Shetty	Inhibition behaviour of PHOH and PAOH on the Corrosion of 15Vol.% 6061 Al Alloy/SiCp Composite in 0.5M Hydrochloric Acid Medium	August 8-10, 2013	International conference on Mechanical engineering and Mechatronics	Toronto, Ontario, Canada
24	George Varghese, P Mohanan	The Effect of cyclo-Alkane in Waste Cooking Oil (WCO) B20 fuel on a Single Cylinder DI Diesel Engine	May 19-22 2013	9 th Asia Pacific conference on Combustion	Gyeongju Hilton, Gyeongju, Korea
25	Subhash Acharya, Dr. Raviraja, Arun Kulkarni	Modal Analysis of a Fan Base structure	October 4-5, 2013	International Conference on Emerging Trends in Engineering & Technology	Munnar, Kerala
26	M N Niranjan, Nagaraj S Nayak	Combustion Modeling of CI Engine using Diesel and B20 Fuels	September 14- 16, 2013	International Research Conference on Engineering & Technology	Singapore
27	Rounaq Ahmed, Srinivasa Pai P, N S Sriram, Vijay G S	Fast Fourier transform and Discrete Wavelet Transform for Fault Diagnosis of Gear	May 15-16, 2013	International Conference on Emerging Trends in Engineering	NMAMIT , Nitte
28	Rounaq Ahmed, Srinivasa Pai P, N S Sriram, Vijay G S	Comparison of Wavelet Based Denoising techniques for Gear Condition Monitoring	September 26-27, 2013	International Conference on Convergence of Science, Engineering & Management in Education and Research- A Global Perspective-II Edition	Dayanand Sagar Institute, Bangalore
29	Madhwesh N, Ravindra, Krishna Murthy, Shrinivasa	Influence of Injection Pressure on the Performance of Dual	September 14-16, 2013	International Research Conference on	Singapore

	Rao B R	Fuel Compression Ignition Engine with Exhaust Gas Recirculation		Engineering & Technology	
30	Rakesh L.	Fabrication and performance analysis of thermo-electric refrigerator using Peltier effect	September 14-16, 2013	International Research Conference on Engineering & Technology	Singapore
31	Arunachala U. C., Siddhartha Bhatt M., Sreepathi L.K.	Analytical and Experimental Investigation to determine the variation of H-W-B constants for a scaled forced circulation flat plate solar water heater	November 15-21,2013	ASME 2013 International Mechanical Engineering Congress and Exposition	California ,USA
32	Nagaraj S Nayak	The Evaporation and spray wall Interaction Behavior of Urea Water Solution in Selective Catalytic Reduction (SCR)Systems of Modern Automobiles	August 09,2013	International Conference on Engines & Vehicles	Capri,Napoli
33	Vasudeva K Karanth, Manjunath M Shivamallaiiah, Yagnesh N Sharma	Three dimensional CFD analysis of solar air heater for enhancement of thermal performance using arc-shaped wire turbulator	November 15-21,2013	ASME 2013 International Mechanical Engineering Congress and Exposition	California ,USA
34	Yagnesh Sharma, Manjunath M S, NILEsh Chimanrao Bagul	Numerical heat transfer study on Solar flat plate absorber system with inbuilt pebble box enhancement	August 8-9, 2013	2 nd International Conference on Mechanical Engg. and Mechatronics	Toronto, Canada
35	Yagnesh Sharma, Manjunath M S, K Vasudeva Karanth	Three dimensional CFD simulation of thermosiphon flow in an unglazed solar flat plate collector	November 15-21,2013	ASME 2013 International Mechanical Engineering Congress and Exposition	California ,USA
36	Kumar H S, Srinivasa Pai P, Sriram N S, Vijay G	ANN based evaluation of performance of	July 18-20, 2013	International Conference On DESIGN	Kancheepuram, Chennai

	S	wavelet transform for condition monitoring of rolling element bearing		AND MANUFACTURING, IConDM 2013	
37	Murthy B R N, Dr. L L Raj Rodrigues	Analysis and optimization of surface roughness in GFRP drilling through integration of Taguchi and response surface methodology	January 7-9, 2013	Third International Conference on Recent Advances in Material Processing Technology (RAMPT-2013)	Kovilpatti, Tamilnadu

National Journals (2014)

#	Name of the Faculty	Title of the Research Paper	Publication Details	Name of the Journal
	NIL	NIL	NIL	NIL

International Journals (2014)

#	Name of the Faculty	Title of the Research Paper	Publication Details	Name of the Journal (refereed)
01	Raghavendra Kamath Cholapadi, Appu Kuttan	Mechanistic Force Modeling for Broaching Process	Vol. 2014	International Journal of Manufacturing Engineering (HINDAWI)
02	Dr. Rajendra Beedu, Pratik Modi	Design of Biogas Generation Plant Based on Food Waste	Special issue-2, February 2014	International Journal of Current Engineering and Technology (INPRESSCO)
03	U.C. Arunachala, M. Siddhartha Bhatt, L.K. Sreepathi	Experimental Study With Analytical Validation of Thermally Driven Flow in Risers of Solar Water Heaters Under Varying Scale Thickness and Heat Flux	Vol.136, May 2014	Journal of Solar Energy Engineering (ASME)
04	Pradeep Kumar, Raviraj Shetty, Lewlyn L.R.	Overall Equipment Efficiency and Productivity of a News Paper Printing Machine of a	Vol.3, Issue-1, February 2014	International Journal of Engineering Practical

	Rodrigues	Daily News Paper Company – A Case Study		Research (IJEPR)
05	Naik Nitesh, Saba Khan, Swetha Gogineni, Shwetha Krishnan, Suhas Kowshik, Prajwal Shenoy	Dynamic Behavioral Analysis of Electrical Contacts in Engine Starter Solenoid using Ansys®	Special issue-2, February 2014	International Journal of Current Engineering and Technology (INPRESSCO)
06	Prabhu P R, Satyabodh Kulkarni Sathya Shankara Sharma	Turn-Assisted Deep Cold Rolling- A Cost Effective Mechanical Surface Treatment Technique For Surface Hardness Enhancement	Vol. 9, March 2014, pp.022- 029	Journal of Manufacturing Engineering
07	George Varghese, P. Mohanan	The Effect of Cyclo- Alkane Additives in Waste Cooking Oil (WCO) B20 fuel on a Single Cylinder DI Diesel Engine	Special issue-2, February 2014	International Journal of Current Engineering and Technology (INPRESSCO)
08	Pradeep Kumar Shetty, Raviraj Shetty, Diwakar Shetty and Fazalul Rehaman N, Tony K Jose	Machinability Study on Dry Drilling of Titanium Alloy Ti- 6Al-4V using L ₉ Orthogonal Array	Vol. 5 (2014), pp.2605-2614	Procedia Materials Science
09	Srinath Pai, Abdul Sharief, Shiva Kumar, Sreeprakash B	High Injection Pressure Impact on a Direct Injection Diesel Engine	Vol.3, Issue 8 August 2014	International Journal of Engineering Research & Technology (IJERT)
10	Dr. S S Sharma, Dr. Jagannath K, Dr. P R Prabhu, Gowri Shankar M C	Mechanical Property Assessment of Austempered and Conventionally Hardened AISI 4340 Steel	Vol.5, Issue 9 September 2014	International Journal of Mechanical Engineering & Technology (IJMET)
11	Hemanth K, Ganesha A, Hemantha Kumar, K V Gangadharan	Analysis of MR Damper Based on Finite Element Approach	Vol. 592-594 (2014), pp.2006-2010	Applied Mechanics and Materials
12	P Krishnananda Rao	A Multistage Heuristic For Manufacturing Cell Formation	Vol.3, Issue 2 February 2014	International Journal of Research in Engineering & Technology (IJRET)

13	S Battacharya, A Basu, S Chowdhary, Y S Upadhyaya	Analysis of Piston of Two Stroke Engine	Vol.3, Issue 6 June 2014	International Journal of Research in Engineering & Technology (IJRET)
14	P R Prabhu, S M Kulkarni, S S Sharma, Jagannath K	Surface Layer Alterations in AISI 4140 Steel from Turn-Assisted Deep Cold Rolling Process	Vol.5, Issue 9 September 2014	International Journal of Mechanical Engineering & Technology (IJMET)
15	Nagaraja, Mervin A Herbert, Divakara Shetty, Vijay G S, Raviraj Shetty	Evaluation of Drilling Induced Delamination of Carbon Fiber Reinforced Polymer Composite Using Solid Carbide Drills	Vol.10, No 15 May 2014	European Scientific Journal
16	Chandrakant R Kini, Dr. Satish Shenoy B, Dr. N. Yagnesh Sharma	Thermo-Structural Analysis Of HP Stage Gas Turbine Blades Having Helicoidal Cooling Ducts	August 2014	International Journal of Mechanical and Aeronautical Engineering
17	Rajesh Nayak, Raviraj Shetty, Sawan Shetty	Investigation of Cutting Force in Elastomer Machining Using Taguchi's Design of Experiments	Vol.4, Issue 4 July 2014	International Journal of Advanced Technology & Engineering Research (IJATER)
18	Rajesh Nayak, Raviraj Shetty	Cutting Force and Surface Roughness in Cryogenic Machining of Elastomer	Vol.5, Issue 9 September 2014, pp.151-156	International Journal of Mechanical Engineering & Technology (IJMET)
19	Akshaya T Poojary, Rajesh Nayak	Investigation of Surface Roughness in Machining of AISI 1040 Steel	Vol.5, Issue 9 September 2014, pp.36-43	International Journal of Mechanical Engineering & Technology (IJMET)
20	Vishwash B, Srinivasa Pai P, N. S. Sriram, Rounaq Ahmed, Kumar H S and Vijay G S	Multiscale slope feature extraction for gear and bearing fault diagnosis using wavelet transform	Vol. 5 (2014), pp.1650-1659	Procedia Materials Science
21	Gurumurthy B M, Harish S R,	Design of Virtual Instrumentation approach for a	Vol.10 pp.68-71	IOSR Journal of Mechanical

	Subramanya R Prabhu, Dr. K V Gangadharan	Multi-Purpose online Mechanical Vibration Experiment Using Labview		and Civil Engineering (IOSR-JMCE)
22	Kumar H. S., Srinivasa Pai P., Sriram N. S. and Vijay G. S	Selection of Mother Wavelet for Effective Wavelet Transform of Bearing Vibration Signals	Vol. 1039, pp 169-176, 2014	Advanced Materials Research
23	Kumar H S, Srinivasa Pai P, Vijay G S and Raj B K. N Rao	Wavelet transform for bearing condition monitoring and fault diagnosis: A review	Vol. 17, No. 1, , pp. 9-23, January 2014	International Journal of COMADEM
24	Naik Nithesh, George Varghese, Suhas Kowshik CS	Investigations on Mesh Discretization Error in FEM Based Structural Analysis Using Ansys	Vol. 2, Issue 8, August 2014	International Journal of Advanced Computational Engineering and Networking
25	Anarghya A, Gurumurthy B M, Dr. S S Sharma, Nitish R, Yatheesha R B	Manual Stir Cast Processing Method, Hardness and Compression Characteristics of Quartz Reinforced Al Metal Matrix Composites	3(10), October 2014	International Journal of Engineering Sciences & Research Technology
26	Srinivas Shenoy Heckadka, Manjeshwar Vijaya Kini, Raghuvir Pai Ballambat, Satish Shenoy Beloor, Sathish Rao Udupi, Ullal Achutha Kini	Flexural Strength Analysis of Starch Based Biodegradable Composite Using Areca Frond Fibre Reinforcement	Vol.2014, November 2014	International Journal of Manufacturing Engineering
27	Karan Sharma, Naik Nithesh, Arun Prabhu, George Varghese	Setup Time Reduction For CNC Hobbing Machine Implementing SMED and Design of "Split Fixture"	Issue 4, November 2104	International Journal of Manufacturing and Production Engineering
28	Harisha S R ¹ , Subramanya R Prabhu B ² , K V Gangadharan ³	Implementation of Real Time Condition Monitoring of a Single Degree Freedom System Using Skyhook Control	Vol.10 pp.77-80, 2014	IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE)
29	Subramanya R Prabhu B ¹ , Harisha S R ² , K V Gangadharan ³	Design, Synthesis and fabrication of Magneto Rheological Fluid Damper for low Frequency Application	Vol.10 pp.60-63, 2014	IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE)
30	Sathish Rao U, Dr. Lewlyn L.R.	Influence of Machining Parameters on Tool Wear in	Vol August 2014	International Journal of

	Rodrigues	Drilling of GFRP Composites- Taguchi Analysis and ANOVA Methodology		Fluid Mechanics And Machines
31	Revankar, Goutam D and Shetty, Raviraj and Rao, Srikanth S and Gaitonde, Vinayak N	Analysis Of Surface Roughness And Hardness In Ball Burnishing Of Titanium Alloy	Vol. 58. pp. 256-268, December 2014	Measurement
32	Sathish Rao U. Lewlyn L.R. Rodrigues	Impact Of Process factors On Twist Drill Wear In Machining gfrp Composites By Applying Taguchi Design Analysis And Anova Technique	Vol. 4, Issue 3, pp.12-17, May 2014	International Journal of Advanced Technology & Engineering Research (IJATER)
33	Orville Sutari, Sathish Rao U	Development of plant layout using systematic layout Planning (slp) to maximize production – a case study	Vol. 2, Issue-8, pp.63-66, August 2014	International Journal of Mechanical And Production Engineering
34	Deepak D, Akash Valavala, Natt Winitthumkal, Anjaiah D	Machining Of D2 Heat Treated Steel Using Abrasive Water Jet: The Effect Of Standoff Distance And Feed Rate On Kerf Width And Surface Roughness	Vol. 3(8), pp. 417-421 August 2014	International Journal of Research in Engineering Technology
35	Raviraj Shetty, Anajwal Denim, Goutam.D.Revankar , Srikanth.S.Rao, Divakar Shetty.S	Characterization of Microstructure and Tribological Study on Heat Treated Titanium alloy (Ti-6Al- 4V)	Vol.4, No.3 pp. 2183-2188 June 2014	International Journal of Current Engineering and Technology
36	Raviraj Shetty, Tony K Jose, Goutam D Revankar, Srikanth S Rao, Diwakar Shetty S	Surface Roughness Analysis during Turning of Ti-6Al-4V under Near Dry Machining using Statistical Tool	Vol.4, No.3 pp. 2061-2067 June 2014	International Journal of Current Engineering and Technology
37	Revankar, Goutam D and Shetty, Raviraj and Rao, Srikanth S and Gaitonde, Vinayak N	Analysis of Surface Roughness and Hardness in Titanium Alloy Machining with Polycrystalline Diamond Tool under Different Lubricating Modes.	Vol.17 No.4, pp. 1010-1022, August 2014	Materials Research
38	S M Abdul Khader, Raghuvir Pai	Effect of Postural Changes on Normal and Stressed Common Carotid Artery using FSI	Vol. 37, pp. 139-152 2014	Australian Physics Scientists and Engineers in Medicine

39	Revankar, Goutam D and Shetty, Raviraj and Rao, Srikanth S and Gaitonde, Vinayak N	Selection Of Optimal Process Parameters In Ball Burnishing Of Titanium Alloy	Vol.18 Issue 3 pp. 464-483, August 2014	Machining Science and Technology - An international journal
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National Conferences (2014)

#	Name of the Faculty	Title of the Research Paper	Date of Conference	Name of the Conference	Place
-	NIL	NIL	NIL	NIL	NIL

International Conferences (2014)

#	Name of the Faculty	Title of the Research Paper	Date of Conference	Name of the Conference	Place
01	Ramakrishna Vikas S, Manjunath Maiya U, E. Jayakumar, T.P.D. Rajan, B.C. Pai, Nagaraja	Processing and Characterization of SiC _p Reinforced Functionally Graded AA 6061 Aluminium Metal Matrix Composites	March 8 th - 9 th 2014	International Conference on Advances in Mechanical and Robotics Engineering - MRE 2014	Kualalam pur, Malaysia
02	Amar Murthy, Rakesh. L, Gurumurthy. B. M, Vikram Harin Hattangady, Suneet Singh Puri	Development Of Cost Effective Chassis Dynamometer For Engine Output Power Measurements	March 8 th - 9 th 2014	International Conference on Advances in Mechanical and Robotics Engineering - MRE 2014	Kualalam pur, Malaysia
03	Deepak D., Anjaiah D., Yagnesh Sharma N	Flow Simulation in Abrasive Water Jet Machining of GFRP Composite: The Effect of Operating Pressure and Standoff Distance on Kerf Width	March 8 th - 9 th 2014	International Conference on Advances in Mechanical and Robotics Engineering - MRE 2014	Kualalam pur, Malaysia
04	Chandrakant R Kini, Dr. Satish Shenoy B, Dr. N. Yagnesh Sharma	Thermo-Structural Analysis Of HP Stage Gas Turbine Blades Having Helicoidal Cooling Ducts	March 8 th - 9 th 2014	International Conference on Advances in Mechanical and Robotics Engineering - MRE 2014	Kualalam pur, Malaysia

05	Sathish Rao U, Dr. Lewlyn L.R. Rodrigues	Influence of Machining Parameters on Tool Wear in Drilling of GFRP Composites- Taguchi Analysis and ANOVA Methodology	March 8 th - 9 th 2014	International Conference on Advances in Mechanical and Robotics Engineering - MRE 2014	Kualalam pur, Malaysia
06	Pradeep Kumar Shetty, Raviraj Shetty, Diwakar Shetty and Fazalul Rehaman N, Tony K Jose	Machinability Study on Dry Drilling of Titanium Alloy Ti-6Al-4V using L ₉ Orthogonal Array	March 27 th - 29 th 2014	International Conference on Advances in manufacturing and materials Engineering (ICAMME 2014)	NITK, Surathkal
07	Naik Nitesh, Saba Khan, Swetha Gogineni, Shwetha Krishnan, Suhas Kowshik, Prajwal Shenoy	Dynamic Behavioral Analysis of Electrical Contacts in Engine Starter Solenoid using Ansys®	January 9 th - 11 th 2014	International Conference on Advances in Mechanical Science (INPRESSCO)	Vardhaman College of Engineering, Hyderabad
08	Dr. Rajendra Beedu, Ankit, Mohmed Asif Shaik	Design , Fabrication and Performance Analysis of a Solar Power Bicycle	January 3 rd -5 th 2014	International Conference on Environmental and Sustainable Technologies (iCEST2014)	MIT, Manipal
09	Naik Nithesh, George Varghese, Suhas Kowshik CS	Investigations on Mesh Discretization Error in FEM Based Structural Analysis Using Ansys	May 10 th 2014	International Conference on Computer Science and Mechanical Engineering (ICCSME)	IRAJ, Goa
10	George Varghese, P. Mohanan	The Effect of Cyclo-Alkane Additives in Waste Cooking Oil (WCO) B20 fuel on a Single Cylinder DI Diesel Engine	January 9 th - 11 th 2014	International Conference on Advances in Mechanical Science (INPRESSCO)	Vardhaman College of Engineering, Hyderabad
11	S. S. Sharma, P. R. Prabhu, Gowrishankar M. C. , A. V. B. Sudhakar	Mechanical Property Assessment of Austempered and Conventionally	July 17 th - 19 th , 2014	International Conference on Current Trends in	Vidhyavardhaka College of Engineering

		Hardened AISI 4340 Steel		Engineering and Management (ICCTEM-2014)	g, Mysore
12	P. R. Prabhu, S. M. Kulakarni, S. S. Sharma, Jagannath K	Surface Layer Applications in AISI 4140 Steel from Turn-Assisted Deep Cold Rolling Process	July 17 th - 19 th , 2014	International Conference on Current Trends in Engineering and Management (ICCTEM-2014)	Vidhyavardaka College of Engineering, Mysore
13	Achutha Kini U, S. S. Sharma, Jagannath K, P. R. Prabhu	Inhibiting Behaviour of MMATT on 6061 Al alloy-15 vol% SiC _(p) Composite in HCl Solution	July 17 th - 19 th , 2014	International Conference on Current Trends in Engineering and Management (ICCTEM-2014)	Vidhyavardaka College of Engineering, Mysore
14	Srinath Pai, Abdul Sharief, Shiva Kumar, Sreeprakash B	A Study on Increased Fuel Injection Pressure Role in Promoting Biodiesel Blends Usage in a Diesel Engine – A Review	March 28 th -30 th , 2014	International Conference on Recent Trends in Engineering & Technology (ICRTET'2014)	K.B Jain College of Engineering, Chandwad
15	Shivakumar, Krishna Murthy, Srinivasa Pai P, Shrinivasa Rao B R	Application of Neural Networks for the Prediction of Heat Transfer Parameters in a Multi Pass Cross Flow Heat Exchanger	September 27 th -29 th , 2014	World Conference on Applied Sciences, Engineering & Technology	Kathmandu, Nepal
16	Rajendra B, K K Appukuttan	Design and Development of Eddy Current Semi Active Damper	September 27 th -29 th , 2014	World Conference on Applied Sciences, Engineering & Technology	Kathmandu, Nepal
17	Arunachala U C, Anuj Jhalaria, Sheikh Mashhood	Design, Fabrication and Performance Analysis of Solar Cooker for Night Cooking	September 27 th -29 th , 2014	World Conference on Applied Sciences, Engineering & Technology	Kathmandu, Nepal

18	P R Prabhu, S S Sharma, Jagannath K, Gowrishankar M C, Achutha Kini U, S M Kulkarni	Design of Experiment Based Approach to Optimize Turn-Assisted Deep Cold Rolling Process Parameters	September 27 th -29 th , 2014	World Conference on Applied Sciences, Engineering & Technology	Kathmandu, Nepal
19	Krishna Murthy, Vijay G S, Shiva Kumar, Madhwesh N, Shrinivasa Rao B R	Combustion Analysis of a Dual-fuel Diesel Engine Using a Two-zone Model	September 27 th -29 th , 2014	World Conference on Applied Sciences, Engineering & Technology	Kathmandu, Nepal
20	S S Sharma, Jagannath K, Chandrashekar Bhat U, Achutha Kini U, P R Prabhu, Jayashree P K, Gowrishankar M C	Age Hardening and Cold Deformation Assisted Aging Treatment on the Characteristics of Quartz Powder Reinforced Stir-Cast Aluminium- Zinc Alloy Metal Matrix Composites	September 27 th -29 th , 2014	World Conference on Applied Sciences, Engineering & Technology	Kathmandu, Nepal
21	Rajesh Nayak, Raviraj Shetty, Sawan Shetty	Investigation of Cutting Force in Elastomer Machining under Ambient and Cryogenic Conditions Using Response Surface Methodology	September 27 th -29 th , 2014	World Conference on Applied Sciences, Engineering & Technology	Kathmandu, Nepal
22	U Achutha Kini, S S Sharma, K Jagannath, P R Prabhu, C Bhat, Prakash Shetty, S Divakara Shetty, Arun Isloor	Comparative Study of EPHO and CBTC as Corrosion Inhibitors for 15 Vol.%6061 Al alloy/SiC _p Composite in 1M Hydrochloric Acid Medium	September 27 th -29 th , 2014	World Conference on Applied Sciences, Engineering & Technology	Kathmandu, Nepal
23	Gowrishankar M C, Shravan, Rakesh, Rahul, Achutha Kini, S S Sharma	Effect of Artificial Aging on Strength and Wear Behaviour of Solutionized Aluminium 6061 Alloy	September 27 th -29 th , 2014	World Conference on Applied Sciences, Engineering & Technology	Kathmandu, Nepal
24	Akshaya T Poojary, Rajesh Nayak	Investigation of Surface Roughness in Machining of AISI 1040 Steel	July 17 th - 19 th , 2014	International Conference on Current Trends in Engineering and Management	Vidhyavardaka College of Engineering, Mysore

				(ICCTEM-2014)	
25	Prashanth M D, Manish Trikha, D Kamesh, Y S Upadhyaya	Transient Response Analysis of Printed Circuit Board For Spacecraft Applications	May 23 rd , 2014	Conferences on Advances in Design, Manufacturin g and Management (ADMM' 14)	R V college of Engineerin g, Bangalore
26	P R Prabhu, S M Kulkarni, S S Sharma, Jagannath K	Surface Layer Alterations in AISI 4140 Steel from Turn- Assisted Deep Cold Rolling Process	July 17 th - 19 th , 2014	International Conference on Current Trends in Engineering and Management (ICCTEM- 2014)	Vidhyavar daka College of Engineerin g, Mysore
27	Rajesh Nayak, Raviraj Shetty	Cutting Force and Surface Roughness in Cryogenic Machining of Elastomer	July 17 th - 19 th , 2014	International Conference on Current Trends in Engineering and Management (ICCTEM- 2014)	Vidhyavar daka College of Engineerin g, Mysore
28	Akshaya T Poojary, Rajesh Nayak	Investigation on Machinability of AISI 1040 Steel	June 15 th , 2014	11 th IRF International Conference	Pune, India
29	Melwyn R. Castelino, Kumar H S, Srinivasa Pai P and Vijay G S	Artificial Neural Network based Vibration Signal Analysis of Rotary Machines – Case Studies	May 15 th - 17 th , 2014	International Conference on Emerging Trends in Engineering	NMAMIT, Nitte
30	Murthy B R N	System Dynamics Approach For Optimization Of Process Parameters To Reduce Delamination In Drilling Of GFRP Composites	September 27 th -29 th , 2014	World Conference on Applied Sciences, Engineering & Technology	Kathmand u, Nepal
31	Vishwas B, Srinivasa Pai P and Vijay G S	S-transform and Non- negative Matrix Factorization (NMF) based Feature Extraction for Gear Condition Monitoring	May 15 th - 17 th , 2014	International Conference on Emerging Trends in Engineering (ICETE-14)	NMAMIT , Nitte

32	Karan Sharma, Naik Nithesh, Arun Prabhu, George Varghese	Setup Time Reduction For CNC Hobbing Machine Implementing SMED and Design of “Split Fixture”	July 6 th , 2014	Recent Development in Mechanical and Industrial Engineering (ICRDMIE)	New Delhi
33	Krishna Kumar, Raviraja Adhikari, P R Prabhu, Laxmikant Keni	Deep Cold rolling Simulation of AISI 4140 Steel using ANSYS and LS DYNA	September 27 th -29 th , 2014	World Conference on Applied Sciences, Engineering & Technology	Kathmand u, Nepal
34	Gowri Shankar M.C	Effects of Age Hardening Parameters on Hardness of Al6061 Alloy Using Design of Experiments	Dec 17 th - 19 th 2014	International Conference on Computational Methods in Engineering and Health Sciences	MIT, Manipal
35	Manjunath M S	CFD Analysis of Collector Assembly with Thermal Storage System	Dec 17 th - 19 th 2014	International Conference on Computational Methods in Engineering and Health Sciences	MIT, Manipal
36	George Varghese, P. Mohanan, Nitesh Naik	The Effect of Cyclo- Alkane Additives in Waste Cooking Oil (WCO) B20 fuel on a Single Cylinder DI Diesel Engine	March 8 th - 9 th 2014	International Conference on Advances in Mechanical and Robotics Engineering - MRE 2014	Kualalam pur, Malaysia
37	B. Manjunatha	Optimal Location of Critical Component Mounting on PCB for Random Vibrations using FEA for Aeronautical Applications	Dec 17 th - 19 th 2014	International Conference on Computational Methods in Engineering and Health Sciences	MIT, Manipal
38	Ganesh A	Comparison Study of Single Coil Twin Tube MR Damper with and without the use of Liner	Dec 17 th - 19 th 2014	International Conference on Computational Methods in Engineering	MIT, Manipal

				and Health Sciences	
39	Nagaraja, Mervin A Herbert, Divakara S Shetty, Krishna Kumar	Mechanical Characterization of Bi- directional Carbon Fiber Reinforced Polymer Composite	Dec 17 th - 19 th 2014	International Conference on Computational Methods in Engineering and Health Sciences	MIT, Manipal
40	Chandrakant R Kini	An FSI Study in a HP Stage Gas Turbine provided with Blades having Helicoidal Cooling Ducts	Dec 17 th - 19 th 2014	International Conference on Computational Methods in Engineering and Health Sciences	MIT, Manipal
41	Vinyas	Feature Based Modelling of Lumbar and Thoracic Vertebrae for 3D Reconstruction of Spine	Dec 17 th - 19 th 2014	International Conference on Computational Methods in Engineering and Health Sciences	MIT, Manipal
42	Jayshree P K	Optimization of process parameters during Tungsten Inert Gas Welding of 6061 Aluminum alloy Using Design of Experiments	Dec 17 th - 19 th 2014	International Conference on Computational Methods in Engineering and Health Sciences	MIT, Manipal
43	Aruna Prabhu, B Giridhar Kamath, B GopalKrishna	Effect of Demographic Factors on Technical Institute Performance	Nov 26 th & 27 th , 2014	International Conference on Science, Technology, Engineering and Management 2014	Dubai, UAE
44	Raghavendra Kamath C	Illuminati : Automated Lighting System	January 3rd -5th 2014	International Conference on Environmental and Sustainable Technologies (iCEST2014)	MIT, Manipal

45	Rajesh Nayak	Finite Element Analysis And Simulation Of Machining Of Elastomers	Dec 17 th -19 th 2014	International Conference on Computational Methods in Engineering and Health Sciences	MIT, Manipal
46	Harish SR	Implementation of Real Time Condition Monitoring of a Single Degree Freedom System Using Skyhook Control	Jan 8 th -9 th 2014	International Conference on Advances in Engineering and Technology	Anjuman College of Engg. &Tech, Nagpur
47	Harish SR	Feasibility Study on Semi Active Control of Magneto Rheological Fluid Damper using Artificial Neural Network for Vibration Monitoring during earthquake	Dec 17 th -19 th 2014	International Conference on Computational Methods in Engineering and Health Sciences	MIT, Manipal

* **Books with ISBN with details of publishers:**

Ritesh Bhat, Productivity Improvement Using Value Stream Mapping and Kanban (ISBN: 3848493683), Lap Lambert Academic Publishing 2012.

* **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.):**

The Papers have been published in journals with ISSN number and indexed with Google Scholar, DOAJ and Scopus etc.

- * **Citation Index – range/average:** Range 1-30, Average = 4.5
- * **SNIP:** Range 0.036 - 3.286
- * **SJR:** Range 0.122 - 1.939
- * **Impact Factor:** Range 0.628 - 3.171
- * **h-Index :** 0.8

23. Details of patents and income generated:

PROJECT TITLE	Multi lens system
PROJECT TEAM	R. Manohar
CONTACT DETAILS	raguman4@gmail.com
INDUSTRY \ GOVERNMENT PARTNER	---
PROJECT BRIEF AND ACHIEVEMENTS	
<p>A COMBINATION OF SIMPLE LENSES OF FIXED OPTICAL CONSTANTS, WHICH CAN BE USED AS A TELESCOPE WHEN AN OBJECTIVE LENS IS ATTACHED TO THE SAME. THIS MULTI LENS SYSTEM CAN ALSO BE USED AS A COMPOUND MICROSCOPE WITH MAGNIFICATION OF 40X. FURTHER VARIABLE MAGNIFICATION UP TO 1000X CAN ALSO BE OBTAINED. WHEN USED AS A TELESCOPE, THE MULTI LENS SYSTEM GIVES A FIELD OF VIEW 3 TIMES THAT OF THE EXISTING EYE PIECES USED WITH AN ADVANTAGE OF AN ERECT IMAGE. THE IMAGE OBTAINED CAN BE EASILY PHOTOGRAPHED USING A DIGITAL CAMERA.</p>	
CAN THIS BE SHARED WITH PRESS (YES/NO) YES	

PROJECT TITLE	Multi line marking gauge
PROJECT TEAM	R. Manohar
CONTACT DETAILS	raguman4@gmail.com
INDUSTRY \ GOVERNMENT PARTNER	---
PROJECT BRIEF AND ACHIEVEMENTS	
<p>THIS MULTI-LINE MARKING GAUGE CAN BE USED TO SCRIBE MULTIPLE LINES SIMULTANEOUSLY PARALLEL TO THE EDGES OF METALLIC AND WOODEN BLOCKS AT REQUIRED DISTANCES FROM EACH OTHER. THIS GAUGE CAN ALSO BE USED TO MARK LINES BELOW THE SURFACE OF THE METALLIC AND WOODEN BLOCKS, WHICH IS NOT POSSIBLE IN THE EXISTING MARKING GAUGES. THIS GAUGE EVEN IS USED TO DRAW THE CONCENTRIC CIRCLES. THE MAJOR APPLICATION IS IN THE ARCHITECTURE FIELD.</p>	
CAN THIS BE SHARED WITH PRESS (YES/NO) YES	

24. Areas of consultancy and income generated:

Area of Consultancy	Year		
	2012	2013	2014
Material testing, Machining, Measurements using the facilities available in the department	Rs.10,000	Rs. 29,000	Rs. 43,000

25. **Faculty selected nationally/internationally to visit other laboratories in India and abroad:**

- a) U Satish Prabhu, School of Technology, Pandit Deendayal Petroleum University (PDPU), Ahmedabad- 2014
- b) Kevin A Mathias, NITK, Surathlkal-2014
- c) Rakesh L, NIT, Calicut-2013

26. **Faculty serving in**

- a) **National committees** b) **International committees** c) **Editorial Boards** d) **any other (please specify)**

NAME	ROLE
Dr. Raghuvir Pai B	Reviewer (Technical Journals) 1. Tribology International 2. Ecological Engineering 3. Advances in Tribology, Hindawi Publications.
Dr. Anjaiah Devineni	Reviewer and member of editorial board of International Journal of Engineering and Technology (IJET).
Dr. K Jagannath	Reviewer (Technical Journals) 1. Manufacturing Science and Technology (Horizon Research Publishing Corporation). 2. Journal of Reinforced Plastics and Composites. Member of Editorial Board of Journal of Refrigeration, Air-conditioning, Heating & Ventilation. BOS member of Malnad College of Engineering, Hassan (Autonomous) BOS member of Bangalore University.
Dr. K Vasudeva Karanth	Referee for International Journal of Engineering Application of Computational Fluid Mechanics (IJEACFM). Member of the editorial board; International Journal of Engineering & Technology (IJET), Singapore,
Dr. S S Sharma	Reviewer (Technical Journals) 1. Manufacturing Science and Technology (Horizon Research Publishing Corporation). Technical committee member of International conference on Advances in Mechanical Engineering, SJCE, Palai, Kerala. BOS member of NMAMIT, Nitte.
Dr. U Achutha Kini	Reviewer (Technical Journals) 1. Manufacturing Science and Technology (Horizon

	Research Publishing Corporation).
Dr. Shiva Kumar	Reviewer (Technical Journal) 1. Jordan Journal of Mechanical & Industrial Engineering. BOE member of NMAMIT, Nitte.
Dr. Arunachala U C	Reviewer (Technical Journal) 1. International Journal of Energy Systems (Inder Science). 2. Journal of Heat & Mass Transfer (Springer).

27. Faculty recharging strategies:

- Financial support for attending Workshop/Seminar, National/International Conferences, FDP's.
- Incentive for publication in Journals.
- Providing financial support to create research facilities.
- Faculty club activities.
- Best teacher and best researcher award.
- Sponsorship to pursue PhD and PDF.

28. Student projects

- **percentage of students who have done in-house projects including inter-departmental projects:**
- **percentage of students doing projects in collaboration with other university with/industry/institute:**

Year	Student Strength	Projects in-house (%)	Projects in Collaboration with Industry / Institute (%)
2012	336	213 (63.4%)	123 (36.6%)
2013	262	163 (62.2%)	99 (37.8%)
2014	342	234 (68.4%)	108 (31.6%)

29. Awards/recognitions received at the national and international level by

- **Faculty**
- **Doctoral/post- doctoral fellows**
- **Students**

AWARDS AND RECOGNITION RECEIVED BY FACULTY

Sl. No.	AWARDS
1	Dr. S S Sharma: Best paper award, International conference, ICRAMPT-2013, Kovilpatti, Tamil Nadu, India, January, 2013.
2	Mr. Raghavendra Prabhu: Best paper award, International conference, ICRAMPT-2013, Kovilpatti, Tamil Nadu, India, January, 2013.
3	Mr. Ritesh Bhat: Best paper award, International conference, Rohtak, India, July, 2013.
4	Mr. B Manjunatha: Best paper award, International Conference on Computational Methods in Engineering and Health Sciences, MIT, Manipal, 2014.
5	Mr. George Verghese: Best paper award, International conference, Malaysia, May, 2014.
6	Mr. Rajesh Nayak: Best paper award, International conference, Nepal, 2014.

STUDENTS ACHIEVEMENT

#	RECOGNITIONS
1	Twenty one students along with Faculty advisor of Team Manipal Racing (TMR) participated in SAE- BAJA international – 2012 collegiate design series competition held during 7 – 10 June, 2012 at Burlington, Wisconsin, USA and obtained 85 position out of 121 competent at global level.
2	Nakul Goyal, 1st place, paper presentation event at ATMOS'13 held at BITS, Pilani, Hyderabad Campus, 2013.
3	Sukanya M Sharma, IInd Place, Technical Paper Presentation on “Microstructure & some Mechanical Properties of Fly Ash” National Level Symposium Chemignite2K13 on Safety in Process Industries and Chemical Laboratories.
4	Srikanth Raviprasad, GE Foundation Scholar-Leader, GE India Technology Centre-Bangalore, June, 2013.
5	Aneesh Bharadwaj, Gold prize winner at Innovation Excellence Award Conferred upon by Associated Chambers of Commerce & Industry in India (ASSOCHAM), Shangri-La, New Delhi, 2014.
6	Cany Mendonsa and Vyas Darshan Shenoy, 1st Place, Paper titled “Fused Deposition Modeling Technique & Its Optimization Characteristics” Dynamix'14 National Level Technical Symposium held at Dept of Mechanical, S.A. Engineering College, Thiruverkadu, Chennai, August, 2014.
7	Cany Mendonsa and Vyas Darshan Shenoy, IInd Place, Paper titled “Fused Filament Fabrication, Modeling Technique and its Application” DXM 11 held at Dept of Mechanical Engg, Velammal Engg College, Chennai, August, 2014.
8	Dhruv N Chawda, Patent received, Rack & Pinion Gear Mechanism for Variable Valve Timing of IC Engines, 2014.

9	Parthsarthy Choudhary and Apoorv Anand, IIIrd Place, Paper presentation, BITS Pilani, Goa campus.
10	J P Pandey & Shashank Shekar, IInd Place, Philips Innovation Challenge, 2014.
11	Pallav Singh, Ist Place, Hindi Drama Event, NIT Calicut, 2014.

30. **Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any.**

NUMBER OF NATIONAL/INTERNATIONAL EVENTS ORGANISED

#	Name of the Workshop/Seminar/Conference	Year	No. of Participants	Coordinator	Funding details
1	International Conference on Recent advances & Challenges in Energy(RACE 2012)	2012	89	Dr N. Yagnesh Sharma	MNRE Rs. 50,000 KSBDB Rs. 50,000 ISRO Rs. 50,000 NAL Rs. 20,000
2	International Conference on Environment and Sustainable Technologies (iCEST – 2014) January 3 – 5, 2014 (Jointly organized by Dept. of Mech. & Mfg. Engg. and Dept. of Aero & Auto Engg.)	2014	60	Dr. C. R. Kamath Dr. M. V. Kini Dr. Satish Shenoy Dr. Dayananda Pai	1. Blue Dart Express Limited, Mangalore – Rs. 50,000 2. Century farms, Udupi – Rs. 5,000 3. Kalkura refrigerations and kitched Pvt. Ltd. – Rs. 10,000 4. Maroor's machine tools Co. – Rs. 10,000 5. Multee ProE India, Bangalore. – Rs. 10,000 6. Power one Micro systems Ltd. – Rs. 10,000 7. Syndicate Bank, MIT Branch, Manipal. – Rs. 5,000

31. Code of ethics for research followed by the departments

The Role and Responsibilities of Ethics Committee (EC)

The basic responsibility of an EC is to ensure a competent review of all ethical aspects of the project proposals received and execute the same free from any bias and influence that could affect their objectivity. EC should provide advice to the researchers on all aspects of welfare and safety of the research participants after ensuring the scientific soundness of the proposed research through appropriate Scientific Review Committees. In smaller institutions the EC can up the dual responsibility of Scientific and Ethical Review.

The responsibilities of an EC can be defined as follows:

- To protect the dignity, rights and well being of the potential research participants
- To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs
- To assist in the development and the education of a research community responsive to local health care requirements.

32. Student profile course-wise:

Name of the Course (refer to question no. 4)		Applications received	Selected		Pass percentage	
			Male	Female	Male	Female
2006-10	Mechanical	Admission is being done as per Manipal University admission policy	206	04	69.4	75
	I and P		52	03	78.8	100
2007-11	Mechanical		176	13	69.8	100
	I and P		71	02	52.1	100
2008-12	Mechanical		228	9	86.8	100
	I and P		59	6	59.3	100
2009-13	Mechanical		261	10	76.6	100
	I and P		53	8	79.2	100
2010-14	Mechanical		330	8	78.8	100
	I and P		55	6	80	100

Name of the Course (refer to question no. 4)		Applications received	Selected		Pass percentage	
			Male	Female	Male	Female
2009-11	CAMDA	Admission is being done as per Manipal University admission policy	17	NIL	100	NIL
	MET		17	NIL	100	NIL
	NUCLEAR		01	NIL	100	NIL
2010-12	CAMDA		18	NIL	100	NIL
	MET		18	NIL	100	NIL
	NUCLEAR		07	NIL	100	NIL
2011-13	CAMDA		17	01	94.1	100
	MET		18	NIL	100	NIL
	NUCLEAR		03	NIL	100	NIL
2012-14	CAMDA		17	01	94.1	100
	MET		14	02	85.7	100
	NUCLEAR		02	01	100	100

33. Diversity of students

Name of the Course (refer to question no. 4)		% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
2012-14	MTech (MET)	6	67	27	NIL
	MTech (CAMDA)	NIL	83	17	NIL
2013-15	MTech (MET)	5	75	20	NIL
	MTech (CAMDA)	NIL	56	44	NIL
	MTech (ATPES)	NIL	63	37	NIL
2014-16	MTech (MET)	6	61	33	NIL
	M.Tech (CAMDA)	5.5	61	28	5.5
	MTech (ATPES)	NIL	61	39	NIL

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.**

Exam	No of students cleared		
	2012	2013	2014
GATE	2	1	4
GRE/TOEFL	10	7	18
CAT	1	2	6

35. **Student progression**

Student progression	Percentage against enrolled		
	2012	2013	2014
UG to PG	11	15	10
PG to M.Phil.	NA	NA	NA
PG to Ph.D.	NIL	NIL	NIL
Ph.D. to Post-Doctoral	NIL	NIL	NIL
Employed			
• Campus selection	68	70	75
• Other than campus recruitment	8	10	10
Entrepreneurs	3	5	5

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	28%
from other universities within the State	62%
from universities from other States	10%
from universities outside the country	NIL

37. **Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period:**

#	Name of the Research Scholar	Title of Thesis	Institution where the research was conducted	Name of the Guide/Supervisor	Date of Award
01	Mr Achutha Kini U	A Study On Corrosion And Corrosion Inhibition Of 6061 Al Alloy – 15 Vol% Sic(P) Composite In Hydrochloric Acid Medium	Department of Mechanical & Mfg Engineering, MIT Manipal	Dr. Prakash Shetty Dr. S Divakar Shetty	27/02/2012

02	Mr Shivakumar	Experimental investigation and performance and emission modelling in a bio diesel engine using ANN	NMAM Institute of Technology, Nitte (affiliated to VTU, Belagavi, Karnataka)	Dr. Shrinivasa Rao	09/04/2012
03	Mr Y Shrihari Upadhyaya	Fatigue Life Prediction of Materials by Numerical Simulation.	Department of Mechanical Engineering, The National Institute of Engineering, Mysore (affiliated to VTU, Belagavi, Karnataka)	Dr. B.K. Sridhara	21/09/2012
04	Mr Vijay G.S	Vibration signal analysis for defect characterization of rolling element bearing using some computing techniques	NMAM Institute of Technology, Nitte (affiliated to VTU, Belagavi, Karnataka)	Dr. Srinivasa Pai P	07/12/2013
05	Mr P Raghavendra Prabhu	Investigation on the effects of process parameters for fatigue life improvement using turn assisted deep cold rolling process	Department of Mechanical & Mfg Engineering, MIT Manipal	Dr. S M Kulkarni	17/01/2014
06	Mr S.M Abdul Khader	Fluid structure interaction of blood flow through human arteries	Department of Mechanical & Mfg Engineering, MIT Manipal	Dr. Raghuvir Pai B.	15/05/2014
07	Mr Murthy B.R.N.	Optimization of process parameters in drilling of glass fiber reinforced polymer composite using Taguchi and system dynamics approach.	Department of Mechanical & Mfg Engineering, MIT Manipal	Dr. Lewlyn Lester Raj Rodrigues	21/05 /2014

38. **Present details of infrastructural facilities with regard to**

- a) **Library:** No. of Books are 169
- b) **Internet facilities for staff and students:** Wi-Fi and LAN
- c) **Total number of classrooms:** 21
- d) **Class rooms with ICT facility:** All class rooms with ICT facility
- e) **Students laboratories:** 10 Labs
- f) **Research laboratories:** 04 Labs (Advanced Material Testing Laboratory, Thermal Lab, CAD Lab and CNC workshop)

39. **List of doctoral, post-doctoral students and Research Associates**

- a) **From the host university**
- b) **From other universities**

LIST OF DOCTORAL STUDENTS FROM THE HOST UNIVERSITY

#	Name	Research title	Guide/Co- guide
01	Mr. Ramdev Herle	A Study on corrosion and inhibition of corrosion of Stainless Steel (304SS) in acid medium	Dr. Prakash Shetty/ Dr.S Divakar Shetty 23 January 2007
02	Mr. Rajagopala Chadaga	Characteristic Study of Magneto-Rheological fluid and Development of Magneto Rheological Stepper Motor	Dr. K K Appukuttan/ Dr. S S Sharma 06 September 2007
03	Mr. Augustine B V Barboza	Experimental Investigation on Cycle by Cycle Combustion Variations in a Dual Fuel Engine Working on LPG-B20 Fuel	Dr. N Y Sharma 25 March 2008
04	Mr. Kantharaju A.N.	Experimental and Numerical Evaluation of Tool wear and Tool life of Cutting Tool Carbide Inserts with miniature holes for Controlled heat dissipation	Dr. N Y Sharma/ Dr. Raghuvir Pai B 25March 2008
05	Mr. Sathish U Rao	Optimization, Modelling and Simulation of process parameters in Drilling Polymer Matrix Composites using Wear Mechanism maps and Experimental validation	Dr. L L Raj Rodrigues 18February 2009

06	Mr. Narayana B Karkera	Development of improved mechanism for Nuclear Power Reactor Drive mechanisms for Nuclear waste and Radiation exposure minimization	Dr. L L Raj Rodrigues/ Dr. R Srivenkatesan 16June 2008
07	Mr. Chandrakant R Kini	An approach to enhancing the HP stage turbine blade cooling by innovative geometric optimization of the flow path as well as cooling method	Dr. N Y Sharma/ Dr. Satish Shenoy 18 April 2009
08	Mr. Rajesh Nayak	Modelling and analysis and experimental investigation of cryogenic machining of elastomers	Dr. Raviraj Shetty 22-May 2009
09	Mr. H Rajarama Hande	Performance Evaluation of Coated Reaming Tools for Metal Matrix Composite	Dr. Raviraja 25September 2009
10	Mr. Nagaraja	Progressive wear and Performance Evaluation of Coated Machine Taps for Metal Matrix Composite	Dr. Raviraja 21November 2009
11	Mr. Laxmikant Keni	A Tribotronics Approach to the control of Adjustable fluid film Bearings	Dr. Raghuvir Pai/ Dr. Rammohan Pai April 29, 2010
12	Mr. Manjunath M S	Numerical and Experimental investigations on enhancement in collector efficiency by improved design of the solar collector	Dr. N Yagnesh Sharma/ Dr. K Vasudeva Karanth 18 December 2010
13	Mr. Madhwesh N	Numerical and experimental investigations on a centrifugal fan for performance enhancement by casing treatment and suction slot techniques	Dr. N Yagnesh Sharma/ Dr. K V Karanth 07July 2012
14	Mrs. Jayashree P K	Analysis and investigation on Tungsten Inert Gas welding of 6061 Al-SiC _p composites and quality improvement using age hardening process	Dr. Raviraja Shetty/ Dr. S S Sharma 25August 2012
15	Mr. Gowrishankar M C	Precipitation hardening 478behavior of Stir cast Al-6061 based hybrid composites	Dr. S S Sharma/ Dr. U Achutha Kini 28 th December 2012
16	Mr. Ashwin Kumar Devaraj	Numerical Investigation of Meniscal Tears and the Effects of Meniscectomies on Secondary Degenerative Arthritis	Dr. Raviraja/ Dr. Kiran Kumar V Acharya 19 th October 2013

LIST OF DOCTORAL STUDENTS FROM OTHER UNIVERSITIES

#	Name	Research title	Guide/Co- guide
1	Mr. Binu K G (Full time)	Theoretical and Experimental Study of the Influence of Nano Particles in Fluid Film Lubrication	Dr Raghuvir Pai 25September 2009
2	Mr. Ravindra Mallya (Full time)	Stability of Multi-axial Groove Water Lubricated Bearing in the Turbulent Regime	Dr Raghuvir Pai B/Dr B Satish Shenoy 03November 2010

40. **Number of post graduate students getting financial assistance from the university:**

Year	Number of students getting Rs.5,000/ per month teaching assistantship
2012-13	01
2013-14	06
2014-15	06

41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology:**

Input from industries, academicians during the BOS Meetings are taken for development of curriculum.

42. **Does the department obtain feedback from**

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes, at the end of each semester feedback is collected from the subject chairperson, subject co-ordinators, subject teachers, subject experts and industry requirement from the industry experts. Accordingly, required changes are recommended for revision of syllabus.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Yes, every semester on line feedback is collected from students on teaching staff, which will be forwarded to the respective teacher for further improvement.

Every month class committee meeting will be held with students and teacher representatives to discuss the issues related to each subject, and that is forwarded to the respective subject teacher/subject coordinator for necessary action through the department head.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

A separate alumni cell headed by Associate Director Alumni Affairs collects the feedback for necessary implementation for further improvement.

43. List the distinguished alumni of the department (maximum 10)

#	Name	Batch	Organization & Designation
1	Mr. George M	1965	Chairman, Muthoot Group, Kerala
2	Dr. Balachandra Patil	1986	Principal Research Scientist-Indian Institute of Science, Bengaluru.
3	Senthil Kumar B	1993	Managing Director - Bluemount Castings Private Limited, Coimbatore.
4	Pitcheshwara Rao Mulpuri	1989	Vice President and General Manager-Novellus Systems
5	Paul Madhu	1988	General Manager{Manufacturing}-Amul Industries Pvt Ltd.
6	Rajiv Jhangiani	1984	Vice President & Business Head-Godrej & Boyce Mfg. Co. Ltd.
7	Dr. Sanjiv M Sansgiri	1984	CEO-IACO Engineering-Tata Autocomp System Ltd.
8	Anant J Talaulicar	1984	Chairman and Managing Director-Cummins India Ltd., Pune
9	Konduri Lakshminarayana	1982	Associate Vice President-Mangalore Refinery & Petro Chemicals Ltd
10	Banmali Agrawala	1987	Managing Director, President and CEO for GE South Asia
11	Vipul J Sanghavi	1987	Partner/Director-Vardhman Plastochem Pvt Ltd

44. Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts.

#	Details of the expert	Topic covered	Date
01	Mr. Umanath Nayak Adjunct Faculty, Boeing Company	Future trends in Aero Engineering	21 September 2013
02	Dr.Kamarul Arfin Bin	Aerodynamics & CFD	26-29 October 2013
03	Mr.Vasuki Prasad Executive Director, Flightrix	Student Projects	20 November 2013

04	Mr. Umanath Nayak Adjunct Faculty, Boeing Company	Opportunities in Aero Engineering	30 November 2013
05	Dr. Rajkumar S pant Professor, IIT Mumbai	Aerospace experiences and projects of UAV and space balloons	24 January 2014
06	Udupi Power Corporation Limited (UPCL), Padubidri	An industrial visit for M.Tech.(ATPES)	3 February 2014
07	“FLOWNEX” Power Plant Simulation	Software training program	18-20 September 2014
08	Dr. Rajkumar S pant Professor, IIT Mumbai	Aerospace experiences and projects of UAV and space balloons	29 September 2014
09	Mr.Amitab Vaidya GM, Mahindra & Mahindra	Engineering skills in Aero and Auto Engg.	29 September 2014
10	Mr.K Srinivas Emeritus Scientist ADE, DRDO Bangalore	UVA – A new focus in Aeronautics	14 October 2014
11	Mr. ANIL Kulkarni, Senior Manager, Mechanical Maintenance MRPL Mangalore	Maintenance of rotary equipments.	23 October 2014

45. **List the teaching methods adopted by the faculty for different programmes.**

- Class room teaching by using modern teaching tools
- Tutorial classes
- Mini projects, major projects and practice school
- Individual experiments and group experiments in laboratories
- Seminars by experts and students
- Guest lectures on current and advanced topics
- Group discussion

46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**

The learning outcome of the students was measured through the following:

- Class committee meetings
- Departmental curriculum committee (DCC) meeting
- Review of end semester results during BoS meeting
- Feedback from faculty members, student, alumni and employees.
- Inputs from the placement cell

47. **Highlight the participation of students and faculty in extension activities.**

- Learning foreign languages
- Self-motivated student projects
- Faculty members involved in various NGO and VSO (Volunteer student organization) activities
- Different student clubs (Institution of Engineer's Student chapter, ISTE student chapter, Akshay Urja Club, Red X, Music & Fine Arts, Photography club, Leo club)

48. **Give details of “beyond syllabus scholarly activities” of the department.**

1. Students/Faculty participation in conferences held at various institutions.
2. Faculty members' involvement in
 - Journal Publications
 - Chairing for conference sessions
 - Guest talks
 - Authoring books
 - Writing proposals for research grants
 - Filing patents
3. Journal papers review by the faculty members.
4. Review of the master's or doctoral thesis by the faculty members.

49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details.**

1. Accredited by NBA (Mechanical Engineering: 2007 – 12, I&P: 2007 – 10). Applied for renewal in 2015.
2. ISO 9001 & ISO14001 certified

50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**

1. Applied research by various PhD scholars and faculty members of the department.
2. Participation of students in various Technical competitions, the prominent ones are Formula, All-terrain vehicle, Solar mobil, Robotics.
3. Organizing National/International Conference.

51. Future plans of the department.

- Tie-up with reputed industries.
- To have all the faculty members with PhD degree.
- To carry out funded projects and consultancy works.
- National and International collaboration with reputed universities.

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**Strengths**

- (i) Experienced and dedicated faculty members.
- (ii) Well-equipped laboratories with state-of-the-art computational facility.
- (iii) Recognized as QIP Minor Centre by MHRD, Government of India.
- (iv) Good campus placement.

Weaknesses

- (i) Locational disadvantage for taking up consultancy projects.
- (ii) Lack of external research funding.

Opportunities:

- (i) Scope for carrying out multidisciplinary research.
- (ii) Strong alumni base, spread all over the globe.
- (iii) Availability of central research facility.

Challenges:

- (i) Improving Industry - Institution interaction.
- (ii) Attracting external funding for research and consultancy.
- (iii) Enhancing number of publications in reputed journals.

1. **Name of the Department:** Mechatronics Engineering

2. **Year of establishment:** 2012

3. **Is the Department part of a School/Faculty of the university?**

The Department is part of Manipal Institute of Technology, Manipal University

4. **Names of Programmes/Courses offered (Undergraduate, Postgraduate, MPhil, PhD, Integrated Masters, Integrated PhD, etc.)**

B.Tech – Mechatronics Engineering

5. **Interdisciplinary courses and departments involved:**

#	Interdisciplinary Course	Department Involved	Year		
			2012	2013	2014
1ST YEAR B.TECH					
1.	Engineering Mathematics I	Mathematics	YES	YES	YES
2.	Engineering Physics	Physics	YES	YES	YES
3.	Mechanics of Solids	Civil Engineering	YES	YES	YES
4.	Basic Mechanical Engineering	Mechanical and Manufacturing	YES	YES	YES
5.	Communication Skills in English	Humanities and Management	YES	YES	YES
6.	Engineering Graphics I	Mechanical and Manufacturing	YES	YES	YES
7.	Engineering Mathematics II	Mathematics	YES	YES	YES
8.	Engineering Chemistry	Chemistry	YES	YES	YES
9.	Biology for Engineers	Biotechnology	YES	YES	YES
10.	Basic Electrical Technology	Electrical and Electronics Engineering	YES	YES	YES
11.	Problem solving using computers	Computer Science Engineering	YES	YES	YES
12.	Environmental Studies	Civil Engineering	YES	YES	YES
13.	Engineering Graphics II	Mechanical and Manufacturing	YES	YES	YES
3RD SEMESTER					
14.	Engineering Mathematics III	Mathematics	YES	YES	YES
15.	Engineering Thermodynamics	Mechanical and Manufacturing	YES	NO	NO
16.	Electrical Drives and Special Machines	Electrical and Electronics Engineering	YES	NO	NO
17.	Analog System Design	Electronics and Communication	YES	NO	NO
18.	Material Science	Mechanical and Manufacturing	YES	NO	NO

19.	Machine Shop	Mechanical Manufacturing and	YES	YES	YES
20.	Strength of Materials Lab	Civil Engineering	YES	YES	YES
4 th SEMESTER					
21.	Engineering Mathematics IV	Mathematics	NA	YES	YES
22.	Programmable Logic Controller	Instrumentation and Control Engineering	NA	YES	NO
23.	PLC LAB	Instrumentation and Control Engineering	NA	YES	NO
24.	Integrated Electronics Lab	Electronics Communication and	NA	YES	YES
25.	Mechanical Drawing	Mechanical Manufacturing and	NA	YES	YES
5 th SEMESTER					
26.	Fluid Mechanics and Machines	Mechanical Manufacturing and	YES	NO	NO
27.	Metrology and Measurements	Mechanical Manufacturing and	YES	NO	NO
28.	Control Systems	Instrumentation and Control Engineering	YES	NO	NO
29.	Introduction to Signal Processing	Electrical and Electronics Engineering	YES	YES	NO
30.	Microcontroller and Applications	Electronics Communication and	YES	YES	NO
31.	Microcontrollers Lab	Electronics Communication and	YES	YES	YES
32.	Metrology and Measurements Lab	Mechanical Manufacturing and	YES	YES	YES
6 th SEMESTER					
33.	Electronic Measurements and Instrumentation Lab	Instrumentation and Control Engineering	NA	YES	YES
34.	Embedded System Design	Electronics Communication Engineering and	NA	YES	NA
35.	CIM and Automation Lab	Mechanical Manufacturing and	NA	YES	NO
7 th SEMESTER					
36.	Power Electronics	Electrical and Electronics Engineering	YES	NA	NA
37.	Production and Operations Management	Mechanical Manufacturing and	NA	NO	NO
38.	Essentials of Management and Engineering Economics	Humanities and Management	YES	YES	YES
39.	Intelligent Controllers	Computer Science Engineering	YES	NO	NO
40.	Computer Networking and Communication Protocol	Computer Science Engineering	YES	NO	NO

41.	Advanced Embedded System Design	Electronics and Communication Engineering	NA	YES	NO
42.	Composite Materials	Mechanical and Manufacturing	YES	NA	NA
43.	Operations Research	Mechanical and Manufacturing	YES	NA	NA
44.	Embedded System Design	Electronics and Communication Engineering	YES	NA	NA
45.	Neural Networks	Electronics and Communication Engineering	YES	NA	NA
46.	Mechatronics Lab	Mechanical and Manufacturing	NA	YES	NO

6. Courses in collaboration with other universities, industries, foreign institutions, etc. :

- NIL

7. Details of programmes / courses discontinued, if any, with reasons : Nil

8. Annual/ Semester/Choice Based Credit System: Semester Based 10-point Credit System

9. Participation of the department in the courses offered by other departments

#	Course	Department	Year		
			2012	2013	2014
1	CAD Lab	Mechanical and Manufacturing	YES	NO	NO
2	Smart Materials	Mechanical and Manufacturing	YES	NO	NO
3	Fluid Mechanics (Theory and Lab)	Mechanical and Manufacturing	YES	NO	NO
4	Open Electives	Different Departments	YES	YES	YES
5	Automation Lab	Mechanical and Manufacturing, Aeronautical and Automobile Engineering	YES	YES	YES

10. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)

Details	Sanctioned	Filled
Professor	2	2
Associate Professors	4	0
Assistant Professors	11	15
Total	17	17

11. Faculty members profile with name, qualification, designation and specialization (DSc/DLitt/ PhD/MPhil, etc.)

#	Name	Qualification	Designation	Specialization	Yrs. Of Experience	No. of PhD students guided for the last 4 years
1	Chandrashekhar Bhat	BE, MTech, PhD	Professor	Structural Integrity Evaluation	27	-
2	Raghunandana K.	BE, MTech, PhD	Professor	Tribology	23.5	03
3	Subramanya R. Prabhu B.	BE, MTech, PGDOM	Asst. Professor Senior Scale	Mechatronics	4.5	-
4	Kalyan P. Chakravarthy	BE, MTech	Asst. Professor	Product Development and Manufacturing	4	-
5	Karthik Rao M.	BE, MTech	Asst. Professor	Mechatronics	3	-
6	Akshatha Rakesh Pai	BE, MTech	Asst. Professor	Astronomy and Space Engineering	2.5	-
7	Anna Merine George	BE, M.Tech	Asst. Professor (on contract)	Electronics and Communication	2.5	-
8	Prajwal Shenoy	BE, MTech	Asst. Professor	CAMDA	1.5	-
9	Deepa G.	BE, MTech	Asst. Professor	Embedded Systems	3.5	-
10	Spoorthi Shekar	BE, MTech	Asst. Professor	Space Engineering	2.5	-
11	Shivshankar Hiremath	BE, MTech	Asst. Professor	Space Engineering	1.5	-
12	Yedukondala Rao Veeranki	BE, MTech	Asst. Professor	Electronics – VLSI Design	1.5	-
13	Aparna	BE, MTech	Asst. Professor	Mechatronics	1.5	-
14	Ishwar Bhiradi	BE, MTech	Asst. Professor	Manufacturing Technology	1.5	-
15	Dundesh S. Chiniwar	BE, MTech	Asst. Professor	Manufacturing Engg. and Technology	1.5	-
16.	Sherine Jesna V.A.	BE, M.Tech	Asst. Professor	Control Systems	2.5	-
17.	Abhay A. Singh	BE, M.Tech	Asst. Professor	Maintenance Engineering	0.5	-

12. List of senior Visiting Fellows, faculty, adjunct faculty, emeritus professors:

#	Name	Visiting Personnel (Includes members of DCC)
1	Dr. K.L.S. Sharma	Advisor, Automation Education and Training, Bangalore
2	Mr. Renukaprasad Belgur	President, International Society for Automation - Bangalore Chapter, bangalore
3	Dr. Prasad Krishna	HOD, Department of Mechatronics Engineering, NITK
4	Mr. Arun K. Menon	Director, Founder and Chairman, Strategi Automation Solutions, Bangalore
5	Mr. Roland Erik Haas	Founder and CEO, QSO Technologies Pvt. Ltd., Bangalore
6	Mr. Ram Kerur	Managing Director, Sunlux Technologies, bangalore

13. Percentage of classes taken by temporary faculty–programme-wise information:

Nil

14. Programme-wise Student Teacher Ratio:

UG – 1:15

15. Number of academic support staff (technical) and administrative staff: sanctioned and filled:

Posts	Sanctioned	Filled
Lab Technician	1	1
Clerk	1	1
Junior Engineer	2	2
GDW	2	2
Total	6	6

Details:

#	Name	Qualification	Designation
1.	Harish Kalmady	PUC , NCVT	Sr. Lab Technician
2.	Jayaprakash	Diploma in Mechanical Engg.	Junior Engineer
3.	Archana	Diploma in Mechanical Engg.	Junior Engineer
4.	Padmanabh Bhat	B.Com.	Clerk
5.	Ramesh	SSLC	GDW
6.	Satish	SSLC	GDW

16. Research thrust areas recognized by funding agencies: Training and Research in Automation Technologies

17. Number of faculty members with on-going projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise: Nil

18. Inter-institutional collaborative projects and grants received

- a) All India collaboration: Nil
- b) International: Nil

19. Departmental projects funded by DST-FIST, UGC-SAP/CAS, DPE, DBT, ICSSR, etc.; total grants received: Nil

20. Research facility / centre with

- **state recognition:** Nil
 - **national recognition** : 01, 'Centre of Excellence in Automation Technology' in collaboration with Bosch Rexroth India Pvt. Ltd and Manipal University
- **international recognition:** Nil

21. Special research laboratories sponsored by / created by industry or corporate bodies: 01

#	Laboratory	Industry
1.	'Centre of Excellence in Automation Technology' in collaboration with Bosch Rexroth India Pvt. Ltd and Manipal University. The main objective of this centre is to impart current technologies to students and the primary focus is on technology training, knowledge transfer, projects, application, research and innovation	Bosch Rexroth India Pvt. Ltd.

22. Research Output in the last three years:

Details		2012	2013	2014
Completed funded research projects		-	-	-
Completed non-funded research projects		-	-	-
Completed PhD research projects		-	-	-
Completed PG research projects		-	-	-
Completed UG research projects		-	-	-
Publications	International	4	10	6
	National	-	-	-
Books		-	-	-
Chapters in books		-	-	-
Conference presentations	International	5	7	11
	National	1	-	-

Publications: *Number of papers published in peer reviewed journals (national / international):

Journal Publications					
Year	Name	Title	Journal	Volume	P. No.
2012	Chandrashekhar Bhat, SS Sharma, Jagannath K, Mohan NS, Sathish SG	Design and Analysis of a Expansion Chamber Mufflers	World Journal of Engineering	Volume 7 Supplement 3, SSN 1708-5284	117-118
2012	Anna Merine George	Fuzzy Controller for Image based Traffic System	International Journal of IT, Management and Technology	Volume 2, Issue 6 ISSN: 2249-0558	291 - 305
2012	Chandrashekhar. Bhat, Anoop. A D, Gopinath.K, Jagannath. K, Sharma.S S and Raghavendra. Prabhu	Surface Failure and Fatigue Life investigation of Boron Steel	International Journal of Research in Engineering and Technology	Volume 1 Supplement 3, ISSN 2277 – 4378	165 - 171
2012	Chandrashekhar Bhat, S.S. Sharma, Jagannath K., P.R. Prabhu	Cold Deformation Effect on Conventionally Aged Stircast Iron Powder Reinforced Aluminum Alloy metal Matrix Composites	International Journal of Research in Engineering and Technology	Volume 1 Supplement 3, ISSN 2277 – 4378	172-176
2013	Yedukondala Rao Veeranki, Vishwanath Gowd A, Yedukondala Rao V, T.Shanmuganatham	1-D DCT Using Latency Efficient Floating Point Algorithms	International Journal of Advanced Research	Volume 2 Issue 4, ISSN 2277-9043	382-387
2013	Yedukondala Rao Veeranki, Alok Katiyar, Venkata Reddy Kopparthi	Carry Bypass and Carry Select Adder using Reversible Logic Gates	International Journal of Engineering and Computer Science	Volume 2 Issue 4, ISSN 2319-7242	1156-1161
2013	Yedukondala Rao Veeranki, R. Nakkeeran,	Spartan 3E Synthesizable FPGA based Floating-Point Arithmetic Unit	International Journal of Computer Trends and Technology	Volume 4 Issue 4	751-755
2013	Ragunandana K., John, Kantharaj A.N.	Stability of Journal Bearings Considering Slip Condition – A Non-Linear	International Journal of Applied Sciences and Technology	Volume 3 Issue 1, ISSN 2250-2718	46-51

		Transient Analysis			
2013	Raghunandana K., Potti Srinivasa Rao, Shivaprasad H.C., K.G. Viswanadhan	An Empirical Study on Skewness of Test Scores of a Management Subject in an Autonomous Engineering College – A Case Study	International Journal of Management Research and Development	Volume 3, Number 2, ISSN 2248-9398	83-93
2013	Chandrashekhar Bhat, Achutha kini, K. Jagannath, S.S. Sharma, Prakash Shetty, Divakara Shetty	Effect of Ethyl-2 Phenyl-Hydranzo-3-Oxobutyrate on the Corrosion Inhibition of AA 6061 in HCl Medium	International Journal of Research in Engineering and Technology	Volume 2 No.2, ISSN 2277-4378	132-136
2013	Chandrashekhar Bhat, Achutha kini, K. Jagannath, S.S. Sharma, Prannoy Prakash	Low Cost Traction Control System for Two Wheeler	International Journal of Research in Engineering and Technology	Volume 2 Number 3, ISSN 2277-4378	122-126
2013	Chandrashekhar Bhat, Achutha kini, K. Jagannath, S.S. Sharma, P.R.Prabhu, Jayashree P.K., Gowrishankar M.C.	Improvement in Mechanical Properties of AISI 4147 Spring Steel through Heat Treatment Technique	International Journal of Research in Engineering and Technology	Volume 2 No.3, ISSN 2277-4378	127-131
2013	Chandrashekhar Bhat, Naik Nithesh, Pallanti Rao, Prajwal Shenoy, J.Christopher, Faber Saldanha,	Simulation of Contact Bouncing Behaviour in Starter Solenoid and Exploring Potential Feasible Solution	Applied Mechanics and Materials	Volume 367, ISSN 1662-7842	204-208
2013	Chandrashekhar Bhat, Achutha kini, K. Jagannath, S.S. Sharma,	Numerical Investigation of Heat Transfer Characteristics of Nozzle Ribs in a Gas Turbine Blade	International Journal of Research in Engineering and Technology	Volume 2 no.5, ISSN 2277-4378	209-217
2014	Ragunandana K., Sunil Kumar Shetty	Vibration Analysis of a Piping System	International Journal of Emerging	Volume 4 Issue 9, ISSN 2250-	01-06

		Attached with Pumps and Subjected to Resonance	Technology and Advanced Engineering	2459	
2014	Raghunandana K., Sachidananda H.K.	Effect of Bending and Contact Stresses in Altered Tooth Sum Gearing	International Journal of Emerging Technology and Advanced Engineering	Volume 4 Issue 9, ISSN 2250-2459	07-12
2014	Raghunandana K., Potti Srinivasa Rao, K.G. Viswanadhan	A Nempirical Study on the Performance of Self-Financing Engineering Colleges (Autonomous and Non – Autonomous) – A Teacher’s Perspective	International Journal of Management Research and Development	Volume 4 Number 1, ISSN 2248-9398	68-84
2014	Subramanya R. Prabhu B., Harisha S.R., K.V.Gangadharan	Design, Synthesis and Fabrication of magneto Rheological Fluid Damper for Low Ferquency Application	IOSR Journal of Mechanical and Civil Engineering	ISSN 2278-1684	60-63
2014	Subramanya R. Prabhu B., Harisha S.R., K.V.Gangadharan	Implementation of real Time Condition Monitoring of a Single Degree Freedom System using Skyhook Control	IOSR Journal of Mechanical and Civil Engineering	ISSN 2278-1684	77-80
2014	Subramanya R. Prabhu B., Harisha S.R., K.V.Gangadharan, Gurumurthy B.M.	Design of Virtual Instrumentation Approach for a Multi-Purpose online Mechanical Vibration Experiment using Labview	IOSR Journal of Mechanical and Civil Engineering	ISSN 2278-1684	68-71

Number listed in International Database (For e.g., Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.):

Monographs	Nil
Chapters in books	Nil
Edited Books	Nil
Books with ISBN with details of publishers	Nil
Number listed in International Database	
Citation Index – range/average	0 –61/3.85
SNIP	-
SJR	-
Impact factor – range/average	0.5 – 3 / 1.2
h-index	0.7

23. Details of patents and income generated: Nil

24. Areas of consultancy and income generated:

#	Area of Consultancy	Income Generated	Year
1	Hydraulics and Pneumatics	Rs. 15,000	2012
2	Hydraulics and Pneumatics	Rs. 20,000	2013
3	Hydraulics and Pneumatics	Rs. 20,000	2014

25. Faculty selected nationally/ internationally to visit other laboratories in India and abroad:

- a) Dr. Chandrashekar Bhat, VTU Research Centre, Mysore - 2012

26. Faculty serving in

- a) **National committees** b) **International committees** c) **Editorial Boards** d) **any other (please specify):** Nil

27. Faculty recharging strategies:

- Faculty members attend short term courses and faculty development programmes organized by Department/Institution/other universities
- Faculty members actively participate in seminars, workshops, national and international conferences by availing the financial benefits provided by the Institution
- Faculty member can pursue his/her PhD in premier institutions in India and abroad
- Incentive points are awarded to faculty for publishing papers in reputed national/international journals
- Best Teacher/Best Researcher award in every category
- Faculty exchange programme with affiliated universities or industries
- Faculty can avail training from industry, sponsored by institution

28. Student projects:

- percentage of students who have done in-house projects including inter-departmental projects:
- percentage of students doing projects in collaboration with other universities / industry / institute:

Year	Student Strength	Projects in house	Percentage	Projects in Collaboration with Industry / institute and Percentage	Percentage
2013	50	24	48%	26	52%
2014	86	48	55.81%	38	44.19%

29. Awards/Recognitions received at the national and international level by

- Faculty: 01 (details in Table below)
- Doctoral/post-doctoral fellows: Nil
- Students: 13 (details in Table below)

#	Award/Recognition Details (FACULTY)	Year
1.	Dr. Raghunandana K. was awarded the with the Best Paper Award for his paper titled "Vibration and Stress Analysis on Resonance of Piping attached with Rotating Equipment", presented in 2 nd International Conference ICMTSET-2014, Dubai	2014

#	Award/Recognition Details (STUDENTS)	Year
1.	Mr. Abhijit Pothula (Reg. No. 090929161) 2nd place in Schneider Blaze – Energy Efficiency Challenge at the national level	2012
2.	Mr. Ashutosh Basant Daga (Reg. No. 100929041) was a part of team Aeromit and won 3rd place in design and 19th overall in SAE Aerodesign Fest 2012 – LA California.	2012
3.	Mr. Vijay Raghav Varada (Reg. No. 100929049) created his own start-up company named 'Fracktal Works' in his final year of engineering and developed the first prototype for a 3D printer.	2013
4.	Mr. Chitransh Shrivastava (Reg. No.120929114) won the first prize for best performance in AEROTRIX organized by NITK Surathkal	2013
5.	Mr. Chitransh Shrivastava (Reg. No.120929114) won the 1 st prize in Paper presentation on "Automation and Smart Lift System" organized by SMVIT Bantakal	2013
6.	Mr. Hrishikesh Rao (Reg. No.120929314) was awarded the Best Paper for the paper entitled "Smart Car System Using Image Processing for Signal Detection" in the 10 th Control Instrumentation system Conference CISCON-2013	2013

7.	Mr. Suvayan Nandi (Reg. No. 110929262), a student of 5 th semester has bagged the 1 st prize in “Make A Difference – Lead The Difference” MAD-LTD competition inspired by HCL technologies	2013
8.	Mr. Winston Mendonca (Reg. No. 110929005), Mr. Jal Panchal (Reg. No. 110929010) and Mr. Anirudh Nath (Reg. No. 110929247), a team of 5 th semester students participated in the NASA’s Lunabotics competition 2013, and won 19 th position globally	2013
9.	Mr. John Daniel (Reg. No. 120929344), won 1 st position in solo dance competition in cultural fest held at NIT Suratkal	2013
10.	Ms. Prachi Tiwari (Reg. No. 120929240), won 1 st place in a fashion designing competition at VIT cultural fest	2013
11.	Mr. Niranjana Kamath won the first place in MIT Triathlon and won the 1 st place in MIT Cross Country Run 2014	2014
12.	Mr. Aadarsh Mehndiratta (Reg. No. 120929052) and Mr. Mayank Gupta (Reg. No. 120929334) won PROVENANCE 2014 for their startup ‘XES AUTOMATION’	2014
13.	Mr. Chitransh Shrivastava (Reg. No. 120929114) won the 1 st prize in Paper presentation organized by SMVIT Bantakal	2014

30. Seminars/ Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any: Nil

31. Code of ethics for research followed by the departments: As per the institute/university policy

The Role and Responsibilities of Ethics Committee (EC):

The basic responsibility of an EC is to ensure a competent review of all ethical aspects of the project proposals received and execute the same free from any bias and influence that could affect their objectivity. EC should provide advice to the researchers on all aspects of welfare and safety of the research participants after ensuring the scientific soundness of the proposed research through appropriate Scientific Review Committees. In smaller institutions the EC can up the dual responsibility of Scientific and Ethical Review.

The responsibilities of an EC can be defined as follows:

- To protect the dignity, rights and well-being of the potential research participants
- To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs
- To assist in the development and the education of a research community responsive to local health care requirements.

Student profile course-wise: BTech in Mechatronics Engineering Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage (At the end of 4 year study)	
		Male	Female	Male and together	Female
2009-2013	Admission is being done by the Manipal University	64	04	98	
2010-2014		68	06	100	
2011-2015		63	07	93	
2012-2016		67	00	NA	
2013-2017		64	04	NA	

32. Diversity of students: Students are admitted from across the country as well as from abroad.

33. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise: NIL

34. Student progression

Student progression	Percentage against enrolled		
	2012-2013	2013-2014	2014-2015
Undergraduate to Postgraduate	Data not Available	13%	7%
Postgraduate to MPhil	-	-	-
Postgraduate to PhD	NA	NA	NA
PhD to Post-Doctoral	NA	NA	NA
Employed			
• Campus selection	85.71%	69%	65%
• Other than campus recruitment	0%	8 %	5%
Entrepreneurs	Data not Available	12%	5%

35. Diversity of staff

Percentage of faculty who are graduates	
of the same university	17.64 %
from other universities within the state	64.7 %
from universities from other states	17.64 %
from universities outside the country	Nil

36. Number of faculty who were awarded PhD, DSc and DLitt during the assessment period: Nil

37. Present details of infrastructural facilities with regard to

a) Library:

- A Central Library caters to the needs of all the departments and students
- The department has its own library which is managed by the central library to cater to the immediate needs of faculty members and students

b) Internet facilities for staff and students

Internet facility is provided for the staff and students in campus and hostels. Wi-Fi enabled campus.

c) Total number of class rooms: 03**d) Class rooms with ICT facility: All classrooms****e) Students' laboratories: 06****01 - Mechatronics Laboratory (MPS)**

The department has a well-equipped Mechatronics laboratory with the state of the art equipment and infrastructure. This lab provides the students with hands on experience with some of the finest automation equipment. Following are some of the major equipment included in the lab

Hardware

- 6 axis Robot (MTAB-ARISTO)
- PLC Trainer (Fluid Controls)
- Mechatronics Kit (Cyber motion)
- Modular Production System

Software

- Pneumatic circuit simulation software (FESTO)
- Hydraulic circuit simulation software

02 – Hydraulics Lab

The main aim of this lab is to train the students and provide practical exposure to them in the areas of hydraulics, electro-hydraulics and Proportional hydraulics. The lab mainly consists of hydraulic Trainers with component carriers, supply, valves, controllers, filters, distributors and other electrohydraulic component

03- PLC Lab:

This lab equips the students with necessary skills that are required to work with PLCs. That lab has 12 Bosch PLCs with an Indra-works interfacing software and universal simulator training systems for understanding functioning of PLCs and applications of PLC.

04 - Pneumatics Lab:

The main aim of this lab is to train the students and provide practical exposure to them in the areas of pneumatics, electro-pneumatics and closed loop pneumatics and pneumatics using PLC. Some of the major components and facilities of this lab include pneumatic trainers with component carriers, supply, valves, controllers, filters, distributors and electro pneumatic components.

05 - Drives and Controls Lab:

This lab is mainly designed to train the students to work with Drive technology which is an essential part of any automation system. The lab is equipped with state of art technology like the MLD Motion logic controller and MTX CNC controller, PLC L20 specially designed for studying drives and CNC control.

06 - Sensorics Lab:

Sensors and Actuators are an integral part of any system and hence the study of sensors (sensorics) is a crucial course in mechatronics. The sensorics lab is therefore carefully designed so as to familiarize the students in area of sensor technology. The lab is equipped with 6 Sensorics trainer kits each consisting of a guidance unit, motor unit with controller and supply. Industry grade sensors like inductive, capacitive, ultrasonic, magnetic and reflective type are also provided for studying characteristics of sensors and using them for various practical applications.

f) Research laboratories: 01, Centre of Excellence in Automation Technologies

38. List of doctoral, post-doctoral students and Research Associates

a) From the host university: One

Name of the Doctoral student	Reg. No.	Name of the Guide	Topic
Sachidananda H. K.	120900040	Dr. K. Raghunandana	Theoretical Investigation of altered tooth sum spur gear operating between a specified center distance

b) From other universities: Nil

39. Number of postgraduate students getting financial assistance from the university:

NA

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology:

A PG course in Industrial Automation and Robotics is to be introduced in 2015. The methodology of the curriculum designing process involved the following:

- Courses to be included, course structure and course contents were designed by faculty under the guidance of experienced faculty from interdisciplinary departments with due inputs from experts in industry, academics and other stake holders.
- The designed curriculum followed several stages of approval starting with department level followed by DCC (Department Curriculum Committee) at Institute level and finally BOS (Board of Senate) and Academic Senate at university level.

42. Does the department obtain feedback from?

a) Faculty members on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes. The department collects feedback from faculty on curriculum as well as teaching learning evaluation during department meetings that are organized at regular intervals every semester. The department then analyses the feedback, opinions are discussed and necessary changes are implemented.

b) Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Yes. Student feedback is an integral part of teaching learning evaluation. Feedback from students is collected at different

STAGE1: Feedback is collected from all students for all courses in class by the instructor/faculty advisor where the faculty addresses concerns regarding course contents, teaching pace, classroom discipline etc...

STAGE2: Class Committee meetings are organized twice every semester that also elicit feedback from students. The department addresses matters related to academics, teaching learning evaluation, and student expectations

STAGE 3: A general online student feedback regarding faculty, curriculum and teaching-learning evaluation is obtained at the end of every semester and analysed. Constructive criticism is always appreciated and changes required if any are implemented in the following semester

STAGE 4: An exit survey at the end of the four year graduate course is also collected from the students as a final feedback on curriculum design, course, faculty and department, institution and university services

c) Alumni and employers on the programmes offered and how does the department utilize the feedback?

The department also collects feedback from alumni, industry and employers. Whenever required and deemed necessary, a revision in syllabus and curriculum is done. New courses are introduced, appropriate teaching methodology is implemented, and different learning techniques are advocated to the students based on the feedback that is collected.

43. List the distinguished alumni of the department (max 10):

#	Name	Batch	Organization & Designation
1	Mr. Vijay Raghav Varada	2010	CEO, Fracktal Works, Bangalore
2.	Mr. Akshet Tiwari	2010	Vulcatronics
3.	Mr. Suvayan Nandi	2011	Vulcatronics

44. Give details of student enrichment programmes (conferences/workshops/seminars) involving external experts:

#	Event Type	Name of Event	Details about experts	Year
1	Workshop	ISA Student Chapter Awareness	Dr. K.L.S. Sharma (Ex-President ISA – Bangalore); Mr. Renukprasad Belgur (President ISA – Banaglore); Mr. Aritra Paul (Member, ISA Bangalore)	2013
2	Guest Lecture	Guest Lecture on Direct Drive Motors	Mr. Arun Kumar Menon (Founder and President - Strategi Automation Solutions Pvt. Ltd. Bangalore)	2013
3	Guest Lecture	Guest Lecture on Cars 2 Go Project	Mr. Roland Erik Haas (Founder and CEO - QSO Technologies Pvt. Ltd.)	2013
4	Interaction	Interaction with Students by Bosch Rexroth	Mr. Johannes Grobe (MD, Bosch Rexroth India Pvt. Ltd.); Mr. Chetan Rajdev (Sr. Executive - Bosch Rexroth India Pvt. Ltd.)	2014
5	Interaction	Interaction with Students	Mr. Banmali Agrawala (CEO - GE S.E. Asia)	2014

45. List the teaching methods adopted by the faculty for different programmes.

Teaching methods for lectures include:

- Black board teaching
- Power point presentations
- Video demonstrations
- Tutorials
- Surprise tests/Assignments
- Case study discussions
- Mini projects
- Participatory learning and problem based learning

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

PROGRAMME OBJECTIVES

- Feedback from faculty members, students, alumni, academicians and employers
- Constant Revision of the Curriculum every few years with due inputs from industry experts and academicians (DCC Meetings, BOS meetings)

- Inputs from Placement office (On/Off Campus)
- Inputs from Class Committee Meetings
- Number of Students opting for higher education, Entrepreneurship, Self-Employment

MONITORING LEARNING OUTCOMES

- Assessment techniques comprise of tests, assignments, quizzes and exams. Semester exam questions are set to target different course objectives. Student performance is then mapped to different course outcomes and an analysis of the same reveals the extent to which course outcomes are met. Necessary changes are then implemented accordingly
- Class committee meetings take place at regular intervals every semester where students and faculty members discuss learning objectives and their compliance, matters related to academics
- Counselling of under achievers
- Student and Faculty Feedback

47. Highlight the participation of students and faculty in extension activities:

#	Association / Technical club	Extension Activities
1	Social Activities	A lot of students and faculty volunteer actively in voluntary service organisations like Help, Roctract Club, Lions Club etc...
2	Official Technical Teams	Students are a part of official teams of institution like Robomanipal, Solarmobil, Formula Manipal, Parikshit and participate in National and International level competitions.
3	Student start-ups and Innovations	Fracktal Works, XES Automation etc. are some of the start-ups incubated by our students.
4	Student Research Forum	Students are a part of a dedicated research forum to promote student research, where they get to present papers in national and international conferences and also publish papers in reputed journals
5	IE (Mechatronics) Student Chapter	Participation and Conduction of technical workshops, seminars, guest lectures
6	ISA Student Chapter	Participation and Conduction of technical workshops, seminars, guest lectures
7	Technical/Non-Technical Clubs	Students are a part of various clubs like Red-X, Music and Fine Arts, Photography club, Leo club, Psych Club
8	Annual College Events (Tech Tatva and Revels)	Participation and Conduction of technical and cultural workshops and events
9	Sports Activities	Participation and Conduction of inter college and intra college sports events.
10	Faculty Advisors	Faculty Advisor for Technical Club (Robomanipal)

48. Give details of “beyond syllabus scholarly activities” of the department

- Participation of students in inter university technical events
- Student Activities in Technical Clubs like IE (Mechatronics) Student Chapter, ISA Student Chapter
- Organized an STTP on Basic Practical Robots using Arduino and Labview for 6 days in April 2014
- Regular Conduction of STTPs in Hydraulics, Pneumatics, PLC etc... for employees of Manipal Technologies Ltd.
- Department started an Academic Assistance initiative named “Peer Helpers” program in 2013. It is organized by students to help their class mates and/or juniors to cope up with academics. Student teaching-learning sessions which are monitored by the department are conducted periodically
- Faculty and students are a part of a research project on CNC funded by the institution

49. State whether the programme/department is accredited/ graded by other agencies? If yes, give details: NA**50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**

- CENTRE OF EXCELLENCE: Though the department is new, in a short period of time, a centre of excellence in automation technology has been established. The main objective of this centre is to impart current technologies to students and the primary focus is on technology training, knowledge transfer, projects, application, research and innovation.
- Participation of students in various Technical competitions through prominent teams like Robomanipal, Formula manipal, Solarmobil, Parikshit.
- Guest lectures and talks for the students by eminent people from academics and industry
- Several workshops were organized for students by student chapters of ISA and IE (Mechatronics)
- Department organized an enriching Faculty Training Programme in PLC, Hydraulics, Pneumatics, Sensorics by inviting experts from Bosch Rexroth India Pvt. Ltd.

51. Plans of the department:

- Offer multiple postgraduate courses with specialization in diverse areas of mechatronics engineering
- Establish state of the art laboratories with national/international recognition, in thrust areas of mechatronics that cater to undergraduates, postgraduates and research related activities
- Encourage and support the faculty to specialize in diverse disciplines of mechatronics, so as to strengthen the core competencies of the department leading to consultancy

- Encourage faculty and students to enhance their involvement in research work such that it aids in generating new knowledge and also improves the research output of department
- Promote collaborative research related activity with industry, academia, R&D organizations and government organizations
- Develop inter-university graduate programs by forming collaborations with foreign universities through MOUs signed by Manipal University
- Invite experts from industry, academia and R&D organizations for training and guiding students and faculty
- Strengthening alumni relations
- Conduct National and International Conferences/workshops/seminars

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:

- Good mix of faculty from different disciplines
- Centre of Excellence in Automation Technologies
- Constant curriculum revision and upgradation with due inputs from industry experts, academicians and research scholars.

Weaknesses:

- Development of interdisciplinary practices and thinking needs a little more time.
- Establishing more collaborative labs might take few more academic years.
- Process of Identification of visiting faculty from R&D and academia is being done and more such interactions are required.

Opportunities:

- Excellent scope for improving interdisciplinary research through collaborations with industry, R&D organizations
- Opportunities for design and development of innovative products through advanced technology
- Adapting technology to the socio economic requirements of the society to support/facilitate government projects like Smart City, Make in India, etc....
- Use of technology labs for imparting knowledge and skill development of industry personnel

Challenges:

- To keep pace with the rapid changes in technology.
- To attract external research funding.

1. **Name of the Department:** **Physics**
2. **Year of establishment:** 1957
3. **Is the Department part of a School/Faculty of the university?:** Yes, Manipal Institute of Technology, Manipal University, Manipal
4. **Names of Programmes/Courses offered (Undergraduate, Postgraduate, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)**

Undergraduate Courses: i) Engineering Physics (ii) Open Electives

Postgraduate Programme: MSc Physics

PhD Programme: In various fields of Physics like Condensed Matter Physics, Radiation and Nuclear Physics, Crystal Growth, Nano-Materials, Thin Film Based Devices, Solar Cells, Spectroscopy, Non-Linear Optics, Atmospheric Physics, Manganites, Glasses & High Energy Physics

5. **Interdisciplinary courses and departments involved:**
 - a) “Engineering Physics” course is offered by the department for all branches of engineering at undergraduate level
 - b) Open elective courses (six number) are offered at UG and PG levels
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:**

“Applied Physics 1 & 2” courses are offered for B.S(Engg.) Twinning Programme students who migrate to foreign universities having MoU with our university

7. **Details of programmes/courses discontinued, if any, with reasons:** Nil
8. **Annual/Semester/Choice Based Credit System:** Semester Based 10-point Credit System
9. **Participation of the department in the courses offered by other departments:**

Undergraduate programmes –

Department	Subject
Health Sciences	Physical Optics, Geometrical Optics, Acoustics and Radiological Physics

PG Programmes

Department	Subject
Dept.	Subject
Health Sciences	Medical Radiation Physics, Modern Physics

10. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Assistant Professors)

	Sanctioned	Filled
Professor	03	04
Associate Professors	06	07
Assistant Professors	12	10
Total	21	21

11. Faculty profile with name, qualification, designation and specialisation (DSc / DLitt / PhD / MPhil, etc.)

#	Name of the Faculty	Qualification	Designation	Specialisation	No. of Years of Experience	No. of PhD students guided for the last 4 years
1	Dr Vyasa Upadhyaya	MSc., PhD	Professor and HOD	Solid state Physics	30	01
2	Dr K S Aithal	MSc, PhD	Professor	Electronics	42	01
3	Dr Thukaram M	MSc, PhD	Professor	Electronics	34	-
4	Dr Ashok Rao	MSc, PhD	Professor	Solid State Physics	21	01
5	Dr Mohan Rao K	MSc, PhD	Assoc. Prof. - Senior scale	Electronics	15	01
6	Dr Jyothilaxmi R	MSc., PhD	Assoc. Prof. - Senior scale	Spectroscopic imaging	25	-
7	Dr Sripathi PUNCHITHAYA K	MSc, PhD.	Assoc. Prof. –Senior Scale	Nuclear Physics	27	-
8	Dr Pramoda Kumara Shetty	MSc, PhD	Assoc. Prof.-Senior Scale	Solid state Physics	12	-
9	Dr Sudha D Kamath	MSc, PhD	Assoc. Prof. –Senior Scale	Biophysics	21	-
10	Dr Amita Tolpadi	MSc, PhD	Assoc. Prof.	Solid State Physics	20	-

11	Dr B V Rajendra	MSc, PhD	Assoc. Prof.	Radiation Physics	12	-
12	Dr Raviprakash Y	MSc, PhD	Asst. Prof.- Selection grade	Thin films	14	-
13	Dr Dhananjaya Kekuda	MSc, PhD	Asst. Prof. – Selection grade	Solar cells	09	-
14	Dr Mahesha M G	MSc, PhD	Asst. Prof.– Selection grade	Solid State Physics	07	-
15	Dr Poornesh P	MSc, PhD	Asst. Prof.- Selection grade	Nonlinear Optics	06	01
16	Dr Ashwatha Narayana Prabhu	MSc, PhD	Asst. Prof.– Senior Scale	Solid State Physics	15	-
17	Dr Akhilesh Ranjan	MSc, PhD	Asst. Prof.- Senior Scale	High energy Physics	06	-
18	Dr Ismayil	MSc, PhD	Asst. Prof.- Senior Scale.	Electronics	05	-
19	Dr Gowrish Rao K	MSc, PhD	Asst. Prof.- Senior Scale	Thin Film Devices	05	-
20	Dr Mamatha D Daivajna	MSc, PhD	Asst. Prof.	Electronics	06	-
21	Dr Gurumurthy SC	MSc, PhD	Asst. Prof.	Material Science	04	-

12. List of senior Visiting Fellows, faculty, adjunct faculty, emeritus professors:

Sl. No.	Date of visit	Name of other dignitaries visited with designation	Purpose of visit
1	27-12-2013	Dr. A.M. Rajendran, Chairman/Prof. of Mechanical Engg. University of Mississippi Oxford, MS 38655 USA	To recruit good graduate students from MIT & to start conductive research in the future
2	27-12-2013	Dr. C. Vijayan, Professor, Dept. of Physics, IIT Madras	Invited Talk
3	27-12-2013	Dr. Ganesh Sanjeev, Dept. of Physics, Mangalore University, Mangalore	Invited Talk
4	27-12-2013	Dr. Gunadhar Okram, UGC-DAE-CSR, INDORE	Invited Talk
5	28-12-2013	Dr. M.N. Satynarayana, Dept. of Physics, NITK	Invited Talk
6	28-12-2013	Dr. Vinayak B. Naik, ASTAR, Singapore	Invited Talk
7	28-12-2013	Dr. Prashanth Upadhyya, IISER, Kolkata	Invited Talk
8	10-01-2014	Dr. Chethan J. Panchal, Professor, Dept. of Applied Physics, M.S. University, Vadodara	Invited talk “On development of thin film devices”

9	27-03-2015	Prof. S Asokan, IISc, Bangalore	Invited Talk
10	27-03-2015	Dr. P D Babu, UGC-DAE, Mumbai	Invited Talk
11	27-03-2015	Prof. Kasturi V B, NITK, Surathkal	Invited Talk
12	28-03-2015	Prof. Chandrasekharan, NIT, Calicut	Invited Talk

13. **Percentage of classes taken by temporary faculty – programme-wise information:**

Nil

14. **Programme-wise Student Teacher Ratio:** As per AICTE norms

15. **Number of academic support staff (technical) and administrative staff: sanctioned and filled**

	Sanctioned	Filled
Supporting technical staff	03	02
Supporting administrative staff	01	01
General duty workers	04	04

16. **Research thrust areas recognized by funding agencies**

Various sections of condensed matter physics such as -

- Manganites
- Thin Films
- Nano Sciences
- Nonlinear Optics
- Glasses
- High Energy Electron Irradiation
- Solar Cells

17. **Number of faculty with on-going projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise.**

- National:** 15
- International:** Nil
- Total grants received:** 187 lakhs

RESEARCH PROJECTS

#	Project Title	Funding Agency	Grants received (in lakhs)
1	Low power optical limiting studies on organic materials using CW laser illumination	VGST, Govt. of Karnataka	05.50
2	Preparation and characterization of metal particulate films deposited on electron irradiated inert polymers doped with organosilanes/functionals polymers	DAE-BRNS, Govt. of India	21.62
3	Nonlinear optical studies of organic materials using continuous wave laser	DAE-BRNS, Govt. of India	18.50
4	Effect of electron beam irradiation on the structure, electrical and transport properties of $\text{La}_{1-x}\text{Sr}_x\text{CoO}_3$ cobaltites and comparison with manganites $\text{La}_{1-x}\text{Sr}_x\text{MnO}_3$	DAE-BRNS, Govt. of India	22.61
5	Electron beam irradiation effect on electrical switching properties of glass chalcogenides	DAE-BRNS, Govt. of India	10.64
6	Transparent Metal Oxide thin film transistors grown by magnetron sputtering for display applications	DAE-BRNS, Govt. of India	16.60
7	The study of effects of radiation on Eu_2O_3 doped lead fluoroborate Glasses”	DAE-BRNS, Govt. of India	13.11
8	Influence of Electron Beam Irradiation on the Crystal structure and Photoluminescence of Rare Earth doped Tungstate Nanophosphors	DAE-BRNS, Govt. of India	24.74
9	Development of modern computer code with up-to-date databases to estimate the inventory and radioactivity of actinides and fission products during various stages of nuclear fuel cycle	DAE-BRNS, Govt. of India	25.00
10	The study of effects of radiation in rare earth doped Zinc Bismuth Borate glasses	SERB-DST	40.94
11	Effects of electron irradiation on n-ZnS/p-Si and ZnS-Au visible-blind UV photodetectors	DAE-BRNS, Govt. of India	14.77
12	Investigation of Potential Alternatives for Window layer to Improve the efficiency of CdTe based solar Cells	VGST, Govt. of Karnataka	20
13	Magnetic and optical properties of pure and Mn doped ZnO nano films grown by Spray pyrolysis method	UGC-DAE Consortium for Scientific Research, MUMBAI	1.80
14	Effect of substitution in the system of Manganites $\text{La}_{0.7-x}\text{A}_x\text{Sr}_{0.3}\text{MnO}_3$ (A=Eu, Y, Gd, Bi) for enhancement of applicability for devices like IR detectors and data storage	UGC-DAE Consortium for Scientific Research, MUMBAI	0.35
15	Effect of Micro Structural Changes on Mechanical, Electrical And Thermal Stability of Sic Due To High Energy Electron Irradiation	RRCAT, UGC-DAE CSR, Indore	0.45

18. **Inter-institutional collaborative projects and grants received**

- a) **All India collaboration:** 09
 b) **International:** Nil

19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received.:** (Details shown in Item No. 17) Rs 1,87,00,000

20. **Research facility/centre with**

- **state recognition:** Voltage/Current Source Meter, Vacuum Coating Unit, Z-Scan Setup with CW Laser, Keithly Multimeter, Low Temperature Electrical Conductivity Measurement Setup, Thin Film Deposition Unit (Sputtering), UV-Vis-NIR Spectrophotometer, SILAR Unit, Spin Coating Unit, Tubular and Muffle Furnace, Crystal Growth Apparatus (Solution Growth Technique), Long Arm Spectrometer
- **national recognition:** Nil
- **international recognition:** Nil

21. **Special research laboratories sponsored by/created by industry or corporate bodies:** Nil

22. **Research output in last three years**

		2012	2013	2014
Completed funded research projects		01	-	01
Completed non-funded research projects		-	-	-
Completed PhD research projects		-	-	-
Completed PG research projects		25	12	35
Completed UG research projects		-	-	-
Publications	International	16	18	25
	National	-	-	-
Books		-	-	-
Chapters in books		-	-	-
Conference presentations	International	07	06	07
	National	06	05	06

Publications:

Number of papers published in peer reviewed journals (national/international)

- **International:** 59

• **INTERNATIONAL PUBLICATIONS:**

#	Name of the Author(s)	Title of the Article	Name of the Journal/Conference	Indexed /Non-indexed	Year
1	Rao, Gowrish K and Bangera, Kasturi V and Shivakumar, G K	Fabrication and characterization of thermal evaporated n-Si/ p-ZnTe thin film heterojunction diodes.	Current Applied Physics, 13 (1).	Indexed	2012
2	Kekuda, Dhananjaya and Nagaraju, J and Krupanidhi, S B	Investigations on multimagnetron sputtered Zn _{1-x} Mg _x O thin films through metal-ferroelectric-semiconductor configuration.	Journal of Applied Physics, 104. pp. 1-5.	Indexed	2012
3	Naveena, C S and Poojary, Boja and Arulmoli, Thangavelu and Manjunatha, Kumshi and Prabhu, A N and Kumari, Nalilu Sucheta	Synthesis and evaluation of biological and nonlinear optical properties of some novel 2,4-disubstituted [1,3]-thiazoles carrying 2-(aryloxymethyl)-phenyl moiety.	Medicinal Chemistry Research , 22. pp. 1925-1937. ISSN 1554-8120	Indexed	2012
4	Rajendra, B V and Fuchs, Benjamin and Kekuda, Dhananjaya	Characterization of cadmium sulphide thin films prepared by successive ionic layers adsorption and reaction method.	Journal of material Science: Materials in Electronics. ISSN 0957-4522	Indexed	2012
5	Das, Chandrasree and Mahesha, M G and Rao, Mohan G and Asokan, S	Electrical switching and optical studies on amorphous Ge _x Se _{35-x} Te ₆₅ thin films.	Thin Solid Films, 520 (6). pp. 2278-2282.	Indexed	2012
6	Prabhu, A N and Upadhyaya, V and Girisha, K S and Naveena, C S and Guru Row, T N	2,2,2-Trichloro-N-(3-nitrophenyl)Acetamide.	Acta Crystallographica Section E, 68. ISSN 1600-5368	Indexed	2012
7	Kekuda, Dhananjaya and Chu, Chih-Wei	Bulk Heterojunction Solar Cells for Energy Harvesting Grown by Spin Coating Process.	International Journal of Earth Sciences and Engineering. pp. 473-476. ISSN 0974-5904	Indexed	2012

8	Ranjan, Akhilesh and Raina, P K	Chromomagnetism in Nuclear Matter.	International Journal of Theoretical Physics, 51 (2). pp. 496-500. ISSN 0020-7748	Indexed	2012
9	Punchithaya, Sripathi K and Balakrishna, K	Comparison of the performance of Si(PIN) diode and HPGe detectors in determining K-shell Fluorescence Yields.	Lab Experiments Journal, 12 (4). pp. 320-331.	Indexed	2012
10	Shounak, De and Satyanarayana, B S and Rao, Mohan and Moorthy, V H S	Defect Density Estimation in Nanocluster Carbon Thin Films.	Romanian journal of Physics, 57 (3-4). pp. 657-663.	Indexed	2012
11	Jen-Hsien, Huang and Kekuda, Dhananjaya and Chih, Wei Chu and Kuo, Chuan Ho	Electrochemical characterization of the solvent-enhanced conductivity of poly(3,4-ethylenedioxythiophene) and its application in polymer solar cells.	Journal of Materials Chemistry (48). pp. 3704-3712.	Indexed	2012
12	Rajendra, B V and Kekuda, Dhananjaya (2012)	Flexible cadmium telluride/cadmium sulphide thin film solar cells on mica substrate.	Journal of material Science: Materials in Electronics, 23. pp. 1805-1808. ISSN 0957-4522	Indexed	2012
13	Punchithaya, Sripathi K	Incoherent scattering cross sections at gamma energy of 661.6keV.	Lab Experiments Journal, 12 (3). pp. 227-232.	Indexed	2012
14	Ranjan, Akhilesh and Nandan, Hemwati	Modifications to the Hadronic Regge Trajectories.	Modern Physics Letters A, 27 (8). ISSN 1793-6632	Indexed	2012
15	Muhammed Ali , A V and Kekuda, Dhananjaya	Thickness and Oxygen Partial Pressure Dependence on the Optical Band Gap of Indium Oxide by Reactive Evaporation.	Journal of Applied Sciences, 12 (16). pp. 1718-1721. ISSN 1812-5654	Indexed	2012
16	Ahlam, M A and Ravishankar, M N and Vijayan, N and	The effect of Co-60 gamma irradiation on optical properties of some nonlinear optical (NLO)	Journal of Optics, 41 (3). pp. 158-166. ISSN	Indexed	2012

	Govindaraj, G and Upadhyaya, V and Gnana Prakash, A P	single crystals.	0972-8821		
17	Rao, Ashok and Poornesh, P and Wu, K K and Kuo, Y K and Agarwal, S K	Effect of Nb doping at Mn site on thermal expansion of Pr _{0.7} Sr _{0.3} MnO ₃ .	Solid State Communications, 172. pp. 54-56. ISSN 0038-1098	Indexed	2013
18	Janardhana, K and Ravindrachary, V and Kumar, Rajesh P C and Umesh, G and Manjunatha, K B and Ismayil, .	Third order optical non-linearity of a novel chalcone derivative through Z scan technique.	Indian Journal of Pure and Applied Physics, 51 (12). pp. 844-850. ISSN 0975-1041	Indexed	2013
19	Janardhana, K and Ravindrachary, V and Kumar, Rajesh P C and Ismayil, .	Investigation of Third-Order Nonlinear Optical Properties of Pyrazoline-Doped Polyvinyl Alcohol Films.	Polymer Engineering and Science, 53. pp. 1958-1967. ISSN 1548-2634	Indexed	2013
20	Rao, Ashok and Christopher, Benedict J and Sanjeev, Ganesh	Controlled Modification of Structure of Some Manganites Using Electron Beam Irradiation for Sensor Applications.	International Journal of Earth Sciences and Engineering, 6 (4). pp. 862-865. ISSN 0974-5904	Indexed	2013
21	Punchithaya, Sripathi K and Balakrishna, K M	Average L-Shell fluorescence yields of some rare earth elements.	Journal of Physical Science and Application, 3 (2). pp. 102-106. ISSN 2159-5348	Indexed	2013
22	Nagaraja, K K and Pramodini, S and Poornesh, P and Nagaraja, H S	Effect of annealing on the structural and nonlinear optical properties of ZnO thin films under cw regime.	Journal of Physics D - Applied Physics, 46.	Indexed	2013
23	Prabhu, A N and Jayarama, A and Bhat, Subrahmanya K and Upadhyaya, V	Growth, characterization and structural investigation of a novel nonlinear optical crystal.	Journal of Molecular Structur. pp. 79-84.	Indexed	2013
24	Rajendra, B V	Influence of Processing	International	Indexed	2013

	and Bhat, Vinayak and Kekuda, Dhananjaya	Parameters on the Optical Properties of Zinc Oxide Thin Films Grown by Spray Pyrolysis.	Journal of Emerging Technology and Advanced Engineering, 3 (8). pp. 82- 85. ISSN 2250-2459		
25	Rao, Gowrish K and Bangera, Kasturi V and Shivakumar, G K	Influence of substrate temperature and post deposition annealing on the properties of va cuum deposited ZnSe thin films.	Materials Science in Semiconduct or Processing, 16. pp. 269- 273. ISSN 1369-8001	Indexed	2013
26	Punchithaya, Sripathi K and Balakrishna, K M	K Shell X-Ray Fluorescence Yields for Elements in the Atomic Number Range $25 \leq Z \leq 50$ Excited by 59.54 Kev Gamma Rays.	Journal of International Academy of Physical Sciences, 17 (1). pp. 1-6. ISSN 0974 - 9373	Indexed	2013
27	Punchithaya, Sripathi K and Balakrishna, K M	K-Shell X-Ray Fluorescence Studies of Some Elements in the Atomic Number Range 26 $\leq Z \leq 70$.	International Journal of Chemoinfor matics and Chemical Engineering, 3 (2). pp. 27- 44. ISSN 2155-4129	Indexed	2013
28	Prabhu, A N and Jayarama, A and Bhat, Subrahmanya K and Manjunatha, K B and Umesh, G and Upadhyaya, V	Physicochemical Studies on Thienyl Chalcone Derivative for Nonlinear Optical Application.	Indian Journal of Materials Science.	Indexed	2013
29	Prabhu, A N and Upadhyaya, V and Jayarama, A and Bhat, Subrahmanya K	Synthesis, growth and characterization of π conjugated organic nonlinear optical chalcone derivative.	Materials Chemistry and Physics, 138. pp. 179- 185.	Indexed	2013
30	Pramodini, S and Poornesh, P and Nagaraja, K K	Thermally induced nonlinear optical response and optical power limiting of acid blue 40 dye.	Current Applied Physics, 13. pp. 1175- 1182. ISSN 1567-1739	Indexed	2013

31	Janardhana, K and Ravindrachary, V and Kumar, Rajesh R C and Yogisha, . and Ismayil, .	Third order nonlinear optical studies of 1-(4-chlorophenyl)-3-(4-dimethylaminophenyl)prop-2-en-1-one.	Journal of Crystal Growth, 368. pp. 11-20.	Indexed	2013
32	Nagaraja, K K and Pramodini, S and Kumar, Santhosh A and Nagaraja, H S and Poornesh, P and Kekuda, Dhananjaya	Third-order nonlinear optical properties of Mn doped ZnO thin films under cw laser illumination.	Optical Materials, 35. pp. 431-439. ISSN 0925-3467	Indexed	2013
33	Pramodini, S and Poornesh, P and Sudhakar, Y N and Selvakumar, M	X(3) and optical power limiting measurements of Polyaniline and its derivative Poly (o-toluidine) under CW regime.	Optics Communications, 293. pp. 125-132. ISSN 0030-4018	Indexed	2013
34	Raviprakash, Y and Bangera, Kasturi V and Shivakumar, G K	X-Ray Diffraction Studies of Cd _x Zn _{1-x} S Thin Films Prepared by Spray Pyrolysis Technique.	Advanced Materials Research, 620. pp. 340-344. ISSN 1662-8985	Indexed	2013
35	Pramodini, S and Poornesh, P	Effect of conjugation length on nonlinear optical parameters of anthraquinone dyes investigated using He-Ne laser operating in CW mode.	Optics & Laser Technology, 62. pp. 12-19.	Indexed	2014
36	Mahesha, M G	Fabrication and Characterization of Cadmium Telluride based thin Film Transistors.	SOP Transactions on Applied Physics, 1 (1). pp. 74-80. ISSN 2372-6237	Indexed	2014
37	Rajendra, B V and Kekuda, Dhananjaya	Influence of preparation parameters on structure and optical properties of ZnO thin film.	Indian Journal of Physics, 88 (6). pp. 585-591.	Indexed	2014
38	Prabhu, Santhosh and Kekuda, Dhananjaya	Blue Shift of Optical Band Gap in ZnO Thin Film Grown by Spin Coating Process.	International Journal of Analytical, Experimental and Finite Element Analysis	Indexed	2014

			(JAEFEA), 1 (2). pp. 1-2.		
39	Vinaya, P P and Kekuda, Dhananjaya	Study of optical properties of CuO thin films grown by spin coating technique.	International Journal of Analytical, Experimental and Finite Element Analysis (JAEFEA, 1 (2). pp. 1-3.	Indexed	2014
40	Pramodini, S and Sudhakar, Y N and Selvakumar, M and Poornesh, P	Studies on third-order optical nonlinearity and power limiting of conducting polymers using the z-scan technique for nonlinear optical applications.	Laser Physics, 24. ISSN 1555- 6611	Indexed	2014
41	Daivajna, Mamatha D and Kumar, Neeraj and Awana, V P S and Gahtori, Bhaskar and Christopher, Benedict J and Manjunath, S O and Syu, K Z and Kuo, Y K and Rao, Ashok	Electrical, magnetic and thermal properties of Pr _{0.6} Bi _x Sr _{0.4} MnO ₃ manganites.	Journal of Alloys and Compounds, 588. pp. 406- 412.	Indexed	2014
42	Lefdil, M Abd and Belayachi, A and Pramodini, S and Poornesh, P and Wojciechowski, A and Fedorchuk, A O	Structural, photoinduced optical effects and third- order nonlinear optical studies on Mn doped and Mn–Al codoped ZnO thin films under continuous wave laser irradiation.	Laser Physics, 24 (3). ISSN 1555-6611	Indexed	2014
43	Daivajna, Mamatha D and Kumar, Neeraj and Gahtori, Bhaskar and Awana, V P S and Kuo, Y K and Rao, Ashok	Electrical conduction and thermal properties of Bi- doped Pr _{0.7} Sr _{0.3} MnO ₃ manganite.	Bulletin of Materials Science, 37 (1). pp. 47- 51. ISSN 0250-4707	Indexed	2014
44	Abd-Lefdil, M and Douayar, A and Belayachi, A and Reshak, A H and Fedorchuk, A O and	Third harmonic generation process in Al doped ZnO thin films.	Journal of Alloys and Compounds, 584. pp. 7- 12.	Indexed	2014

	Pramodini, S and Poornesh, P and Nagaraja, K K and Nagaraja, H S				
45	Kamath, Sudha D and Bhat, Sujatha and Rajesh, K and Srujan, K and Vrunda, R and Pandit, Nandini	Absorption Spectroscopy for the Quantification of Serum Thyroglobulin and Thyroglobulin Antibody Levels in Differentiated Thyroid Carcinoma Patients: A Pilot Study.	Journal of Medical Imaging and Health Informatics, 4 (2). ISSN 2156-7026	Indexed	2014
46	Wagh, Akshatha and Ajithkumar, M P and Kamath, Sudha D	Composition dependent structural and thermal properties of sm2o3doped zinc fluoroborate glasses.	Energy Research Journal, 4 (2). pp. 52-58. ISSN 1949-0151	Indexed	2014
47	Rao, Gowrish K	Doping ZnS and ZnSe thin films with bismuth: A comparison between sandwiching technique and nano-particle incorporation.	Materials Science in Semiconductor or Processing, 26. pp. 137-143. ISSN 1369-8001	Indexed	2014
48	Shounak, De and Satyanarayana, B S and Sanjeev, Ganesh and Ramakrishna, K and Rao, Mohan K and Pattabi, Manjunatha	Effect of electron irradiation on morphological, compositional and electrical properties of nanocluster carbon thin films grown using room temperature based cathodic arc process for large area microelectronics.	Microelectronics Reliability, 54. pp. 2740-2746. ISSN 0026-2714	Indexed	2014
49	Geetha, M and Rao, Ashok and Thukaram, V and Agarwal, S K and Bhatt, Ramesh Chandra and Tyagi, Kriti and Kuo, Y K	Electrical and thermal transport properties of Dy _{0.95} Pr _{0.05} Ba ₂ (Cu _{1-x} M _x) ₃ O _{7-δ} with (M ^{1/4} Fe, Co, Ni and Zn) bulk superconductors.	Solid State Communications, 187. pp. 38-42. ISSN 0038-1098	Indexed	2014
50	Daivajna, Mamatha D and Rao, Ashok and Okram, G S	Electrical, thermal and magnetic properties of Bi doped La _{0.7-x} BixSr _{0.3} MnO ₃ manganites.	Journal of Alloys and Compounds, 617. pp. 345-351.	Indexed	2014
51	Praveena, S D and Ravindrachary, V and Bhajantri,	Free Volume-Related Microstructural Properties of Lithium Perchlorate/Sodium	Polymer Composites.	Indexed	2014

	Rajashekhar F and Ismayil, .	Alginate Polymer Composites.			
52	Prabhu, A N and Jayarama, A and Upadhyaya, V and Bhat, Subrahmanya K	Growth, Characterization and Molecular Hyperpolarizabilities of Novel Nonlinear Optical Chalcone Crystals.	Chemical Science Transactions, 3 (2). pp. 530-539. ISSN 2278-3318	Indexed	2014
53	Sarkar, Deepangkar and Ganesh, Sanjeev and Mahesha, M G	Influence of electron beam irradiation on structural and optical properties of thermally evaporated GeTe thin films.	Radiation Physics and Chemistry, 98. pp. 64-68. ISSN 0969-806X	Indexed	2014
54	Rajendra, B V and Bhat, Vinayak and Kekuda, Dhananjaya	Optical Properties of Zinc Oxide (ZnO) Thin Films Prepared by Spray Pyrolysis Method.	Advanced Materials Research, 895. pp. 226-230. ISSN 1662-8985	Indexed	2014
55	Kamath, Sudha D and Srujan, K and Pandit, Nandini	Photodiagnosis of the Serum Samples of Differentiated Thyroid Carcinoma Patients: A Pilot Study.	Special Issue of International Journal of Computer Applications. ISSN 0975 – 8887	Indexed	2014
56	Nagaraja, K K and Pramodini, S and Kumar, Santosh and Nagaraja, H S and Poornesh, P	Structural, linear, and nonlinear optical properties of radio-frequency sputtered nitrogen-doped ZnO thin films studied using z-scan technique.	Laser Physics, 24 (8). pp. 1-9.	Indexed	2014
57	Pramodini, S and Deepika, . and Sandhya, . and Rao, Ashok and Poornesh, P	Studies on thermally induced third-order optical nonlinearity and optical power limiting response of Azure B under CW He–Ne laser excitation.	Optics & Laser Technology, 62. pp. 58-62.	Indexed	2014
58	Pramodini, S and Poornesh, P	Third-order nonlinear optical response of Indigo Carmine under 633nm excitation for nonlinear optical applications.	Optics & Laser Technology, 63. pp. 114-119. ISSN 0030-3992	Indexed	2014
59	Pramodini, S and Poornesh, P	Third-order nonlinear optical studies of anthraquinone dyes using a CW He–Ne laser.	Laser Physics, 24. ISSN 1555-6611	Indexed	2014

Publications

- **National:** Nil
- **Monographs:** Nil
- **Chapters in Books:**

Kamath, Sudha D and Mahato, KK (2012) Pulsed Laser Induced Simultaneous Fluorescence and Photoacoustic Spectroscopic Studies of Flavin adenine Dinucleotide (FAD) in Water. In: Electronic Design & Signal Processing. Narosa Publishing House Pvt. Ltd., pp. 112-116. ISBN 978-81-8487-160-9

- **Edited Books:** 02
- **Books with ISBN with details of publishers:** 02

Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.):

- **Citation Index – range/average:** NA
- **SNIP:** Nil
- **SJR:** Nil
- **Impact Factor – range/average**
 - Range: 0 – 2.999
 - Average: 1.44
- **h-index:** 0-10 (Range)

23. **Details of patents and income generated:** Nil

24. **Areas of consultancy: Organic Solar Cells and income generated:** Nil

25. **Faculty selected nationally/internationally to visit other laboratories in India and abroad:**

- a. Dr. Ashok Rao, Visited CSIR-National Physical Laboratories, New Delhi.
- b. Dr. Ashok Rao, Visited Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore.

26. **Faculty serving in**

a) **National committees**

- a. Dr. Thukaram M, Member BOS in Physics, Mangalore University.
- b. Dr. Ashok Rao, Expert Member for Board of Studies, K.S.Rangasamy, College of Technology, Chennai.

b) **International committees : NIL**

c) **Editorial Boards : NIL**

d) **any other (please specify):**

27. **Faculty recharging strategies:**

- i) Seminars/symposia/Conferences/workshops are held every year.
- ii) Faculty are encouraged to participate in seminars/conferences/symposia/workshops held elsewhere.

28. **Student projects**

- **percentage of students who have done in-house projects including inter-departmental projects:** 90 percent (MSc. Physics)
- **percentage of students doing projects in collaboration with other universities/industry/institute:** 10 percent (MSc. Physics)

29. **Awards/recognitions received at the national and international level by**

• **Faculty:**

- a) Dr. Dhananjaya Kekuda (Assistant Professor – Selection Grade), Young Scientist Award from BRNS, India, 2012.
- b) Dr. Ismail, Assistant Professor-senior scale, awarded best paper at the International Conference “ICPA,” organised by IAEST, Abu Dhabi, during March 2015.

• **Doctoral/post-doctoral fellows:** Nil

• **Students:** Nil

30. **Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any.**

- a) A National symposia on Condensed Matter Physics and Application (CMPA:2012) during December 27-28, 2012.
- b) A National Workshop on Perspectives in Science Education and their Relevance to

Technology (PSERT-2013) during March 15-16, 2013.

- c) A National conference on Condensed Matter Physics and Application (CMPA: 2013) during December 27-28, 2013.

31. Code of ethics for research followed by the departments:

The basic responsibility of an EC is to ensure a competent review of all ethical aspects of the project proposals received and execute the same free from any bias and influence that could affect their objectivity. EC should provide advice to the researchers on all aspects of welfare and safety of the research participants after ensuring the scientific soundness of the proposed research through appropriate Scientific Review Committees. In smaller institutions the EC can up the dual responsibility of Scientific and Ethical Review.

The responsibilities of an EC can be defined as follows:

1. To protect the dignity, rights and wellbeing of the potential research participants
2. To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs
3. To assist in the development and the education of a research community responsive to local health care requirements.

32. Student profile course-wise: Admission is carried out by Manipal University

Admission policy : NA

33. Diversity of students: Students for UG and PG are drawn from across the country.

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

01 - NET

A Student named Vikranth J Kotlappa J, Reg No 123103031 (2012-2014 batch) has cleared NET examination in the Year 2014.

35. Student progression

Student progression	Percentage against enrolled
Undergraduate to Postgraduate	Nil
Postgraduate to MPhil	Nil
Postgraduate to Ph.D.	9.7% (7 out of 72)
Ph.D to Post-Doctoral	Nil
Employed	
• Campus selection	Nil
• Other than campus recruitment	83.3% (60 out of 72)
Entrepreneurs	Nil

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	19%
from other universities within the State	71%
from universities from other States	10%
from universities outside the country	0%

37. Number of faculty who were awarded PhD., DSc and DLitt during the assessment period: 03 PhDs.

38. Present details of infrastructural facilities with regard to

a) **Library:** Apart from a central library, departmental library has 104 volumes of books.

b) Internet facilities for staff and students:

- For all the faculty members.
- For all PhD students.
- For all MSc students.

c) **Total number of classrooms:** Shared Class rooms with other programmes of the Institute.

d) **Class rooms with ICT facility:** Shared Class rooms with other programmes of the Institute.

e) Students' laboratories:

- Undergraduate – Two laboratories.
- Postgraduate – One general lab + 3 Specialization laboratories.

d) **Research laboratories:** 06 laboratories

39. List of doctoral, post-doctoral students and Research Associates

a) Doctoral students from the host university: 18

- Mr. Muhammed Ali A V
- Ms. Akshatha
- Mr. Nagaraja B S

- Mr. Vinod Hegde
- Mr. Sumanth Joishy
- Ms. Sindhu H.S
- Mr. Shyam Prasad
- Ms. Rashmitha
- Mr. Rakesh Kakkrannaya A
- Ms. Pramodini S
- Mr. Deepangkar Sarkar
- Mr. Manjunath S O
- Mr. J. Benedict Christopher
- Ms. Chaya Karkera
- Mrs. Chaitra U
- Mr. Ashith V K
- Ms. Lalitha Devi B
- Mr. Indudhar Panduranga Vali

b) Doctoral students from the other universities: NIL

c) Research Associates: Nil

40. Number of postgraduate students getting financial assistance from the university.

MSc. Physics

2012 batch – 10 students

2013 batch – 21 students

2014 batch – 27 students

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Expert opinion and feedback were obtained from relevant stakeholders.

42. Does the department obtain feedback from

- a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?** Yes. Feedback points are discussed in the departmental meetings. Shortcomings are attended in the next year's curriculum as well as teaching-learning-evaluation.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

- Yes, every semester students are asked to give online/off-line feedback on teachers and teaching learning evaluation.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?: Used in modifying curriculum.

43. List the distinguished alumni of the department (maximum 10):

Mr. H M Devaraj, Reg. No. 103103014 (2010 Batch, MSc. Physics) participated in experimental work along with GSI-Giessen Germany, have discovered four exotic atomic nuclei to be added to the chart of the nuclides.

44. Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts:

Sl. No.	Date	Name of other dignitaries visited with designation	Purpose of visit
1	27-12-2013	Dr. A.M. Rajendran, Chairman/Prof. of Mechanical Engg. University of Mississippi Oxford, MS 38655 USA	To recruit good graduate students from MIT & to start conductive research in the future
2	10-01-2014	Dr. Chethan J. Panchal, Professor, Dept. of Applied Physics, M.S. University, Vadodara	Invited talk "On development of thin film devices"
3	20-11-2015	Prof. M R Anantharaman, CUSAT, Cochin	Magnetic Materials
4	15-05-2015	Prof. S N Bhat, MIT, Manipal	Workshop on "Effective Teaching and Learning Skills"

45. List the teaching methods adopted by the faculty for different programmes.

For Undergraduate: i) Power point presentation and black board teaching.
ii) Assignments.
iii) Quizzes.

For Postgraduate: i) Power point presentation and black board teaching.
ii) Assignments and seminars.
iii) Project seminars.

ii) How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

In case of UG students frequent quizzes (5/ semester) and sessional (2/semester) are conducted at regular intervals. Selected numericals and reasoning questions which makes theoretical concepts clear are given in advance and surprise quizzes are conducted. Knowledge of basic definitions, terminologies, mathematical descriptions are tested in sessional/end semester examinations.

In case of PG students assignments, seminars and sessionals are conducted regularly.

iii) Highlight the participation of students and faculty in extension activities:

- i) PG students are presenting papers in conferences/seminars/workshops
- ii) Faculty members are presenting papers in conferences/seminars/workshops as session chair/guest lecturer/invited speaker.

iv) Give details of “beyond syllabus scholarly activities” of the department.

Scholarly articles by faculty members and students are displayed on the department notice board.

v) State whether the programme/department is accredited/graded by other agencies? If yes, give details.: The programme is covered under AICTE as supporting department.

vi) Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

Hosted conference and awareness workshop.

See the details at Sl. No. 30

vii) Future plans of the department.

- Enhancing quality students in Postgraduate
- Preparing the PG students to clear NET/SLET
- Enhancing funding from external agencies
- To increase number of students in PhD

viii) Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:

- A good blend of experienced and young faculty members.
- Highly motivated and research oriented young faculty members.
- All the faculty members are with PhD qualification.
- Good number of external funded projects.

Weaknesses:

- Not many inter disciplinary/inter-departmental activities.

Opportunities

- Expansion of R&D activities through central instrumentation facility.

Challenges:

- To get more external funded research projects.
- Involving all the faculty members in research activities and improve the quality of research output.

1. **Name of the Department: Printing and Media Engineering**

2. **Year of establishment:** 1992

3. **Is the Department part of a School/Faculty of the university?**

Department is a part of Manipal Institute of Technology, Manipal University

4. **Names of Programmes / Courses offered (UG, PG, MPhil., PhD, Integrated Masters; Integrated PhD etc.):**

Programme	Course offered	Year of inception
UG	B.Tech in Printing Technology	1992*
	B.Tech in Print and Media Technology	2013
PG	M.Tech in Printing and Media Technology	2008

* Course renamed as B.Tech in Print and Media Technology

5. **Interdisciplinary courses and departments involved:**

Programme : B Tech		
Sl. No.	Interdisciplinary Courses	Department Involved
1	Engineering Mathematics III	Mathematics
2	Engineering Mathematics IV	
3	Audio and Video Signals	Electronics & Communication Engineering
4	Audio and Video Signals Lab	
5	Communication Systems	
6	Video Processing	
7	Essentials of Management	Humanities and Management
8	Engineering Economics and Financial Management	
9	Graphics and Web Design	Department of Computer Applications
10	Graphics and Web Design Lab	
Programme : M Tech		
Sl. No.	Interdisciplinary Courses	Department Involved
1	Research Methodology and Technical Communication	Humanities and Management
2	Entrepreneurship Development	
3	Print Logistic Management	
4	Statistics, probability and Reliability	Mathematics
5	Computer Data Processing	Computer Science and Engineering
6	Advanced Techniques in Computer Graphics	

6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:**

University Partner	Course offered	Year of Collaboration
Chemnitz University of Technology, Germany	Double Degree Master's program	2009

7. **Details of programmes / courses discontinued, if any, with reasons:** Nil

8. **Annual/ Semester/Choice Based Credit System:** Semester Based 10-point Credit System

9. **Participation of the department in the courses offered by other departments:** Nil

10. **Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)**

Designation	Sanctioned	Filled
Professor	1	1
Associate Professors	2	0
Assistant Professors	8	10
Total	11	11

11. **Faculty profile with name, qualification, designation and specialization (D.Sc./D.Litt./ Ph.D./M.Phil., etc.)**

Sl. No.	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of PhD students guided for the last 4 years
1	Dr. Prakasha Shetty	MSc, PhD	Professor and Head	Inorganic Chemistry, Analytical Chemistry, Printing Material Science.	28	06
2	Mrs. Asha S Pai	BE, MBA	Asst. Prof. (Selection Grade)	Printing Technology, HRM	16	-
3	Mr. Nagaraj Kamath	DPT, BE, M Tech, MBA	Asst. Prof. (Senior Scale)	Printing Technology, Engineering Management	08	-
4	Mr. Ramakrishna Nayak	BE, M Tech, MBA	Asst. Prof. (Senior Scale)	Industrial & Production Engineering, Printing & Media Tech., Operation Management	06	-
5	Mr. Vinod Kamath	BE, M Tech, MBA	Asst. Prof. (Senior Scale)	Printing Technology, Printing and Media Technology, Operation Management	05	-

6	Mr. Ramnath Shenoy	BE, M Tech, MBA	Asst. Prof. (Senior Scale)	Printing Technology, Printing & Media Technology, Operation Management	06	-
7	Mrs. Soujanya S Shenoy	BE, MBA	Asst. Prof.	Printing Technology, HRM	16	-
8	Mr Sandeep Nayak P	BE, M Tech, MBA	Asst. Prof.	Printing Technology, Engineering Management, HRM	08	-
9	Ms. Bhagya R S.	B Tech, M Tech	Asst. Prof.	Printing Technology, Printing & Media Technology	05	-
10	Mr. Devicharan R	DPT, BE, M Tech	Asst. Prof.	Printing Technology, Printing & Media Technology	05	-
11	Ms. Sumalatha G S	BE, M Tech	Asst. Prof.	Printing Technology, Printing & Media Technology	04	-
12	Mr. Nithesh Kumar S	BFA, MVA	Asst. Prof.	Fine Arts, Visual Arts	01	-

12. List of senior Visiting Fellows, faculty, adjunct faculty, emeritus professors:

Adjunct Faculty		
Name & Designation	Visited during	Topics covered
Mr. Dasgupta Packaging Consultant & Ex-Head Hindustan UniLever food packaging division, Bangalore	20 th to 23 rd Apr, 2012	Advanced Coating Techniques

13. Percentage of classes taken by temporary faculty – programme-wise information

Nil

14. Programme-wise Student Teacher Ratio: As per AICTE norms

Programme	Student Teacher Ratio
UG	1:15
PG	1:12

15. Number of academic support staff (technical) and administrative staff:

	Sanctioned	Filled
Technical Support Staff	3	3
Administrative Staff	1 Clerical staff	1 Clerical staff
	1 Attender	1 Attender
	1 GDW	1 GDW

16. Research thrust areas recognized by funding agencies:

Printed Electronics, Print Operation Management, Color Science, Innovative Packaging Technology, Digital Printing, Green Printing, Printing Materials and 3D Printing.

17. Number of faculty with on-going projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise:

Nil

18. Inter-institutional collaborative projects and grants received

- a. All India collaboration : Nil
 b. International: 06

Sl. No.	Name of the Faculty/Student	Project Title	Grant Received((DAAD Scholarship in INR)	Year
1	Mr. Vinod T Kamath (Asst. Prof.)	“Organic Screen Printed Solar Cells”	3,85,200	2012
2	Mr. Snehil Saraswat (Reg. No. 080910220)	“Study on Degradation of Printed Photovoltaics”	2,70,000	2012
3	Ms. Sumalatha G S (Asst. Prof.)	“Development of Sustainable Smart Package Using Bioplastic Film and Printed Electronic Sensor”	2,74,000	2013
4	Ms. Annapoorna V Iyer (Reg. No. 09010101)	“Development of Smart Package”	2,85,200	2013
5	Ms. Akshee Agarwal (Reg. No. 100910265)	“Fabrication of Printed Batteries and Shelf Life Analysis”	2,74,000	2014
6	Mr. Priyank H Vasa (Reg. No.1000910121)	“Qualitative and Quantitative Analysis of 3PV Cells Using Dark Lock-In Thermography”	2,74,000	2014

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received: Nil

20. Research facility / centre with

State recognition :	Nil
National recognition :	Nil
International recognition :	Nil

21. Special research laboratories sponsored by / created by industry or corporate bodies:

Advanced Research Lab in the area of Printed Electronics located at Innovation Centre MIT

22. Research output in last three years

		2012	2013	2014
Completed funded research projects		-	-	-
Completed non-funded research projects		-	-	-
Completed PhD research projects		-	-	-
Completed PG research projects		08	07	06
Completed UG research projects		25	14	27
Publications	International	10	05	05
	National	00	02	02
Books		-	-	-
Chapters in books		-	-	-
Conference presentations	International	01	10	06
	National	02	01	-

Publications:**Number of papers published in peer reviewed journals (national / international):****National – 04**

Sl. No.	Author	Title of publication	Name of the Journal	Year of publication
1	Prakash Shetty	Corrosion Inhibition of Mild Steel in HCl Medium by 2-(3, 4, 5-Trimethoxybenzylidene) Hydrazinecarbothioamide	Journal of Applicable Chemistry, Vol. 3(1), 385-396 (ISSN: 2278-1862)	2014
2	Nagaraj Kamath	A Pilot Study for Total Production Management in Printing Industry	Indian Journal of Applied research, Vol.4, 60-63 (ISSN: 2249-555X)	2014
3	Prakash Shetty	Toxicity Studies of Triazolo-Thiadiazoles in Ehrlich Ascitic Carcinoma Cells	Research Journal of Pharmaceutical Sciences Vol. 2(6), 1-6 (ISSN: 2319-555X)	2013
4	Prakash Shetty	Inhibition of corrosion of stainless steel (304 SS) by N-(2-mercaptophenyl)-N'-phenyl thiourea in hydrochloric acid	Indian Journal of Chemical Technology, Vol. 20, 317-322 (ISSN: 0971-457X)	2013

International– 20

Sl. No.	Author	Title of publication	Name of the Journal	Year of publication
1	Prakash Shetty	Synthesis and biological evaluation of novel substituted 1, 3, 4-Thiadiazole and 2, 6-di aryl substituted imidazo [2, 1-b] [1, 3, 4]-thiadiazole derivatives	European Journal of Medicinal Chemistry, Vol. 71, 316-323 (ISSN: 0223-5234)	2014
2	Prakash Shetty	Corrosion Inhibition of Mild Steel in 2M HCl by a Schiff Base Derivative	Procedia Materials Science, Vol.5, 499-507 (ISSN: 0872-1904)	2014
3	Prakash Shetty	Corrosion inhibition effect of 4-hydroxy-N'-(E)-(1H-indole-2-ylmethylidene) benzohydrazide (HIBH) on mild steel in hydrochloric acid solution	International Journal of Corrosion, Vol. 2014, Article ID 256424 (ISSN: 1687-9325)	2014
4	Prakash Shetty	Corrosion inhibition and adsorption behaviour of (2E)-2-(3-hydroxy-2-methoxybenzilidene) hydrazinecarbothiamide on mild steel in 1 M HCl	Revue Roumaine de Chimie, 59(5), 323-333 (ISSN: 0035-3930)	2014
5	Ramakrishna Nayak, Sandeep Nayak P., Vinod Kamath	Evaluating the quality of output in Epson inkjet Printer using Design of Experiment method	IJRET, International Journal of Research in Engineering and Technology, Vol. 3(1), 41-48. (ISSN: 2321-7308)	2014
6	Prakash Shetty	Novel N-substituted-5-phenyl-1H-pyrazole-4-ethylcarboxylates as potential NLO Materials	Arabian Journal of Chemistry, Vol. 6, 97-102 (ISSN: 0250-4707)	2013
7	Prakash Shetty	In vivo anticancer and histopathology studies of Schiff bases on Ehrlich ascitic carcinoma cells	Arabian Journal of Chemistry, Vol. 6, 25-33 (ISSN: 0250-4707)	2013
8	Prakash Shetty	Synthesis, characterization, anticancer, and antioxidant activity of some new thiazolidin-4-ones in MCF-7 cells	Medicinal Chemistry Research, Vol. 22, 758-767 (ISSN: 1054-2523)	2013
9	Prakash Shetty	Synthesis, characterization and their anticonvulsant, anti-inflammatory studies of some novel chromeno oxadiazoles	Medicinal Chemistry Research, Vol. 22, 1497-1503 (ISSN: 1054-2523)	2013
10	Ramakrishna Nayak	EDMS Based Workflow for Printing Industry	ACTA GRAPHICA, 24 (1-2), 47-54. (ISSN: 0353-4707)	2013

11	Prakash Shetty	Propanoyl (1Z) -N- (2,6-dimethylphenyl) -2-oxopropanehydrazonoate as inhibitor for corrosion of 6061 Al alloy 15% (V) SiC _(P) composite in hydrochloric acid media	IIUM Engineering Journal, 13(2), 121-129. (ISSN: 1511-788X)	2012
12	Prakash Shetty	Corrosion Inhibition of 6061 Al alloy-15 vol % SiC _(P) Composite in 0.5 M Hydrochloric Acid Solution	International Journal of Biological, Ecological and Environmental Sciences, 1(3), 77-81 (ISSN: 2277 – 4394)	2012
13	Prakash Shetty	Quinolin-3-amine	Acta Cryst., E68, o3155 (ISSN: 1600-5368)	2012
14	Prakash Shetty	1-[(3-(Benzyloxy)-2-nitrophenoxy)methyl]benzene	Acta Cryst., E 68, o2317-o2318 (ISSN: 1600-5368)	2012
15	Prakash Shetty	Synthesis, characterization and antimicrobial activity of novel Ethyl 1-(N-substituted)-5-phenyl-1H-pyrazole-4-carboxylate derivatives	Medicinal Chemistry Research, Vol.21, 2702-2708 (ISSN: 1054-2523)	2012
16	Prakash Shetty	A novel series of homoallylic amines as potential antimicrobials	Medicinal Chemistry Research, Vol. 21, 1090-1097 (ISSN: 1054-2523)	2012
17	Prakash Shetty	T3P mediated Synthesis of some new quinoline substituted pyrazole derivatives and its antibacterial studies	Der Pharma Chemica, 4(4), 1723-1729 (ISSN: 0975-413X)	2012
18	Asha S. Pai, Nagaraj Kamath, Soujanya Shenoy	An approach to minimize carbon footprint for an environmental friendly printing by optimizing an offset machine in a printing facility	Procedia - Social and Behavioral Sciences, Vol. 37, 514 – 527 (ISSN: 1877-0428)	2012
19	Prakash Shetty	Methyl 2-[(2methylphenoxy)methyl]-benzoate	Acta Cryst., E68, o728 (ISSN: 1600-5368)	2012
20	Prakash Shetty	4-(4-Bromophenyl)-2-(2,6-difluorobenzyl)-5-(3,4,5-trimethoxyphenyl)-2,4-dihydro-[1,2,4] triazole-3-thione	Acta Cryst, E68, Part1, o89 (ISSN: 1600-5368)	2012

- ❖ **Monographs :** Nil
- ❖ **Chapters in Books :** Nil
- ❖ **Edited Books :** Nil
- ❖ **Books with ISBN with details of publishers :** Nil
- ❖ **Number listed in International Database**

(For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)

❖ Citation Index – range / average :	07
❖ SNIP :	Nil
❖ SJR :	Nil
❖ Impact Factor – range / average :	Minimum = 0.393 Maximum = 3.73 Average = 1.34
❖ h-index :	04

23. Details of patents and income generated:

Nil

24. Areas of consultancy and income generated:

Area of consultancy	Income Generated in INR		
	2012-13	2013-14	2014-15
Colour Science	4,725	4,321	6,072
Quality Control	4,478	2,280	1,408
		Total	23,284 INR

25. Faculty selected nationally/ internationally to visit other laboratories in India & abroad :

Year	Name of the Faculty & Designation	Name of the University visited
February to May 2012	Mr. Vinod Kamath, Assistant Professor	Chemnitz University of Technology, Germany
March to June 2013	Ms. Sumalatha G S, Assistant Professor	Chemnitz University of Technology, Germany

26. Faculty serving in

A. National committees :		
Name of the Faculty	National committee	Year
Dr. Prakasha Shetty	Member BOS – Printing Technology, Anna University, Chennai	2012 to 2014
Dr. Prakasha Shetty	Member BOS – Printing Technology, Avinashilingam University, Coimbatore	2012 to 2014
B. International committees:		
Name of the Faculty	International committee	Year
Dr. Prakasha Shetty	Programme Coordinator for Joint Double Degree Masters Programme with Chemnitz University of Technology, Germany	2012 to 2014
C. Editorial Boards : Nil		
D. Any other (please specify) : Not Applicable		

27. Faculty recharging strategies

Department recommends faculty to undergo faculty development programmes conducted by the Institute/University

28. Student projects

Under Graduate		
	Percentage of students who have done in-house projects including inter-departmental projects	Percentage of students doing projects in collaboration with other universities / industry / institute
2012	39.28	57.14
2013	92.85	7.14
2014	75.86	24.14
Post Graduate		
	Percentage of students who have done in-house projects including inter-departmental projects	Percentage of students doing projects in collaboration with other universities / industry / institute
2012	-	-
2013	0	87.50
2014	0	100

29. Awards / recognitions received at the national and international level by**A. Faculty :** Nil**B. Doctoral / post-doctoral fellows :** Nil**C. Student Awards / Recognition**

Name of the Student	Name of the award	Awarding Authority	Year
Ms. Suparna Shetty (PG Student – Reg. No. 100935005)	“Prathibha Puraskara”	The Karnataka Printer’s Credit Co-op Society Limited, Bengaluru	2012
Ms. Archana K. Baikady (PG Student – Reg. No. 120935003)	“Prathibha Puraskara”	The Karnataka Printer’s Credit Co-op Society Limited, Bengaluru	2014

30. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.

Name of the conference / workshop	Month and year	Sponsorship	No. of Resource Persons	No. of Participants
A two day International Conference on Advances in printing “Print-ON 2013”	23 rd and 24 th January 2013	<ul style="list-style-type: none"> 60,000 INR (Creed Engineers Pvt. Ltd., Gurgaon, Hariyana) 35,000 INR (Tamilnadu Newsprint and Papers Ltd., Bangaluru) 25,000 INR (Mercury Paper Agency, Bangaluru) 5,000 INR (Universal Engineering Corporation Ltd., Saharanpur) 5,000 INR (Syndicate Bank, MIT branch, Manipal) 	11	85

Details of Resource persons:

Sl. No	Name of the resource person with Affiliation	Topics
1	Dr. Arved Huebler , Director, Print and Media Technology, CUT, Germany	“State of the art in Printed Electronics”
2	Mr. Ranesh Bajaj , Managing Director, Creed Engineers Pvt. Ltd.	“Printing and Packaging Solutions from VINSAK”
3	Mr. Koji Ichikawa , Sr. Technical Manager, Fujifilm India Pvt Ltd, Haryana	“New WFIJ Printing Solution” and “Fuji Green Products”
4	Mr. S. Shyam Mohan , Proprietor, aNimam Graphic Supplies, Bangalore	“Preservation of the Leadership Character by Print Media, with the advent of Electronic Media” and “Hybrid Production of Advertising and Packaging”
5	Dr. RajendraKumar Anayath , Head, Print Media Academy, Heidelberg India, Chennai	“Significance of ‘Value’ in the Modern Media World”
6	Dr. H Naik Dharavath , Associate Professor, Central Connecticut State University, USA	“Analysis of Solvent-based & Vegetable Oil-based Inks of Multicolor Offset Printing: An element of Green Printing” and “Application of Digital Technologies in the Graphic/Print Media Workflow: Implications for the Graphics Technology Curriculum (GTC)”
7	Mr. Kiran Prayagi , Partner, Graphic Arts Technology & Education, Mumbai	“Preparation & Implementation of Environment Concerns in Printing Industry”
8	Mr. M. Nandakumar , Principal & HOD, Arasan Ganesan Polytechnic College, Sivakasi	“Green Printing - Environmental Management in Offset Printing”
9	Mr. Prabhudha Dasgupta , Bangalore	“New Developments’ in Accessory Equipment for Rotogravure & Flexographic Printing”
10	Mr. Arun H. S. Senior Solutions Expert (South Asia), Esko Artwork	“Intelligent Packaging Development - Rethink the Package Design & Artwork Process ”
11	Mr. Zillger , Chemnitz University of Technology, Germany	“3PV - printing technology for paper solar cells”

31. Code of ethics for research followed by the departments

Code of ethics is followed as per Manipal University policy

THE ROLE AND RESPONSIBILITIES OF ETHICS COMMITTEE (EC)

The basic responsibility of an EC is to ensure a competent review of all ethical aspects of the project proposals received and execute the same free from any bias and influence that could affect their objectivity. EC should provide advice to the researchers on all aspects of welfare and safety of the research participants after ensuring the scientific soundness of the proposed research through appropriate Scientific Review Committees. In smaller institutions the EC can up the dual responsibility of Scientific and Ethical Review.

The responsibilities of an EC can be defined as follows:

- To protect the dignity, rights and well-being of the potential research participants
- To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs
- To assist in the development and the education of a research community responsive to local health care requirements.

32. Student profile course-wise:

Name of the Course (refer to question no. 4)		Applications Received	Selected		Pass percentage	
			Male	Female	Male	Female
B Tech Print and Media Technology	2012	As per Manipal University admission policy	25	3	40	100
	2013		9	2	77.77	100
	2014		21	5	66.67	80
M Tech Printing & Media Technology	2012	As per Manipal University admission policy	12	4	75	100
	2013		-	-	-	-
	2014		12	4	25	25

33. Diversity of students

Name of the Course (refer to question no. 4)		Percentage of students from the same university	Percentage of students from other universities within the State	Percentage of students from universities outside the State	Percentage of students from other countries
B.Tech., Print and Media Technology		Not Applicable			
M.Tech., Printing & Media Technolog y	2011-12	-	-	-	-
	2012-13	6.25	25	68.75	NIL
	2013-14	0	28.57	71.42	NIL

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Nil

35. Student progression

Student progression		Percentage against enrolled		
		2012	2013	2014
UG to PG		4.34	9.09	00
PG to M.Phil.		NIL	NIL	NIL
PG to Ph.D.		NIL	NIL	NIL
Ph.D. to Post-Doctoral		NIL	NIL	NIL
Employed	Campus selection	50	73.33	62
	Other than Campus recruitment	32.14	13.33	27.5
Entrepreneurs		7.14	13.33	10.5

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	63.63
from other universities within the State	27.3
from universities from other States	9.1
from universities outside the country	0

37. Number of faculty who were awarded PhD, DSc and DLitt during the assessment period :

Nil

38. Present details of infrastructural facilities with regard to

a) Library:

Central library: 6026 volumes of books covering Printing and Media Technology, 3 International and 9 National Magazines

Department library: 260 volumes of books covering Printing and Media Technology and 11 National Magazines published by Print and Media Organizations.

b) Internet facilities for staff and students: Wi-Fi enabled campus

c) Total number of classrooms: Three class rooms and one seminar Hall

d) Class rooms with ICT facility: All classrooms have ICT facilities.

e) Students' laboratories: 05 laboratories

- ❖ Machine lab: Auto Print Single color offset Machine, Graphica offset machine, Semi-automatic screen printing machine
- ❖ Colour science lab: HP Color LaserJet CM6030 MFP, D19c Densitometer, Epson A3 Scanner 20000, X-rite ColorMunki, HP Scanjet G4010, GretagMacbeth Spectrolino and Spectroscan, Xrite Plate Scope, X-rite iliO Extreme with automatic scan table, Xrite 530 Spectro-densitometer
- ❖ Print finishing and Packaging lab: RCT tester, Puncture Resistance tester, Vibration tester, Peel-Seal strength tester, Co-efficient of Friction tester, Rub Resistance tester, Mini Carton Compression tester, Drop tester, Lamination m/c
- ❖ Pre-Press lab: Harliquin Rip Software, Large format printer, Auto-plate processor
- ❖ Quality Testing lab: Brightness-Opacity tester, -Smoothness-Softness tester, Stiffness tester, Micrometer, Paper board Creasing tester, Bursting Strength tester, Tensile strength tester, Emulsification tester, Viscometer, Oil Absorbency tester, IGT Printability tester, Zehntner Coater, Air-knife Coater, Folding Endurance tester

f) **Research laboratories:** 01, PG Research lab

39. List of doctoral, post-doctoral students and Research Associates

- a) **From the host university :** Nil
 b) **From other universities :** Nil

40. Number of post graduate students getting financial assistance from the university.

10 PG Students

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Yes. Methodology followed: Inputs from industries, academicians, alumni and other stakeholders over a period of time

42. Does the department obtain feedback from

A. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes, Department curriculum committee meetings are conducted and the feasible feedback is incorporated during the next syllabus revisions.

B. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Yes, Class committee meetings are conducted and Faculty feedback is taken at institute level. Corrective actions will be taken accordingly.

C. Alumni and employers on the programmes offered and how does the department utilize the feedback?

Taken through visitor's feedback diary and also done at central level by alumni and placement cells for improvements.

43. List the distinguished alumni of the department (maximum 10)

Sl. No	Name	Address
1	Mr. Ramnarayan	EFI, Bengaluru
2	Mr. Abhishek Dandapat	Workz, Dubai
3	Mr. Sneha Iyer	ITC, Chennai
4	Mr. Yuvaraju	Esko Graphics, Bengaluru
5	Mr. Ranaveera	Printwell, Dubai
6	Mr. Suhail Shetty	AFRA, Dubai
7	Ms. Neha Sakhuja	EPP, Dubai
8	Mr. Rahul R	FUJI India, Hyderabad
9	Mr. Rakshith	Manipal Technologies, Manipal
10	Mr. Chinmaya T N	Delta, Dubai

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

- Special lecturers on New generation of green plastics and sustainability in printing and packaging industry was conducted by adjunct faculty, Mr. Dasgupta, Packaging Consultant [Ex-Head, Hindustan UniLever food packaging division, Bengaluru], April 2012.
- Two day workshop on “Logo Designing”, February 2012

45. List the teaching methods adopted by the faculty for different programmes.

- Conventional blackboard teaching methods
- Audio Video presentations, group discussions
- Tutorials
- Quizzes
- Guest lectures
- Industry visits

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- Feedback from faculty, students, alumni and employers
- Result analysis after examination which includes counselling of under performers
- Regular revision of the syllabus
- Inputs from the placement cell

47. Highlight the participation of students and faculty in extension activities.

Faculty:

- Guest lecturers and laboratory demonstrations for the diploma printing students
- Invited lectures to other universities and institutes
- Awareness programme on Printing Technology to High School and Pre-University students
- Participation in faculty club

Students:

- Participation in social organization
- Participation in student clubs
- Participation in inter college competitions

48. Give details of “beyond syllabus scholarly activities” of the department.

Activities conducted by Department Student Chapter, MEGA (Media Engineers and Graphic Technologists Association)

49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details.

- NBA (5 years, 2007-12). Reaccreditation process is in progress.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

Sl. No.	Research areas	Details	Year
1	Total Production Management for Printing industry	01, PhD scholar presently working in this area	Since 2011
2	Lean and Green printing	01, PhD scholar presently working in this area	Since 2011
		01 UG Project	2011
		Completed 02 PG projects and 01 UG project	2012
		Completed 02 PG projects	2014
3	Printed Electronics	Completed 03 PG projects and 02 UG Projects	2011
		Completed 03 PG projects and 04 UG projects	2012
		Completed 02 PG projects	2013
		Completed 01 PG project and 05 UG projects	2014
4	Packaging Technology	02 UG Projects	2011
		Completed 02 UG projects	2012
		Completed 01 PG project and 02 UG projects	2013
		Completed 01 PG project and 02 UG projects	2014
5	Print Process Control and Standardization	Completed 02 PG project and 03 UG Projects	2011
		Completed 01 UG project	2012
		Completed 01 PG project and 01 UG project	2013
		Completed 02 PG projects	2014
6	Printing Materials	01 UG Project	2011
		Completed 01 PG project and 01 UG project	2012
		Completed 01 PG project	2013
7	Digital Printing and E - Publishing	Completed 01 PG project	2012
8	Colour Science	Completed 02 PG projects	2011
		Completed 01 PG project	2012
		Completed 01 PG project	2013
		Completed 03 UG projects	2014
9	Machine Design and Fabrication	Completed 01 UG project	2012
		Completed 01 UG project	2013

51. Future plans of the department.

Sl. No.	Departmental Activities
1	Improve public awareness about the programme
2	Initiate PG Diploma programme in Packaging Technology
3	Improve the department – industry collaboration
4	Motivate more faculty to register for PhD
5	Initiative for external funded research projects
6	Improve consultancy services

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Sl. No.	Strengths	Weaknesses	Opportunities	Challenges
1	Good Infrastructure	Lack of public awareness about the programme	Not many universities in the country offer Print and Media programme in Engineering	Creating awareness about Programme to improve student intake
2	Good Placement in core printing industry	Attracting quality students	Department – industry collaboration	Getting external research funding
3	Proximity to core industry (Manipal Technologies Ltd)	Less number of faculty with PhD qualification	Strong Alumni base	Getting consultancy services
4	Faculty and Student exchange under MoU with International University		Technological advancements and industry growth	

1. Name of the Department: Faculty of Architecture

2. Year of establishment: 1978

3. Is the Department part of a School/Faculty of the university?

Part of Manipal Institute of Technology

4. Names of Programmes/Courses offered

- Undergraduate (UG): B. Arch.
- Postgraduate (PG): 1) M. Arch. (Urban Design & Development) and 2) Executive M. Arch. (Advance Design)
- PhD in Architecture
- BA (Interior Design)
- B. Des (Interior Design)
- BA (Fashion Design)
- B. Des (Fashion Design)
- Certificate Course in Fashion Design & Information Technology

5. Interdisciplinary courses and departments involved

For UG Course:

Surveying and Leveling: Dept. of Civil Engineering, MIT, Manipal
Workshop Practice: Dept. of Mechanical Engineering, MIT, Manipal
Communication Skills: Dept. of Humanities, MIT, Manipal

For PG Course:

Land Economics: Dept. of Commerce, MU, Manipal

6. Courses in collaboration with other universities, industries, foreign institutions, etc.

Nil

7. Details of programmes/courses discontinued, if any, with reasons

Admissions to BArch(Interior Design) introduced in 2011-12 has been discontinued & changed over to regular B Arch Course as per Council of Architecture guidelines from 2012-13. The students admitted in 2011-12 to BArch (Interior Design) can continue in the same course, and choice is given to change to BArch.

8. Annual/Semester/Choice Based Credit System

The School follows the semester with credit system

9. Participation of the department in the courses offered by other departments

Faculty members delivers lectures and give presentations on invitation from other departments

10. Number of teaching posts sanctioned and filled

B.Arch/M.Arch./E.M.Arch	Sanctioned (As per COA norms)	Filled
Professor	10	6
Associate Professors	17	9
Assistant Professors	36	36

As per the COA norms 25% teaching workload can be allotted to visiting faculty. 16 visiting faculty appointed for the same. Recruitment is in progress

BA (Interior Design) & BA (Fashion Design)

BA(ID), B.DES(ID), BA(ID), B.DES(fD),	Sanctioned (As per COA norms)	Filled
Professor	-	-
Associate Professors	2	1
Assistant Professors	4	3

3 visiting faculty appointed for the same. Recruitment is in progress.

11. Faculty profile with name, qualification, designation and specialisation

Sl #	Name	Qualification	Designation	Specialization	No. of Years of Teaching Experience (as on August 2014)	No. of Ph.D. students guided for the last 4 years
1	Prof. Nishant H Manapure	B.Arch, M.Arch	Director	Architecture – Urban Design	21	
2	Dr. Nandineni Rama Devi	B.Arch, M.Arch, Ph.D	Professor	Architecture Interior Design	07	2 (guiding)
3	Prof. Sanghamitra Roy	B.Arch, MCP	Professor	Architectural Design, Site Planning, Urban Structure	08	
4	Mr. Ramaswamy	B.E, M.Tech	Professor	Civil Engineering Structures, CAD	24	
5	Mr. Vinod Aranha	B.Arch, M.Arch	Professor	Sustainable Architecture	24	
6	Mr. Yogish Chandra Dhar	B.Arch, M.Arch	Professor on Contract	Architecture Urban Planning	24	

7	Mr. Danny W L Pinto	B. Arch	Professor on Contract	Architecture	23	
8	Mr.M. Raghuprem	B.E, M.Tech	Assoc. Prof. Senior Scale	Architectural Engineering, Urban Planning, Building Science	25	
9	Mr.P.C. Madhuraj	B.Tech, M.Tech, PGDP	Assoc. Prof.	Civil Engineering Architectural Engineering, Urban Planning, Building Science	22	
10	Mr. KailashRao	B.Arch, M.Arch	Assoc. Prof.	Architecture Heritage conservation	08	
11	Mr. DeepikaShetty	B.Arch PGDP	Assoc. Prof.	Architecture Urban Design	15	
12	Ms. SonaliWalimbe	B.Arch, M.Arch	Assoc. Prof.	Architecture Interior Design	05	
13	Mr. Pradeep G Kini	B.Arch, M.Arch	Assoc. Prof.	Architecture Interior Design, Tall Buildings	04	
14	Ms. Sahana Ganesh	B.Arch, M.Arch	Assoc. Prof.	Architecture Urban Design	05	
15	Er. Trupti A Kinjawadekar	M.Tech	Assoc. Prof	Civil engineering	07	
16	Mr. Amit C K	B.Arch, M.Arch	Assoc. Prof	Architecture	17	
17	Ms. Kala C.M.K	B.Arch, M.Arch	Asst. Prof. Selection Grade	Architecture	07	
18	Ms. Roshan S. Shetty	B.Arch, M.Tech	Asst. Prof. Senior Scale	Architecture Project Management	03	
19	Ms. Deepa M	B. Arch	Asst. Prof. Senior Scale	Architecture	01	
20	Mr. K.S. Sherigar	G.D. (Art), AIIA	Asst. Prof.	Architecture Visual Art Basic Design	31	
21	Ms. Dibya Jivan Pati	B.Arch, M.Arch	Asst. Prof.	Architecture, City Planning, Solid Waste Management	02	

22	Ms. Sonal Rao	B.Arch, M.Arch	Asst. Prof.	Architecture Advanced Design	01	
23	Ms. Ujjwala Chourasia	B.Arch. MCP	Asst. Prof.	City Planning	02	
24	Mr. Ajay S	B.Arch. MCP	Asst. Prof.	City Planning	<01	
25	Ms. Veena Prakash	B.Arch, M.Arch	Asst. Prof.	Architecture Advanced Design	01	
26	Mr. John Benette John	B. Arch	Asst. Prof.	Architecture	03	
27	Mr. Ajeesh. K	B. Arch	Asst. Prof.	Architecture	03	
28	Ms. Ameena Ayoob	B. Arch	Asst. Prof.	Architecture	02	
29	Ms. Ambili. S	B. Arch	Asst. Prof.	Architecture	2	
30	Ms. Ramandeep	B. Arch	Asst. Prof.	Architecture	2	
31	Ms. Anusha	B. Arch	Asst. Prof.	Architecture	01	
32	Ms. Charline Stella Samuel	B. Arch M. Arch	Asst. Prof.	Architecture	03	
33	Ms. Iswarya R	B. Arch, M.Arch	Asst. Prof.	City planning	<01	
34	Mr. Anil Pai	B. Arch, M.Tech	Asst. Prof.	Planning	<01	
35	Mr. Ahmadullah Khan	B. Arch, M.Arch	Asst. Prof.	Architecture	<01	
36	Ms. Betty Lala	B. Arch, M.Arch	Asst. Prof..	Architecture	<01	
37	Ms. Abhishek K V	B. Arch, M.Arch	Asst. Prof.	Urban and regional planning	<01	
38	Ms. Vridhi	B. Arch, M.Arch	Asst. Prof.	Urban and regional planning	<01	
39	Ms. Richa M Kandpal	B. Arch, M.Arch	Asst. Prof.	City planning	<01	
40	Mr. Kumar Vyomkesh	B. Arch, M.Arch	Asst. Prof.	City planning	<01	
41	Ms. Monika Jadhav	B.Arch	Asst. Prof.	Architecture	<01	
42	Ms. Nishkala N	B.Arch	Asst. Prof.	Architecture	<01	
43	Ms. Lakshmy Menon M	B.Arch	Asst. Prof.	Architecture	<01	
44	Ms. Mahima Thussu	B. Arch, MCP	Asst. Prof.	Planning	01	
45	Mr. K Laxminarayana	BA	Asst. Prof.	Fine Arts	01	
46	Ms. Neelakshi Joshi	B. Arch, MURP	Asst. Prof.	Urban & Rural Planning	<01	
47	Mr. Vinoop P Stanley	B.Arch M. Arch	Asst. Prof.	Architecture- Advanced Design	03	

48	Ms. Sneha M	B. Arch, Exe. M. Arch(A dvanced Design) - ongoing	Asst. Prof.	Architecture	<01	
49	Ms. Sanam	B. Arch	Asst. Prof.	Architecture	<01	
50	Mr. Vivek Rohidas Naik	B. Arch, Exe. M. Arch(A dvanced Design) - ongoing	Asst. Prof.	Architecture	<01	
51	Mr. Sandeep Kumar P	B. Arch, Exe. M. Arch(A dvanced Design) - ongoing	Asst. Prof.	Architecture	<01	

BA (Interior Design) & BA (Fashion Design)

Sl #	Name	Qualification	Designa- -tion	Specializa -tion	No. of Years of Teaching Experienc e (as on August 2014)	No. of Ph.D. students guided for the last 4 years
1	Ms.VeenaRao	B.Sc, M.Sc	Asst. Prof. Senior Scale	Textiles and clothing	10	-
2	Ms. Nagaveni N Nayak	B. Sc(FD)	Asst. Prof.	Fashion Design	10	-
3	Mr. Shantanu Chitgopkar	B. Arch AIIA	Asst. Prof. Selectio n Grade	Interior Design	01	-
4	Ms. Nishipriya	B. Design	Asst. Prof.	KnitWear Design	<01	-

12. List of senior Visiting Fellows, faculty, adjunct faculty, emeritus professors

Sl. #	Name & City	Qualification	Total No. of Work experience	Present occupation	Date of joining at FOA
1	Ar.Nelson Pais Mangalore	B.Arch, NCE Hassan 1990 PG Dip ARCH CEPT Ahmedabad	22	Practicing Architect	Aug 2007- Dec. 2014
2	Ar. Amith Shenoy Udupi	B Arch. M'loreUni 1996	16	Practicing Architect	July 2007-Till date
3	Ar L.N. Bhat Udupi	B.Arch. M'lore Uni 1999	13	Practicing Architect	July 2006- Till date
4	Ar. Prajosh Kumar Mangalore	B.Arch M'lore Uni 2003	09	Practicing Architect	Jan 2007- Till date
5	Ar. Nissar Mohammed Mangalore	B.Arch. MAHE 2004	08	Practicing Architect	July 2008- Till date
6	Ar. Dhanprakash Mangalore	B.Arch. VTU 2004	08	Practicing Architect	July 2009- Till date
7	Ar. Dakshath Kidiyoor Goa	B.Arch 2007 VTU Belgaum	05	Practicing Architect	Jan.2013- Till date
8	Ar. Paul Verghese	B.Arch, IIT, Kharaghpur	30	Practicing Architect	Jan 2011-Dec 14
9	Ar. Ashok L P Mendonca	B.Arch, M'lore Uni, M.Arch, SPA	13	Practicing Architect	Jan 2011- Dec 14
10	Ar. Miji Mathews	B.Arch, Kerala University 1997, M.Arch, SAP Anna University	09	Practicing Architect	Feb. 2014-Till date
11	Ar. Sheel Raj Shetty	B.Arch, MIT, 2002, DSA, Masters CED, France	14	Practicing Architect	Jun 2013-Dec 14
12	Ar. Iqbal P Muhammad	B.Arch, VTU. Belgaum	10	Practicing Architect	Sept. 2014- Till date
13	Ms. Pallavi Saxena	B. Arch, Executive M. Arch(ongoing)	02	PG studies	Aug 13-Till date
14	Ms. Eweimonphi Shilla	B. Arch, Executive M. Arch(ongoing)	04	PG studies	Aug 13-Dec 14
15	Mr. Faidhan	B. Arch	04	Practicing Architect	July 14 - Dec 14

13. Percentage of classes taken by temporary faculty – programme-wise information

Around 15% of classes are engaged by visiting faculty in Undergraduate Course.

14. Programme-wise Student Teacher Ratio

UG: 1:12

PG: 1: 5

15. Number of academic support staff (technical) and administrative staff:

- Academic support staff (Technical):

Sanctioned -1, Filled -1

- Administrative staff:

Sanctioned- 12, Filled -12

16. Research thrust areas recognized by funding agencies

- Heritage Conservation,
- Vernacular Architecture
- Urban Design

17. Number of faculty with ongoing projects.

- 1) Mr.Kailash Rao, Associate Professor: Heritage Conservation Project of Sannati, Dharwad District, Karnataka Rs. 71 lakhs from Archaeological Society of India. (2011-13)
- 2) As Institutional Member of INTACH, we are providing member consultancy for ASI, in the field of Heritage conservation projects- currently at sites: Mirjan Fort - Kumta, Sannathi Stupa -Gulbarga, Gerusoppa – Bhatkal, Karnataka.
- 3) Mrs. . Deepika Shetty received the consultancy project for Government of Karnataka on Comprehensive Plan for CRZ III for Uttar Kannada District.

18. Inter-institutional collaborative projects and grants received

a) All India collaboration: Nil

b) International: Nil

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.

Total grants received: Nil

20. Research facility/centre with

- state recognition : None
- national recognition : None
- international recognition : None

21. Special research laboratories sponsored by/created by industry or corporate bodies:

None

22. Publications:

Publication	National/ International	2102	2013	2014
Papers published :	National	01	06	02
	International	02	02	03
Conference presentations	National	04	2	Nil
	International	12	13	08
Monographs	Nil	Nil	Nil	Nil
Chapters in Books	National	01	Nil	Nil
	International	-		
Edited Books	Nil	Nil	Nil	01
Books with ISBN with details of publishers	Nil	Nil	Nil	Nil
Number listed in International Database(For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)	Nil	Nil	Nil	Nil
Citation Index – range/average	Nil	Nil	Nil	Nil
SNIP	Nil	Nil	Nil	Nil
SJR	Nil	Nil	Nil	Nil
Impact Factor – range/average:	Nil	Nil	Nil	Nil
-index	Nil	Nil	Nil	Nil

Paper Publications 2014:

International: 03

1. Chatterji, T (2014), Local Mediation of Global Forces in Transformation of the Urban Fringe – The Story of India’s Regional IT Clusters, Saarbrücken, Germany, Lambert Academic Publishing, ISBN: 978-3-659-52416-5
2. Chatterji, T (2013), Chapter 6: Globalization and Urban Transformation in India: Regional Political Cultures and Governance Responses’, in L Brennan and A Weigold (eds). Rethinking India – Views from Australia, New Delhi, Read worthy Publications, ISBN: 13:978-93-5018-376-2
3. Chatterji, T. (2013). Chapter 14: Localising Production of the Globalised Knowledge Enclaves - Role of the Sub-national States in Development of the IT-

ITES Clusters in India. In P. Cooke, G. Searle & K. O'Connor (Eds.), the IT Industry in the Asia Pacific Region. London: Routledge ISBN:978-0-415-63107-5

National: 02

1. Srikumar M Menon, published a book entitled “Comets - Nomads of the Solar System.”
2. Srikumar M Menon, published a book entitled “ Ancient Stone Riddles”- Megaliths of the Indian Subcontinent.

Conference presentations 2014:

International: 08

1. Mr. Pradeep G Kini, Associate Professor, Faculty of Architecture, MIT, Manipal attended and presented paper entitled “COFA:Climate optimized Fenestrations for building in developing nations” at the conference on “Crowds and Climate: From Ideas to Action” held during November 5-7, 2014 at Massachusetts Institute of Technology, MA, USA.
2. Dr. Srikumar M Menon, Assistant Professor – Selection Grade, Faculty of Architecture, MIT, Manipal attended and presented at the 8th International Conference on Oriental Astronomy’ held at Eastern Campus, University of Science & Technology of China at Hefei, China during March 26-28, 2014.
3. Mr. Sheikh Zuhaib, Assistant Professor, Faculty of Architecture, MIT attended and presented paper entitled ‘Development of Energy Conscious Façade Design from 1966 to 2011: Case studies from the campus of RWTH Aachen University, Germany’ at the Global Academic Conference held in Dubai from 12th to 15th February 2014.
4. Prof. Nishant H Manapure, Director, Faculty of Architecture attended UNESCO Chair Durban Workshop on ‘Sustainable Urban Quality: City life, Urban Culture, Metropolitan Development Issues’ at Sapienza University Rome.
5. Dr. Srikumar M Menon, Assistant Professor – Selection Grade, Faculty of Architecture, MIT, Manipal attended and presented at the 8th International Conference on Oriental Astronomy’ held at Eastern Campus, University of Science & Technology of China at Hefei, China during March 26-28, 2014.
6. Mr. Pradeep G Kini, Associate Professor, Faculty of Architecture, MIT, Manipal attended and presented paper entitled “COFA: Climate optimized Fenestrations for building in developing nations” at the conference on “Crowds and Climate: From Ideas to Action” held during November 5-7, 2014 at Massachusetts Institute of Technology, MA, USA.
7. Mr. Vinod Aranha, Professor, Faculty of Architecture, MIT, Manipal attended the “Green Build International Conference and Expo-2014 ” as a Reviewer held at New Orleans, USA during October 22-24, 2014
8. Mr. Sheikh Zuhaib, Assistant Professor, Faculty of Architecture, MIT attended and presented paper entitled ‘Development of Energy Conscious Façade Design from 1966 to 2011: Case studies from the campus of RWTH Aachen University, Germany’ at the Global Academic Conference held in Dubai from 12th to 15th February 2014.

National: Nil**Publications 2013:****National: 06**

1. Zahra Bathool SPACE :The SPA Journal of Planning and Architecture,volume17, November 1, January –June 2013, ISSN 0970-0706 “ Exploring urban Aesthetics in the history of Mysore – A Planning perspective”
2. Chatterji, T. (2013). Multiple Paradoxes in India’s Emerging Urbanisation Pattern. *Abacus*:8(1):65-71 ISSN 0973-8339
3. Chatterji T. (2013): Climate Smart Development in Asia: Transition to Low Carbon and Climate Resilient Economies, *Urban Policy and Research*, ISSN 0811-1146
4. Chatterji, T. (2013). Micro Politics of Urban Transformation in the Context of Globalisation - A Case Study of Gurgaon, India. *South Asia: Journal of South Asian Studies*, 36:2, 273-287 ISSN 0085-6401
5. Shetty Deepika, 'Reviewing the Meaning and form of territorial boundaries for social sustainability: cultural thresholds in Ancient town of Barkur in Karnataka' in SPANDREL Journal Of School Of Planning And Architecture, new dimensions in research of environment for living, ISSN 2231-4601, Issue 6 2013, pg. 63-72 published by SPA PRESS, School of Planning and Architecture, Bhopal, Present Campus, Sports Complex, MANIT Bhopal
6. Shetty Deepika, 'Understanding Morphology through Space Syntax Analysis and Relating To Mental Map of Barkur Town', in JA-Journal of Architecture, The research Journal, ISSN 2249-9326, referred Journal, pg 1-5, published by Chandigarh College of Architecture, Chandigarh

International: 02

1. Pradeep G Kini “Exploring Strategies for Sustainable Site Planning of Built Environment to Mitigate the Effect of Rapid Urbanization in Warm and Humid Climate” Published in *International Journal of Earth Sciences and Engineering*, ISSN 0974 - 5904 ,Volume 06 No 04 August 2013, Pg no 697-701 Indexed in Scopus Compendex and Geobase Elsevier Chemical Abstract Services – USA , Geo – Ref Information Services –USA, List B of Scientific Journals, Poland, Directory of Research Journals.
2. Veena Rao Venkatachalm. A, H.G. Joshi “A study on entrepreneurial characteristics and success of women entrepreneurs operating fashion and apparel business”. Published in *Asian Journal of Management Sciences And education*, Leena and Luna International. Oyama, Japan - Vol 2. No. 2, April 2013, ISSN 2186-845, ISSN 2186-8441, page No 136-147.

Conference Presentations 2013:

International: 13

1. Mr. Nishant H Manapure, Director, Faculty of Architecture, presented paper entitled “Water Sensitive urban Design: An insight into the Past” at the 3rd International Engineering Symposium (IES-2013) to be held at Kumamoto University, Japan, during March 4-6, 2013.
2. Dr. Nandineni Rama Devi, Professor, Faculty of Architecture, presented paper entitled “Behavioral study of children in pediatrics hospitals: A design perspective” at the 3rd International conference on Ecological, Environmental and Biological Sciences 2013 to be held at Hong-Kong, during January 26-27, 2013.
3. Dr. Tathagata Chatterji, Professor, Faculty of Architecture, MIT presented paper entitled “Participatory Planning in the Era of Public Private Partnerships: Complexities and Contradictions in Migrant City in India” at the 49th Congress of the International Society of City and Regional Planners (ISOCARP) on the theme of the conference “Frontiers of Planning: Evolving and Declining Models of City Planning Practice” held between 1-4 October 2013 in Brisbane, Australia.
4. Dr. Tathagata Chatterji, Professor, Faculty of Architecture, presented “Regional IT Clusters of India – Local Mediation of Global Forces” –at the International Seminar on Corridors, City Regions and Cities in Urban and Regional Development, School of Planning and Architecture Vijayawada, 22nd November 2013
5. Isabel Buitrago-Franco and Dr. Tathagata Chatterji (2013) ‘Planning for Mining Regions– Building Local Government Capacities in a Multi-stakeholder Scenario – paper presented at the ISOCARP 49th World Congress, Brisbane (1-4 October). Peer Reviewed Section
6. Isabel Buitrago-Franco, I and Dr. Tathagata Chatterji (2013) ‘Planning for Social Sustainability in Mining Regions – A Case Study of Two Colombian Communities – paper presented at the 2013 Peace Studies Conference, Mining in a Sustainable World, Australian Centre for Agriculture and Law, University of New England, Armidale, NSW (13-15 October)
7. Mr. Pradeep G Kini, Associate Professor, Faculty of Architecture, presented paper entitled “Exploring strategies for Sustainability in the Built Environment to Migrate the Effects of Rapid Urbanization in Warm and Humid Climate” at the 3rd International Engineering Symposium (IES-2013) to be held at Kumamoto University, Japan, during March 4-6, 2013
8. Dr. Shantharama Patil, Professor, Faculty of Architecture, presented paper entitled “Higher order computational Models for the free Vibration Analysis of Laminated

Composite Sandwich plates” at the 4th International Conference on Manufacturing Science and Technology held at Dubai, UAE during August 3-4, 2013.

9. Ms. Veena Rao, Assistant Professor (Sr. Scale), Faculty of Architecture, MIT, Manipal presented paper entitled “Human Capital and Growth of Women Led Fashion and Apparel Firms” at the Internal Journal Conference on Business and Humanities 2013 (IICBH’13) held at Dubai, UAE during October 4-5, 2013.
10. Dr. Nandineni Rama Devi, Professor, Faculty of Architecture, MIT, Manipal presented paper entitled “A study on the Associations between the Environmental variables and Comforting of Children in the Interior Spatial Environment of Pediatric Hospitals from a Behavioral Context” at the Internal Journal Conference on Environment and Biological Sciences 2013 (IJCEBS’13) held at Dubai, UAE during October 4-5, 2013.
11. Ms. Roshan Shetty, Assistant Professor, Faculty of Architecture, MIT, Manipal presented paper entitled “Construction and Demolition Waster – An Overview of Construction Industry in India” at the Internal Journal Conference on Transport and Civil Engineering 2013 (IJCTCE’13) held at Dubai, UAE during October 4-5, 2013.
12. Mrs. Kala Choyimanikandiyil, Assistant Professor – Selection Grade, Faculty of Architecture, MIT, Manipal presented paper entitled “Occupants’ Comfort in School Buildings” at the International Journal Conference on Interdisciplinary Studies (IJCIS’13) 2013 held at Dubai, UAE during October 4-5, 2013.
13. Ms. Ritika Batra, Assistant Professor, Faculty of Architecture, MIT presented paper entitled ‘Budgetary and Cost Concerns: The basic need; Avoiding Cost Over-Runs’ at the 1st International Conference on Research Methodology for Built Environment and Engineering 2013 (ICRMBEE) held at Selangor, Malaysia during December 17-18, 2013.

National: 02

1. Ms. Veena Rao, Assistant Professor (Sr. Scale), Faculty of Architecture, MIT, Manipal paper published entitled “Tenth Biennial Conference on Entrepreneurship ” held at Entrepreneurship Development Institute of India Ahmedabad, Gujarat , February 20-22, 2013
2. Ms. Sahana, Assistant Professor, Faculty of Architecture, MIT presented paper entitled “Sustainability in built environment: A review of recent research works based on life cycle approach” at the International conference on ICCSEM-2013 held at Dayananda Sagar Institutions Campus, Bangalore during 26th to 27th September 2013.

Publications 2012:**International: 02**

1. PradeepKini, Optimal Urban microclimatic environment considering clusters of buildings and open spaces in warm and humid climate'. International Journal of Earth Sciences Engineering, Volume 05 No.01, 253-256. (Indexed in Scopus Compendex and Geobase Elsevier, Amsterdam, Netherlands, Chemical Abstract Services- USA, Geo- Ref Information Services- USA) SPL ISSN 0974-5904, 2012.
2. Kala Choyimanikandiyil. Primitive Invention of Mankind-Earth Architecture; Case study at Wayanad, S. India. International Journal of Earth Sciences and Engineering. August 2012 ISSN 0974-5904, Vol 5. No.0 4(02) pp 1010-1014.

National :01

3. P C Madhuraj and J Sudhakumar. "Designing Passive Solar Building Enclosures Using Hygroscopic Materials: A conceptual framework. Environmental Quality management/DOI 10.1002/tqem/Summer 2012 Page 61-68.

Conference Presentations 2012:**Conference Presentations National: 04**

1. VeenaRao, Design Incubators for Entrepreneurs Running Micro, Small And Medium Scale Fashion And Apparel Enterprises, 14th Annual Conference, Fashion Beyond Borders, Pearl Academy, Jaipur, 17-22 March, 2012.
2. ShantharamaPatil," Analytical Solution for the Free Vibration Analysis of laminated Composite Sandwich Plates" presented at the National conference on "Contemporary Civil Engineering Research and Practices (CCERP-2012)" during April 20-21, 2012 to be held at Department of Civil Engineering, Manipal Institute of Technology, Manipal.
3. Zahra Bathool, presented paper entitled "Exploring Urban aesthetics in the history of Mysore: A planning perspective" at the UGC sponsored two-day National level Seminar "Dimensions of Urbanisation-Challenges and Opportunities" to be held on 19th and 20th October, 2012 in SBRR Mahajana First Grade College Mysore.
4. Kala ChoyimaniKandiyil, " Pollution free design Patterns for Ecotourism : Innovative Ideas from some Tribal settlements at NilgirisBioshere Reserve" Presented at the Emerging Trends in Energy Conservation in Buildings (EECB) conference to be held at CBRI, Roorkee during November 1-3, 2012.

Conference Presentations International: 12

1. SoumiMuhuri, 'Strengthening image ability of an old urban core -a pilgrimage' presented the paper at the 2ndInternational Engineering Symposium (IES 2012), held at Kusunoki Hall, Kumamoto Univ., Japan, from March 5-7, 2012.

2. Sanghamitra Roy. 'Gated Communities in India – an overview' *presented* the paper at the 2ndInternational Engineering Symposium (IES 2012), held at Kusunoki Hall, Kumamoto Univ., Japan, from March 5-7, 2012.
3. KailashRao. 'Application of Digital documentation techniques for conservation of a Buddhist stupa through Virtual Reconstruction' *presented* the paper at the 2ndInternational Engineering Symposium (IES 2012), held at Kusunoki Hall, Kumamoto Univ., Japan, from March 5-7, 2012.
4. DeepikaShetty. 'Relevance of Physical Configuration to Mental Map of Town' *presented* the paper at the 2ndInternational Engineering Symposium (IES 2012), held at Kusunoki Hall, Kumamoto Univ., Japan, from March 5-7, 2012.
5. DibyaJeevan. 'Solid waste management for residential and commercial area in India' *presented* the paper at the 2ndInternational Engineering Symposium (IES 2012), held at Kusunoki Hall, Kumamoto Univ., Japan, from March 5-7, 2012.
6. PadmashreeUrs M K. Bio Aesthetics of Planning for Residential Gardens in Mysore city, Karnataka India presented the paper at at the 2ndInternational Engineering Symposium (IES 2012), held at Kusunoki Hall, Kumamoto Univ., Japan, from March 5-7, 2012.
7. RoshanShetty. 'Wood a Natural Choice as Green Building Material – A Key to a sustainable Future' *presented* the paper at the 2ndInternational Engineering Symposium (IES 2012), held at Kusunoki Hall, Kumamoto Univ., Japan, from March 5-7, 2012.
8. Kala. 'Primitive invention of mankind – Earth architecture; A case study of indigenous techniques practiced in the tribal settlements of Kurichiya community at Wynad district, Kerala, South India' *presented* the paper at the 2ndInternational Engineering Symposium (IES 2012), held at Kusunoki Hall, Kumamoto Univ., Japan, from March 5-7, 2012.
9. ShantharamaPatil,“ higher order refined computational models for the Static and Dynamic Analyses of antisymmetric angle Ply Composite Plates “ Presented at the International conference on “AdvancedMaterials. Science and Engineering (ICAMSE-12) during July 1-4, 2012 to be held at Colombo, SriLanka.
10. VeenaRao “Challenges faced by women entrepreneurs running micro, small and medium scale fashion and apparel business : A study on fashion and apparel enterprises in Coastal Karnataka” Presented the paper at the “Trade, Tourism and Management (ICTTM 2012)” during December 21-22, 2012 to be held at Bangkok, Thailand.
11. Roshan S. Shetty“ Urban Infrastructure Development in India – An Overview “ Presented the paper at the International Conference on “Civil, Electrical & Electronics

Engineering (ICCEEE 2012)” during December 21-22, 2012 to be held at Bangkok, Thailand.

12. Kala ChoyimaniKandiyil, “Prestine Settlements Of Toda at Nilgiris, South India: Design Guidelines” Presented at the International Conference on “Civil and Architectural Applications” during December 18-19, 2012 to be held at Phuket, Thailand.

23. Details of patents and income generated:

Nil

24. Areas of consultancy and income generated:

1. Heritage Conservation Project of Sannati, Dharwad District, Karnataka Rs. 71 lakhs from Archaeological Society of India. (2011-13)
2. Gersoppa Temple Chaturmukha Basadi, Karnataka Rs. 1 lakh from Archaeological Society of India. (2011-12)

25. Faculty selected nationally/internationally to visit other laboratories in India and abroad:

Nil

26. Faculty serving in

- a) National committees b) International committees c) Editorial Boards: Nil

27. Faculty recharging strategies:

Faculty members undergo workshops organized at NIASA, Pune, on recent developments in Architectural education and practices

28. Student projects

- Percentage of students who have done in-house projects including inter-departmental projects: All students do their thesis projects in the School itself, but the projects are of varied nature, most of them being live projects of different locations in India.
- Percentage of students doing projects in collaboration with other universities/industry/institute : Nil

29. Awards/recognitions received at the national and international level

- Faculty - Nil
- Doctoral/post- doctoral fellows- Nil
- Students –Three awards at National level

30. Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any.

Seminars / Conferences / Workshops	National / International	2012	2013	2014
Workshop:	National	03	03	16
	International	-	-	-

National /Regional workshop 2014:

- Prof. Jayashree Deshpande from Pune delivered guest lecture on January 14, 2014 on following topic
 - Expectations of the Profession and Architectural Education
 - Outcome Based Architectural Pedagogy
 - Dr. Iraphne Childs from Australia delivered guest lecture on January 14, 2014 on following topic
 - Natural Hazards in Australia
 - Population change and Urban growth in India
 - Dr. David Leifer, Senior Professor, Bond University Gold Coast, Australia conducted a 3 day workshop for M. Arch. students from 19th to 22nd February 2014.
 - Lecture on Digital Architecture and Building Information Modeling
 - Workshop Assignment for developing BIM in Architecture and Design
 - Workshop: Finalization of BIM for selected project,
 - Faculty of Architecture, Manipal University, Manipal conducted Tetries 2014 – a two day workshop for all UG and PG students. A group of 40 students accompanied by Ar. Neelakshi joshi, Assistant professor, FOA attended the mud work shop held on 19th & 20th September 2014.
 - Er. Amaranatha SN, Ms.Ambika, Ms.Keerthi, Ms.Hemalatha experts from Bangalore conducted workshop on CYPECAD on 21st and 22nd March 2014 for UG and PG students.
 - Twelve students of B.Arch. course attended the workshop by Biome Environmental Solution Pvt. Ltd at Bangalore on July 27, 2014 to August 2, 2014.
 - Somany Ceramic Ltd., Mumbai organized lectures entitled “ Flooring Technology and its Dynamics” for the students on 26th August 2014.
 - Ms. Anuriti Dimri student of participated Design and Architecture of the year award organised by NDTV and Ethos powered by Autodesk.
- As a part of Co-curricular academic activity, FOA is organized “Creative and Academic Enhancement workshop” on Friday, 19 & Saturday, 20 September 2014 as under:
- Ar. Prashanth Mohan, Conservation Building Photography, Kollam conducted workshop on Architectural Photography.
 - Mr. Sudarshan Nair, Excellent painter & Sculptor and was Curator of Art Museums in DUBAI conducted workshop on Studio Wall Painting.
 - K. L Bhatt, Renowned Artist from Parkala in the Udupi locality conducted workshop on Pot and T-Shirt Painting.

11. Janardhan Havunje, Welding Scripture, Manipal conducted workshop on Welding with Scrap metal.
12. Mr. Sunil Abraham, Ceramic Art, Mangalore conducted workshop on Ceramics Scripture.
13. Mr. Devraj Nayak, Parkala conducted Clay modeling workshop
14. Ms. Veena Rao and Ms. Nagaveni from Manipal organised Fashion Design workshop
15. Social Workshop: The Students actively participated and interacted with the 'Asare - The home for Mentally Challenged'.
16. Students also participated in the Documentation and Photography workshop near the temples at Barkur city. They captured the hues of the temples

Workshop attended

1. Prof. Nishant H Manapure, Professor & Director attended the "Academic Leadership Workshop" from 17th to 19th December, 2014 organized by National Institute of Advanced Studies in Architecture, (NIASA), the academic unit of Council of Architecture held at Pune.
2. Ms. Roshan Shetty, Assistant Professor Senior – Scale , Faculty of Architecture, MIT, Manipal is permitted to attended the workshop on "Systematic Reviews and Meta Analysis" held at Department of Statistics, Manipal University Manipal from November 22 & 23, 2014.
3. Ms. Neelakshi Joshi, Assistant Professor, Faculty of Architecture, MIT, Manipal attended the workshop on "Globalization, Sustainability, Lifestyle – Think globally, act locally" held at the Indo – German Centre for Sustainability at IIT Chennai from November 6 & 7, 2014.
4. Mrs. Sonali Walimbe, Associate Professor, Faculty of Architecture, MIT, Manipal attended the workshop on "Creativity, Design Strategy and Opportunity Mapping" held at National Institute of Design, Ahmedabad from 25th August 2014 to 29th August 2014
5. Mr. Pradeep G Kini, Associate Professor, Faculty of Architecture, MIT, Manipal attended the workshop on "Solar Design For Green Buildings: Using Energy Simulations for Optimization" held at Indian Institute of Human Settlements (IIHS), Bangalore on March 8, 2014.
6. Mr. P C Madhuraj, Associate Professor, Faculty of Architecture, MIT, Manipal attended Short Term Training Programme (STTP) on "Rediscovering the Myth and Science of Vastushastra" organized by Rajiv Gandhi Institute of Technology, Kottayam, Kerala during March 4-6, 2014.
7. Ms. Ujjawala Chourasia, Assistant Professor, FoA attended the "Archcult" Symposium held at NIT, Trichy from February 28 to March 02, 2014.

International 2014 - Nil**National/Regional workshop 2013:**

1. Clay Model Workshop: Mr. Devraj Nayak Resource person conducted workshop “Clay Model Workshop” on March 25 and 26, 2013 at Faculty Of Architecture,. Through the workshop, awareness was created amongst the students about the aspects of craft work, design proportions, detailing and finishing of clay model.
2. Workshop Pune B.Arch III & VII semester students of FOA went to “outstation trip for organic Architecture” attend the “Organic Architecture Workshop” organized by Centre for Earth Architecture and Sustainable Integrated Development (CEASID), Pune to be held from August 19, 2013 to August 24, 2013.
3. Workshop Bangalore: B.Arch V semester students of FOA went to “outstation trip for Bamboo workshop: CGBMT – Bangalore attend the "Sustainable Architecture and Bamboo" at CGBMT, Bangalore 5th to 9th August 2013.

International 2013: Nil**National/Regional workshop 2012: 03**

1. Clay Model Workshop by Mr. P. R. Acharya, renowned painter and sculptor, Hiriadka
2. Water Color Landscape Painting Workshop by Shri, Ganesh Somayaji , renowned Landscape water color expert, Prasad Art gallery, Mangalore
3. Lighting Workshop by Architect PoojaMallya from Bangalore

International 2012: Nil**31. Code of ethics for research followed by the departments:**

As per Manipal University norms

32. Student profile course-wise:

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass Number	
		Male	Female	Male	Female
B.Arch.	1422	67	93	03	01
Executive M. Arch.	5	0	05	-	-
B.Des (FD)	980	0	06	-	02
BA (ID)		3	9	-	02
Certificate In Fashion Design And Information Technology (CFDIT)	3	1	2	-	-

33. Diversity of students

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
B.Arch.	-	23	72	5
Executive M. Arch	18	46	36	-
M. Arch (UDD)	-	-	100	-

BA (Interior Design) & BA (Fashion Design)

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
BA(ID)	-	45	45	10
B. Des(FD)	-	45	33	22
B. Sc(FD)	-	50	-	50
CFDIT	-	50	50	-

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

No data available

35. Student progression

Student progression	Percentage against enrolled
UG to PG	18
PG to MPhil.	Nil
PG to PhD.	33
PhD. to Post-Doctoral	Nil
Employed	
• Campus selection	8
• Other than campus recruitment	82
Entrepreneurs	5%

Note: The figures are based on available information. Exact data is not available

36. Diversity of Staff

Percentage of faculty who are graduates	Under Graduate
of the same university	15
from other universities within the State	24
from universities from other States	61
from universities outside the country	-

37. Number of faculty who were awarded PhD, DSc and DLitt during the assessment period :

Nil

38. Present details of infrastructural facilities with regard to

- Library: MIT Library Shared facility
- Internet facilities for staff and students: Staffs are provided with wired internet facilities where as students are provided with Wi-Fi connectivity
- Total number of classrooms and studios: 24
- Class rooms with ICT facility: 24
- Students' laboratories: Five (CAD Lab, Climatology Lab, Visual Art Studio,

Model making Lab, Materials Lab, etc.)

- Research laboratories: One (CAD lab).

39. List of doctoral, post-doctoral students and research associates

- a) Host University: 4 Members

Mr. Ramaswamy R N,

Mr. PradeepKini,

Ms. ZahraPoursafar

Ms. SumanaPai

- b) Other universities: 2 Members

Ms. Sanghamitra Roy –Jadarpur University, West Bengal and

Mr.P C Madhuraj – NIT Calicut

40. Number of post graduate students getting financial assistance from the university.

Nil

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Yes. Information was collected about the need/demand of the programmes, similar available programmes, and their success/failure prior to initiating them.

42. Does the department obtain feedback from

- a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes. Feedbacks are utilized during syllabus revision.

- b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Yes. Faculty evaluation by students is utilized for improving the teaching learning process, further strengthening the positive points, revision of course content, and teaching methods.

- c. Alumni and employers on the programmes offered and how does the department utilize the feedback? Yes. As mentioned above

43. List the distinguished alumni of the department (Maximum 10)

SI. No	Name of the Alumni	Batch	Current Position/Achievements
1	Mr. Namith Varma	1985	Chief Architect And Owner, Gayathri And Namith Associates, Bangalore, Karnataka
2	Mr. Rajeev Malhotra	1992	Project Manager, Global Education Management System Pvt Limited, India
3	Mr. HariSrinivas	1987	Senior Executive, United Nations Environmental Program, Tokyo, Japan
4	Mr. Sundaresh Kamath	1987	University Architect, University Of Nevada, Nevada, Las Vegas, Usa
5	Mr. Dinesh Munjal	1997	Practicing Architect, Australia
6	Mr. Anthony George	1999	Practicing Architect, Bangalore, India
7	Mr. Pravin	2000	London, UK
8	Ms. Nita Soans	2004	Principal Researcher, Cks Consultants, Bangalore, India
9	Mr. Karthikeya Acharya	2000	Design Researcher – University Of Art And Design Helsinki
10	Mr Ashok Hegde	2000	Senior Project Coordinator - Synergy Property Development Services Pvt. Ltd

44. Give details of student enrichment programmes (Special lectures/ Workshops/ Seminar) involving external experts.

Enrichment programmes	2014
Guest Lectures	13

Guest Lecturers

SI. NO	Name	Present Occupation	Topic of Lecture
1	Shri. Tushar Mawale General Manager – Urban Planning Reliance NMSEZ, Navi Mumbai	Lecture for PG students on Urban Design & Development	26/09/2014 and 27/09/2014
2	Mr.Ravi Kakkar, , Retd. Chief Architect CPWD & Urban Design Consultant Urban Design Consultant	Lecture for PG students on On Urban Design Studio	30/09/2014 and 01/10/2014

3	Shri. Tanduveshwar Vice President, Prestige Constructions, Bangalore	Lecture for PG students on Urban Design Studio Sustainable Practices Studio (Newer Building Material)	23rd , 24th and 25th September 2014
4	Mr.Harshad Batia Senior Urban Design consultant & Academician	Lecture for PG students on Urban Design & Development Theory	9th and 10th October 2014
5	Mr. Saurab Popli, Professor at SAP Bhopal & Practicing Landscape Architect	Lecture for PG students on Research Methods, Site Planning Studio, Urban Design Studio	23/10/2014 and 24/10/2014
6	Dr. Naseer MA, Professor at Department of Architecture, from NIT Kozhikode	Lecture for PG students on Transportation Facility Design	31/10/2014
7	Dr. K. Mohan, Senior Professor GITAM School of Architecture, Visakhapatnam	Lecture for PG students on Research Methods Urban Design Studio Contemporary Architecture	10-12 November 2014
8	Er. Amaranatha SN, Ms.Ambika, Ms.Keerthi, Ms.Hemalatha experts in CYPECAD from Bangalore	Workshop on CYPECAD	21st and 22nd March 2014
9	Ar. Colin Pinto, Practicing Architect from Mangalore	Architectural Design	19/03/2014
10	Ms. Anindita Saha, interior designer, Manufacture, Exporter, Empanelled Designer at Office of the Development Commissioner (Handicrafts), Ministry of Textiles, Govt. of India, Kolkata	Lecture for students on Design Process and Colour and Pattern Forecast	04/03/2014
11	Dr.David Leifer, Senior Professor, Bond University Gold Coast, Australia	Lecture for students on developing BIM in Architecture and Design	19-21 February 2014
12	Dr. Iraphne Childs from Australia	guest lecture on 1) Natural Hazards in Australia 2) Population change and Urban growth in India	January 14, 2014

13	Prof. Jayashree Deshpande Professor and COA Expert from Pune	guest lecture on Expectations of the Profession and Architectural Education Outcome Based Architectural Pedagogy	January 14, 2014
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45. List the teaching methods adopted by the faculty for different programmes.

- Class room teaching using black board, Power point projections
- Studios and Drawing classes
- Field surveys
- Live labs
- Case studies, site visits
- Guest lectures

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

By taking constant feedback from students, external examiners and experts

47. Highlight the participation of students and faculty in extension activities.

Creative and Academic Enhancement Academic assignments with social issues as background Asare Workshop conducted on 25th & 26th March 2013.

48. Give details of “beyond syllabus scholarly activities” of the department.

Organization and attending conferences, workshops, guest lectures, interaction with experts and visitors.

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details.

The Bachelor of Architecture (BArch) & Master of Architecture (MArch) courses are approved by the Council of Architecture, the statutory body for Architectural Education in India.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

- Video conferences with multiple subject matter experts located in us and India – connecting students with professionals in the field for specific subject areas.
- Participation of government officials and citizens in architectural design process.

51. Future plans of the department.

To start a Master's programme in

- M. Arch Sustainable development
- M. Arch Heritage Studies
- M. Des (Furniture Design)
- M. Des (Fashion Management)

To start a Undergraduate Programme in

- B. Des (Product Design)

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:

1. Good infrastructure & facilities for academic excellence
2. Multiple disciplines within University
3. Cosmopolitan cohort of students & faculty
4. Evolved academic processes
5. Professional & practical exposure

Weaknesses:

1. Faculty attrition rate
2. Connectivity to rest of the country & large metros
3. Availability of senior faculty for architecture in India
4. Opportunities for professional work compared to metros
5. Availability of working professionals in region

Opportunities:

1. Increasing demand for Architect and Designers as a result of the rapid growth of Udupi-Manipal region
2. Strong presence of traditional wisdom in region for qualitative learning
3. Varied research fields for exploration
4. Global approach for development of academic outcomes
5. MoU & Collaborations for academic & research enrichment

Challenges:

1. To keep pace with the rapid growth in the profession.
2. To enlist senior faculty members & experts
3. To establish credentials in the profession
4. To enhance research Output of Institute
5. To encourage collaborative inter-disciplinary learning

1. **Name of the Centre:** Department of Natural Sciences
2. **Year of establishment:** 2012
3. **Is the Centre part of a School/Faculty of the university?**
Part of Manipal Institute of Technology, MAHE.
4. **Names of Programmes/Courses offered (UG, PG, Ph.D., Integrated Masters:** Ph.D., M.Phil. (Natural Sciences)
5. **Interdisciplinary courses and Centers involved:** Yes
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.**
NIL
7. **Details of programmes/courses discontinued, if any, with reasons -N/A-**
8. **Annual/ Semester/Choice Based Credit System:** Semester and Choice Based Credits with options for credit; audit and Pass/Fail; pre-requisites to be fulfilled.
9. **Participation of the Centre in the courses offered by other Centres:** –NIL-
10. **Number of research posts sanctioned and filled (Professors/Associate Professors/Asst. Professors):** Current figures at start-up. Some roles are dynamic, appointments are flexible and requirement based.

	Sanctioned	Filled
Professor	N/A	1
Consultants	N/A	2
Associate Professors	N/A	1
Asst. Professors	N/A	1
Distinguished Fellows	N/A	2
Postdoctoral Research Fellows	N/A	2

11. Faculty profile with name, qualification, designation and specialisation (D.Sc./D.Litt./ Ph.D./M.Phil.,etc.):

All Faculty listed have a Ph.D. DF indicates Distinguished Fellow

#	Name	Designation	Specialization	No. of Years of experience	No. of Ph. D. students guided in last 4 years
1	M. Gupta	Professor	Nuclear Physics	37	1 in progress
2	K. V. Subbaiah	Consultant	Nuclear Science	42	--
3	V Gopalakrishnan	Consultant	Nuclear Science	40	--
4	K. Furuuchi	Assoc. Prof.	Theoretical Physics	20	--
5	D. Bhattacharya	Asst. Prof.	Astronomy and Astrophysics	12	--
6	Y. K. Gambhir	DF	Nuclear Theory	47	--
7	P. K. Sarkar	DF	Radiation Physics	42	--
8	Gurumurthy G.P	Post-Doctoral Fellow	Earth Science	08	--
9	Priyada P	Post-Doctoral Fellow	Nuclear Science	07	--

12. List of Senior Visiting Fellows, faculty, adjunct faculty, emeritus professors:

Adjunct / Visiting Faculty

1. Dr. P. Mohanakrishnan
2. Dr. R. Srivenkatesan
3. Dr. A.V. Eremin
4. Dr. S. M. Lee
5. Dr. K. P. N. Murthy
6. Dr. Ajit Kembhavi
7. Dr. A. L. Nichols
8. Dr. G. Münzenberg
9. Dr. Baldev Raj
10. Dr. J Arunachalam

Advisors

11. Prof. S. M. Chitre (Padma Bhushan Awardee)
12. Mr. Amit Roy – formerly Director, IUAC New Delhi
13. Prof. Vasudeva Rao, Director, IGCAR, Kalpakkam

Dr. TMA Pai Chair in Mathematics

Dr. Narasimhan, Padma Bhushan Awardee

13. Percentage of classes taken by temporary faculty – programme-wise information:

N/A

14. Programme-wise Student Teacher Ratio N/A**15. Number of academic support staff (technical) and administrative staff: sanctioned and filled:** Academic support staff (technical): sanctioned 4; filled 4 ; Administrative and non-technical support staff: sanctioned 6; filled 6**16. Research thrust areas recognized by funding agencies:** Dept. participates in independent and national level projects recognized by the DAE, DST, DoS, MoES and other funding agencies. Active participation in the Discovery Science program is also being pursued. Joint research collaboration through funding from European Union are in progress**17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise:****Faculty with ongoing projects**

Name of the project	Principal Investigator	Co-investigators/Collaborators	Department	Funding Agency	Project Budget (INR)
Modelling of broadband spectral energy distribution of blazars utilizing multiwavelength observation	Dr Debbijoy Bhattacharya	Rajeev Mishra (IUCAA) P Sreekumar (ISRO)	Dept. of Natural Sciences	Department of Science and Technology (DST)	20,46,000
Development of a modern computer code with up-to-date databases to estimate the	Prof/Dr R Srivenkatesan	None	Dept. of Natural Sciences	Board of Research in Nuclear Sciences (BRNS), Mumbai	24,88,700

inventory and radioactivity of actinides and fission products during various stages of nuclear fuel cycle - Phase I					
Geochemical behaviour of Platinum group of elements (PGE) and micronutrients in selected Indian estuaries and open ocean waters.	Dr. Gurumurthy GP	None	Dept. of Natural Sciences	Department of Science and Technology (DST), Science and Engineering Research Board	26,08,000
Paleo-redox conditions in the Arabian Sea: A multi-element isotope tracing in the underwater alluvial fan	Dr. Gurumurthy GP	None	Dept. of Natural Sciences	National Centre for Antarctic and Ocean Research (NCAOR), Ministry of Earth Sciences, Government of India coordinated Integrated Ocean Drilling Program	27,60,000
Development of a neutron dosimetric technique using prompt gamma measurements.	Dr. P.K. Sarkar	Dr.Priyada. P	Dept. of Natural Sciences	Atomic energy regulatory board(AERB)	25,26,500
2.Blazer and the origin of extragalactic gamma- ray background	Dr.Debbijoy Bhattacharya	Dr. P. Sreekumar/Dr. C. Stalin		Board of Research in Nuclear Sciences (BRNS), Mumbai	24,75,000
Development of indigenous monte carlo code for estimation of neutron multiplication factor for complex systems containing fissile materials	Dr. K.V. Subbaiah		Dept. of Natural Sciences	Board of Research in Nuclear Sciences (BRNS), Mumbai	24,89,000

Dynamics of Weakly Bound Quantum Systems ("DWBQS")	Dr. Mohini Gupta	J. P.Hansen- (UoBergen, Norway); A. Dubois (UPMC, Paris) and E. Lindroth (UoStockholm, Sweden)	Dept. of Natural Sciences	The European Union EU/FP7 Marie Curie Action, International Research Staff Exchange Scheme (IRSES)	Approx. Rs 65 Lakhs
Scholarship for PhD student	Dr. Mohini Gupta	GSI partners	Dept. of Natural Sciences	University of Giessen / GSI	Approx. Rs 15 Lakhs

All faculty have on-going projects. Funded [F] and not funded [NF] projects are listed below by faculty. Funding proposals are under continuously in preparation for submission. Projects with collaborating faculty are only listed once.

M. Gupta, 2 national (NF), 2 international (F, FP-7 program of the EU; MU-Giessen-GSI collaboration), 1 international (NF/Advisory)

K. Furuuchi, 1 international (NF) (with travel support by host institutions)

D. Bhattacharya, 4 national (2 F (DST, BRNS), 2 NF); 1 international (with travel support)

Y. K. Gambhir, 2 national (NF)

P. K. Sarkar, 1 national (F)

Gurumurthy (Post-Doctoral Fellow) 2 National (F)

Priyada (Post-Doctoral Fellow) 1(F) national submitted

18. Inter-institutional collaborative projects and grants received

- All India collaboration** – Collaborative project with BARC-IGCAR. sanctioned for about Rs 25 lakhs; Submitted proposal for DST grant of about Rs 23 lakhs for IUCAA-ISRO-IIA collaborative project.
- International-** Marie Curie Scheme grant of about Rs 70 Lakhs under FP-7 program of the EU; Funding to support one current joint PhD student with GSI Germany; Dept along with -IISC-NIO,-NCAOR-PRL-WIHG (National); Dept. along with-GET,TOULOUSE, University of Vigo.

19. Central projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.;
total grants received: Planned

20. Research facility / Centre with: All faculty are well established in their fields

- state recognition
- national recognition
- international recognition

21. Special research laboratories sponsored by / created by industry or corporate bodies: None

22. Publications:

		2012	2013	2014
Completed funded research projects		1	--	
Completed non-funded research projects		--	--	--
Completed PhD research projects		--	1	--
Completed PG research projects		2	9	1
Completed UG research projects		--	2	--
Publications	International	7	8	9
	National	2	--	--
Books		1	1	--
Chapters in books / Encyclopaedia		--	1	--
Conference presentations	International	1	2	4
	National	2	12	2

* **Number of papers published in peer reviewed journals (national / international):** 26

* **Monographs**

* **Chapters in Books:** 1

* **Edited Books:**

* **Books with ISBN with details of publishers.** Manipal university press; india 978-93-82460-12-1, Manipal university press; India 978-81-922759-5-6

- * **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)** 12
- * **Citation Index – range / average**
- * **SNIP**
- * **SJR**
- * **Impact Factor – range / average**
- * **h-index**

23. Details of patents and income generated: None

24. Areas of consultancy and income generated: Nuclear Data, international committee coordinated by IAEA, Vienna; safety; National committees by DAE and AERB. Income is not generated through academic consultancy.

25. Faculty selected nationally/ internationally to visit other laboratories in India and abroad: All researchers travel on a regular basis. Recent locations in India include BARC, SINP, VECC, IGCAR, IISc, IUCAA, IUAC, IIA, Punjab University, Chandigarh; TIFR, IIT-B, University of Delhi etc. Locations abroad include Osaka University, Japan; University Pierre and Marie Curie, Paris; GSI, Germany; University of Kuwait; JINR, Russia; Texas A&M, USA, INFN, Italy; IAEA, Vienna and university of Bergen, Norway and University of Hannover; Germany.

26. Faculty serving in

- a) **National committees:** 4 Faculty on national committees within the DAE and AERB
- b) **International committees:** 1 faculty serving on international committee under the auspices of the IAEA, Vienna, a technical arm of the United Nations.
- c) **Editorial Boards:** 1 Faculty served on IUPAC
- d) **Any other (please specify)**

27. Faculty recharging strategies: Strategies are built into the research programs to ensure high motivation levels are maintained as required for a good research environment

28. Student projects

- percentage of students who have done in-house projects including inter-Centreal projects: 100% (1, 2nd year MSc student enrolled in MIT)
- percentage of students doing projects in collaboration with other universities / industry / institute: 1 PhD student (thesis work to be done under an inter-Institution collaboration with GSI, Germany, University of Giessen, Germany and Dept. of Natural Science.

29. Awards / recognitions received at the national and international level by

Senior Adjunct Faculty of the department are generally nationally and internationally renowned with many of their prolific profiles available freely on the World Wide Web. Of the Visiting Faculty, Prof Muenzenberg, has been nominated for the Nobel Prize for having discovered the largest number of new Isotopes and designing two of Europe's prime experimental facilities, Dr A L Nichols served as an international bureaucrat heading the Nuclear Data Section at the United Nations (IAEA, Vienna). Prof S M Chitre, Advisor to MCNS is a Padma Bhushan awardee, INSA Medal recipient; Fellow of the Royal Astronomical Society (FRAS), Member of the International Astronomical Union and Fellow of the Indian Academy of Sciences (FIAS), Bangalore; National Academy of Sciences (India) (FNAS), Allahabad; and The Academy of Sciences for the Developing World (TWAS); Prof. Narasimhan, Dr. TMA Pai Chair in Mathematics at MCNS is a Padma Bhushan awardee and honored by Third World Academy Award for Mathematics, well known mathematician.

Other faculty expertise appears below-

- **Faculty:** 1 International expert (nuclear data); 2 international experts (theoretical physics); 3 national experts (reactor physics)
- **Doctoral / post-doctoral fellows:** none
- **Students:** none

30. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any: School on "Recent Trends in Astrophysics and Cosmology " funded by the department and IUCAA, Pune 2014

31. Code of ethics for research followed by the Centres: All written submissions are checked by "TurnItIn" and an informal peer review is carried out for student submissions and intended publications.

32. Student profile course-wise: N/A

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
--	--	--	--	--	--

33. Diversity of students: N/A

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
--	--	--	--	--

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Successful completion of NET/GATE/equivalent is expected for students applying to MCNS for a PhD.

35. Student progression: N/A

Student progression	Percentage against enrolled
UG to PG	--
PG to M.Phil.	--
PG to Ph.D.	--
Ph.D. to Post-Doctoral	--
Employed <ul style="list-style-type: none"> • Campus selection • Other than campus recruitment 	--
Entrepreneurs	--

36. Diversity of staff

Percentage of faculty who are graduates and PhD's - All faculty	
of the same university	0
from other universities within the State	0
from universities from other States	4
from universities outside the country	2

37. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period: 1**38. Present details of infrastructural facilities with regard to**

- a) Library: YES
- b) Internet facilities for staff and students: YES
- c) Total number of class rooms: Not relevant
- d) ~~Class rooms with~~ ICT facility: Video conferencing is planned; a 100 seater Auditorium is available; attached professional sound recording studio is pending renovation.
- e) Students' laboratories ---
- f) Research laboratories: 2(Physics & Chemistry)
- g) A 70 seater Planetarium (member of National Network of Planetarium, which is coordinated by Vigyan Prasar) runs 4 shows a day
- h) Auditorium at Dr. TMA Pai Planetarium
- i) HP Computer cluster

39. List of doctoral, post-doctoral students and Research Associates

- a) from the host university 2 post-doc
- b) from other universities 2 Project Associates

40. Number of post graduate students getting financial assistance from the university.

1 PhD student

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology. None**42. Does the Centre obtain feedback from**

- a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the Centre utilize the feedback?

- b. students on staff, curriculum and teaching-learning-evaluation and how does the Centre utilize the feedback?
- c. alumni and employers on the programmes offered and how does the Centre utilize the feedback?

N/A- Department is at the start up stage. Evaluation and feedback is planned

43. List the distinguished alumni of the Centre (maximum 10): NIL

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts: Regular special lectures and colloquia, workshops and training seminars involving external experts are conducted for students and faculty alike over the various disciplines.

Following Adjunct faculties have conducted special lectures:

1. Dr. P. Mohanakrishnan
2. Dr. R. Srivenkatesan
3. Dr. A.V. Eremin
4. Dr. S. M. Lee
5. Dr. K. P. N. Murthy
6. Dr. G. Münzenberg
7. Dr. A. L. Nichols

45. List the teaching methods adopted by the faculty for different programmes.

Teaching is integrated into research and involves specialized lectures, tutorials and student seminars.

46. How does the Centre ensure that programme objectives are constantly met and learning outcomes are monitored? Through regular faculty oversight and working closely with the student on research. Students are encouraged to participate in research publications and are sent to symposia and conferences which enables healthy competition among peers. The department has a panel of Advisors.

47. Highlight the participation of students and faculty in extension activities. Students are encouraged to actively engage in the numerous science outreach activities conducted through the Planetarium.

48. Give details of “beyond syllabus scholarly activities” of the Centre Extracurricular like sports, artistic etc. and creative activities are encouraged. Science outreach programs and Summer Research Internship Programs are conducted at the department.

- 49. State whether the programme/ Centre is accredited/ graded by other agencies? If yes, give details.** Department is at start-up stage.
- 50. Briefly highlight the contributions of the Centre in generating new knowledge, basic or applied:** Department is research-centric. Generating new knowledge is assumed as a core activity.
- 51. Future plans of the Centre.** Expansion to full strength; Starting center for Geo chemistry and Oceanography and Center for Palaeobotany.
- 52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the Centre.**

Strengths: the faculty; infrastructure provided; teaching strength

Weaknesses: as associated with the start-up phase

Opportunities: MoU's with some of the World's best research Institutes and numerous joint and collaborative projects; unique only-research Centre in the country attached to a University; highly competitive environment; research topics at par with international counterparts

Challenges: research grant funding process is too slow; students and faculty with required background and caliber have been difficult to get; Dept. conducts research in niche areas and highly specialized subjects where expertise is not easily available in the country.

1. Name of the Department: Department of Atomic and Molecular Physics

2. Year of establishment:

The Centre for Laser Spectroscopy was established in **April 1997** and renamed the same as “**Department of Atomic and Molecular Physics (DAMP) in April 2008**”.

3. Is the Department part of a School/Faculty of the university?

Part of Manipal Institute of Technology, a constituent college of Manipal University

4. Names of Programmes/Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters;Integrated Ph.D., etc.):

a. Ph D Programme

Ph D. Programme with MU Scholarship

b. Postgraduate programmes:

- M Sc in Photonics
- M Sc in Nanoscience and Technology
- M Sc in Biophysics

c. Certificate Programmes:

- (i) Certificate course in Laser Applications in Biology and Medicine
- (ii) Certificate course in Nanoscience and Technology

5. Interdisciplinary courses and departments involved:

Course on Entrepreneurship Development offered by the Department is supported by School of Information Sciences.

6. Courses in collaboration with other universities, industries, foreign institutions, etc.:

Nil

7. Details of programmes/courses discontinued, if any, with reasons:

Nil

8. Annual/Semester/Choice Based Credit System:

Semester

9. Participation of the department in the courses offered by other departments:

Manipal College of Dental Sciences,

Manipal and Manipal Institute of Technology, Manipal

To carry out their yearlong research projects leading to the award of. M.Sc., MDS and MTech degrees.

10. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors):

	Sanctioned	Filled
Professor	01	01
Associate Professors	01	03
Assistant Professors	09	06

11. Faculty profile with name, qualification, designation and specialization (D.Sc./D.Litt./Ph.D./M.Phil., etc.)

Sl #	Name	Qualification	Designation	Specialization	No. of Years of Research Experience	No. of PhD students guided for the last 4 years
1	Dr SanthoshChidangil	M.Sc., Ph. D	Professor and Head	Physics, Photonics, and Bio photonics	23	2(5 students registered continuing)
2	Dr Sajan D George	M.Sc., Ph. D	Assoc. Prof.	Photonics	11	2 (Registered)
3	Dr Unnikrishnan V K	M.Sc., Ph. D	Assoc. Prof.	Laser Physics	09	2 (Registered)
4	Dr Abdul Ajees Abdul Salam	M.Sc. M. Phil., Ph. D	Assoc. Prof.	Biophysics and Crystallography	12	1 (Registered)
5	Dr Rajeev Kumar Sinha	M.Sc., Ph. D	Asst. Prof.	Laser spectroscopy, Plasmonics	08	1 (Registered)
6	Dr Suresh DKulakarni	M.Sc., Ph. D	Asst. Prof.	Physical Chemistry	07	1 (Registered)
7	Mr AjeetkumarPatil	M.Sc.	Asst. Prof.	Laser Spectroscopy, Bio photonics	03	-
8	Mr AseefhaliBankapur	M.Sc.	Asst. Prof.	Laser Spectroscopy Optical Communication, Laser Physics	03	-
9	Ms Surya Harikrishnan	M. Sc., B. Ed.	Asst. Prof.	Solid-state Physics	01	-
10	Mr K S Choudhari	M.Sc.	Asst. Prof.	Spectroscopy and Solid-state Physics	03	-

12. List of senior Visiting Fellows, faculty, adjunct faculty, emeritus professors

Adjunct faculty members:

- Dr Deepak Mathur
Senior Professor, Atomic & Molecular Sciences,
Tata Institute of Fundamental Research, Mumbai.
- Dr HemaRamachandran
Professor, Raman Research institute, Bangalore.
- Dr Ajith Kumar Gangadharan
The University of Texas, San Antonio, USA

13. Percentage of classes taken by temporary faculty – programme-wise information:

Not Applicable

14. Programme-wise Student Teacher Ratio:

Postgraduate Programme: 2:1 (Students: 21 Faculties: 10)

Ph D programme- Students: 11 Faculty: 6

15. Number of academic support staff (technical) and administrative staff sanctioned and filled:

Junior Engineers: 05

Administrative staff: 03

General duty worker: 01

16. Research thrust areas recognized by funding agencies:

Bio photonics and Photonics

Research Projects:

Sl #	Title of the project	Agency
1	Laser Spectroscopy techniques for Clinical Applications.	Department Of Atomic Energy, Board Of Research In Nuclear Sciences (BRNS), Govt. Of India
2	Investigation of Laser Spectroscopy Methods of early diagnosis of Neoplasia: Development of Instrumentation and Analytical Techniques.	DST, Govt. Of India
3	Raman Spectroscopy studies for early diagnosis in oral malignancy.	DST Govt. Of India

4	Study of protein profiles of clinical samples for early detection of female cancers.	DST Govt. Of India
5	Development of Laser Spectroscopy techniques for early detection and follow up of therapy in breast cancer.	Indian Council for Medical Research (ICMR), Govt. Of India
6	Laser Spectroscopy Studies as Predictor of Tumour Response to Radiation Therapy in Cervical Cancer.	Department Of Atomic Energy, Board Of Research In Nuclear Sciences (BRNS), Govt. Of India
7.	MAHE – PHILIPS Oral Cancer Pilot Project.	Philips
8	Oral cancer screening in rural India	Philips
9	Trace Element Analysis for Environmental and Biomedical Applications Development of Laser Induced Breakdown Spectroscopy (LIBS) Technique.	Department Of Atomic Energy, Board of Research In Nuclear Sciences (BRNS), Govt. Of India
10	Biomedical engineering of single cells with a combination of Raman Spectroscopy and Optical Tweezers (MAHE – TIFR Project)	Department of Bio-technology (DBT),Govt. Of India
11	Fabrication and submicron tailoring of materials for photonics applications with ultrafast lasers.	Principal Scientific Advisor's Office, Govt. Of India
12	Spectroscopic analyses of flagellar proteins from chlamydomonas reinhardtii and homologous ciliary proteins from human.	Department of Biotechnology (DBT)
13	Direct femtosecond laser based inscription of waveguides in optical materials.	Department of Science and Technology (DST)
14	Development of Surface Plasmon Resonance (SPR) Instrument for Sensing Applications.	Board of Research in Nuclear Sciences (BRNS)
15	Crystallographic and spectroscopic studies of human arsenate reductases.	Science & Engineering Research Board (SERB)
16	FIST Program	Department of Science and Technology (DST)
17	Plasmon controlled fluorescence study of biofluorophores	Vision Group of Science & Technology (VGST)
18	Miniaturized Laser-Induced Breakdown Spectroscopy (LIBS) system for field applications	Board of Research in Nuclear Sciences (BRNS)
19	Development of rapid pyrolysis method for nanostructures and thin films.	Science & Engineering Research Board (SERB)

20	Microwave-assisted synthesis of spinel oxide phosphors for display applications and white light generation.	SERB, Department of Science and Technology (DST)
21	Preliminary LIBS study of metal alloys	Titan company Ltd.

17. Number of faculty with ongoing projects from

a) National: b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise.

#	Title of the Project	Duration	Amount	Funding Agency
1	Spectroscopic analyses of flagellar proteins from chlamydomonas reinhardtii and homologous ciliary proteins from human. Sanction No.: BT/PR3159/BRB/10/960/2011 Dated: 23/08/2012	3 Years	33,41,600.00	DBT
2	Direct femtosecond laser based inscription of waveguides in optical materials. Sanction No.: SR/WOS-A/PS-59/2011 (G) Dated: 30/10/2012	3 Years	21,10,000.00	DST
3	Development of Surface Plasmon Resonance (SPR) Instrument for Sensing Applications. Sanction No.: 2012/34/69/BRNS/2971 Dated: 18/03/2013 Additional grant sanctioned Sanction No.: 2012/34/69/BRNS/0621 Date: 28/05/2013	3 Years	22,96,250.00 2,58,000.00	BRNS
8	Crystallographic and spectroscopic studies of human arsenate reductases. Sanction No.: No.SB/FT/LS-273/2012 Dated: 02/05/2013	3 Years	23,15,000.00	SERB
9	FIST Program Sanction No.SR/FST/PSI-174/2012 (C) dated 08/07/2013	5 Years	49,00,000.00	DST
10	Plasmon controlled fluorescence study of biofluorophores No. VGST/P-3/SMY SR/GRD-295/2013-14 dated: 28/01/2013	1 Year	6,00,000.00	VGST

11	Miniaturized Laser-Induced Breakdown Spectroscopy (LIBS) system for field applications Sanction No.: 34/14/04/2014-BRNS/0147 Dated: 25/04/2014 Additional grant sanctioned Sanction No.: 34/14/04/2014-BRNS/882 Dated: 01/07/2014	3 Years	24,51,750.00 2,79,500.00	BRNS
12	Development of rapid pyrolysis method for nanostructures and thin films. No. SB/FT/CS-123/2013 dated: 30/06/2014	3 Years	23,68,000.00	SERB
13	Microwave-assisted synthesis of spinel oxide phosphors for display applications and white light generation. SB/S2/CMP-017/2014 dated 16/03/2015	3 Years	38,16,400.00	SERB
14	Preliminary LIBS study of metal alloys dated 17/02/2015	2 months	67,416.00	Titan company Ltd

- No. faculty with ongoing projects national funding agencies: 06
- No. Faculty with ongoing projects international funding agencies: 00
- Total grants received: Rs. 2, 48,03,916.00

18. Inter-institutional collaborative projects and grants received

a) All India collaboration

- Fabrication and submicron tailoring of materials for photonics applications with ultrafast lasers. Principal Scientific Advisor's Office, Government of India

Grant Sanctioned: Rs. 3, 60, 00,000.00

Collaborating Institutes:

- Tata Institute of Fundamental Research (TIFR)
- Indian Institute of Technology, Guwahati (IITG)
- Indian Institute of Technology, Bombay (IITB)
- Indian Institute of Technology, Delhi (IITD)
- RajaRamanna Centre for Advanced Technology (RRCAT), Indore
- Raman Research Institute (RRI), Bangalore

- g. Bhabha Atomic Research Centre (BARC), Mumbai
 - h. Indian Institute of Science (IISc), Bangalore
2. Trace Element Analysis for Environmental and Biomedical Applications Development of Laser Induced Breakdown Spectroscopy (LIBS) Technique, Board of Research in Nuclear Sciences, DAE, Govt. of India.
Collaborating institute: Bhabha Atomic Research Centre (BARC), Mumbai
 3. Spectroscopic analyses of flagellar proteins from Chlamydomonas reinhardtii and homologous ciliary proteins from humans, Department of Biotechnology, Govt. of India.
Collaborating institute: UM-DAE Centre for Excellence in Basic Sciences, Mumbai University Campus, Kalina. Mumbai
 4. Miniaturized Laser-Induced Breakdown Spectroscopy (LIBS) system for field applications
Collaborating institute: Bhabha Atomic Research Centre (BARC), Mumbai
 5. Microwave-assisted synthesis of spinel oxide phosphors for display applications and white light generation.
Collaborating institute: Indian Institute of Science (IISc), Bangalore

b) International Collaboration:

1. Seventh Framework Programme, Marie Curie Actions People International Research Staff
Exchange Scheme for joint collaborative academic project and exchange
Grant allocated for travel only: Rs.51. 87 lakhs
Collaborating Institutes:
 - a. Manipal University, India
 - b. University of Bergen, Norway
 - c. Universite Pierre Et Marie Curie Paris 6, France,
 - e. Comision Nacional de Energia Atomica, Argentina
 - d. Stockholm Universitet, Sweden
2. Federation Agreement with ICTP, Trieste, Italy and Manipal University, for facilitating the visit of young faculty members of the Department of Atomic and Molecular Physics to participate the scientific meetings/conferences/workshops/schools organized by ICTP.

Grant allocated: Rs.1.95 lakhs

Details of the ongoing projects/projects completed:

Collaboration (on campus) – Within the University

Collaborating Institute/Department	Type of Collaboration	Output of the interaction
Biomedical Engineering, Manipal Institute of Technology, Manipal	Project dissertation work of M. Tech. students	M.Tech. dissertations: 5
Departments of Obstetrics and Gynaecology (OBG), Department of Radiotherapy and Oncology, Kasturba Medical College (KMC), Manipal	Joint Research projects	Successfully completed funded projects 9 (DST=3, BRNS=2, ICMR=1, DBT=1, Philips=2) Research publications: 70 Conference proceedings: 30 (International) Conference Proceedings: 72 (National).
Manipal College of Dental Sciences (MCO DS), Manipal	Joint Research projects and M.DS project dissertations	Successfully completed funded projects:5 (BRNS=2, DST=1, Philips=2). MDS dissertations: 5

Collaboration (off campus) – National Level

Collaborating Institute	Type of Collaboration
Tata Institute of Fundamental Research, Mumbai	Joint research projects Joint publications Internship for Manipal Students in these centres
UM-DAE Centre for Excellence in Basic Sciences, Mumbai University, Mumbai	
Bhabha Atomic Research Centre, Mumbai	
Indian Institute of Technology Guwahati,	
Raman Research Institute, Bangalore	
Indian Institute of Technology Kharakpur,	

Collaboration (off campus) – International Level

Collaborating Institute	Type of Collaboration
University of Texas, USA	Research collaboration.
University of Bergen, Norway University of Bergen, Norway Universite Pierre Et Marie Curie Paris 6, France, Comision Nacional De Energia Atomica, Argentina Stockholm Universitet, Sweden International Centre for Theoretical Physics (ICTP), Trieste, Italy.	Research Staff Exchange Scheme and joint project.

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received.

Sl #	Title and Scope of the R&D project	Year in which started	Amount (Rs.)	Remarks (Status: Completed/Not Completed)
1.	Investigation of Laser Spectroscopy Methods of early diagnosis of Neoplasia: Development of Instrumentation and Analytical Techniques. Sanction No: SP/S2/LO1/98, Date: 5 February 1999 :	February 1999 - August 2002	84,14,572.00	Department of Science Technology, Government of India
2.	Laser Spectroscopy techniques for Clinical Applications. Sanction No: 98/34/14/BRNS Cell/1090, Date:4 March 1999:	March 1999 - March 2003	1,01,83,842.00	Department Of Atomic Energy, Board of Research in Nuclear Sciences (DAE/BRNS_)
3.	Raman Spectroscopy studies for early diagnosis in oral malignancy. Sanction No: SP/S2/L04/2001, Date:7 May 2002	June 2002 - 2006	5,22,336.00	Department of Science Technology, Government of India
4.	Study of protein profiles of clinical samples for early detection of female cancers. Sanction No: SR/S2/LOP-05/2003, date 22 April 2004	May 2004 - March 2007	22,12,224.00	Department of Science Technology, Government of India
5.	Laser Spectroscopy Studies as Predictor of Tumour Response to Radiation Therapy in Cervical Cancer, Sanction No: 2003/34/17/BRNS/1903, Date: 3 February 2004	April 2004 - March 2007	14,65,675.00	Department of Atomic Energy, Board of Research in Nuclear Sciences (DAE/BRNS)
6.	Development of Laser Spectroscopy techniques for early detection and follow up of therapy in breast cancer. Sanction No:5/13/23/2003-NCD-III,Date: 27 December 2004	April 2005 - March 2008	17,53,381.00	Indian Council for Medical Research
7.	Biomedical Engineering of single cells with a combination of Raman	September 2007-	52,60,000.00	Department of Biotechnology,

	Spectroscopy and Optical tweezers. Sanction No. BT/PR6413/MED/14/80/2005, Date: 14 September 2006	March 2010		Government of India
8.	Trace elemental analysis for environmental and biomedical applications – Development of LIBS - Laser induced breakdown spectroscopic technique. Project Sanction No. 2007/34/14- BRNS/1326, Date: 14 September 2007	September 2007- March 2012	52,000000.00	Department of Atomic Energy, Board of Research in Nuclear Sciences (DAE/BRNS).
9.	Fabrication and submicron tailoring of materials for photonics applications with ultrafast lasers No. F. No.: Prn. SA/Photonics- UFL/2008, Date: 5 September 2008/	September 2008- March 2012	3,60,00000.00	Principal Scientific Advisor's Office. Government of India.
10	Spectroscopic analyses of flagellar proteins from chlamydomonas reinhardtii and homologous ciliary proteins from human. Sanction No.: BT/PR3159/BRB/10/960/2011 Dated: 23/08/2012	2012	33,41,600.00	Department of Biotechnology (DBT)
11	Direct femtosecond laser based inscription of waveguides in optical materials. Sanction No.: SR/WOS-A/PS- 59/2011 (G) Dated: 30/10/2012	2012	21,10,000.00	Department of Science and Technology (DST)
12	Development of Surface Plasmon Resonance (SPR) Instrument for Sensing Applications. Sanction No.: 2012/34/69/BRNS/2971 Dated: 18/03/2013	2013	22,96,250 .00 2,58,000.00	Board of Research in Nuclear Sciences (BRNS)
13	Crystallographic and spectroscopic studies of human arsenate reductases. Sanction No.: No.SB/FT/LS- 273/2012 Dated: 02/05/2013	2013	23,15,000.00	Science & Engineering Research Board (SERB)

14	FIST Program Sanction No.SR/FST/PSI-174/2012 (C) dated 08/07/2013	2013	49,00,000.00	Department of Science and Technology (DST)
15	Plasmon controlled fluorescence study of biofluorophores No. VGST/P-3/SMY SR/GRD- 295/2013-14 dated: 28/01/2013	2013	6,00,000.00	Vision Group of Science & Technology (VGST)
16	Miniaturized Laser-Induced Breakdown Spectroscopy (LIBS) system for field applications Sanction No.: 34/14/04/2014- BRNS/0147 Dated: 25/04/2014	2014	24,51,750.00 2,79,500.00	Board of Research in Nuclear Sciences (BRNS)
17	Development of rapid pyrolysis method for nanostructures and thin films. No. SB/FT/CS-123/2013 dated: 30/06/2014	2014	23,68,000.00	Science & Engineering Research Board (SERB)
18	Microwave-assisted synthesis of spinel oxide phosphors for display applications and white light generation. SB/S2/CMP-017/2014 dated 16/03/2015	2015	38,16,400.00	SERB, Department of Science and Technology (DST)
19	Preliminary LIBS study of metal alloys dated 17/02/2015	2015	67,416.00	Titan company Ltd.

20. Research facility/centre with:

- State recognition: Nil
- National recognition: Nil
- International recognition: Nil

21. Special research laboratories sponsored by/created by industry or corporate bodies:

- Laser Induced Fluorescence and Laser Induced Break Down Spectroscopy laboratory, funded by, Board of Research in Nuclear Sciences(BRNS), Department of Atomic Energy (DAE),Government of India

- b. Femtosecond laser with micro-machining facility, funded by Office of the Principal Scientific Advisor, Government of India
- c. Raman Tweezers facility funded by Department of Bio-technology, Government of India
- d. HPLC-LIF facility funded by Department of Science and Technology, Government of India
- e. Portable LIF system for the oral cancer screening funded by Philips Research, Bangalore

22. Research Output in last 3 years

		2012	2013	2014
Completed funded research projects		1	-	-
Completed non-funded research projects		-	-	-
Completed PhD research projects		1	-	-
Completed PG research projects		2	3	1
Completed UG research projects		-	-	3
Publications	International	07	17	12
	National	02	02	02
Books		-	-	1
Chapters in books		2	-	-
Conference presentations	International	04	04	03
	National	05	17	41

Publications:

- * Number of papers published in peer reviewed journals (National/International):82
- * Publications in peer reviewed journals during the past two years (2012-2014):42

Journal Publications

2012

1. A. Bankapur, R. S. Krishnamurthy, E. Zachariah, S. Chidangil, B. Chougule, P. Bhavishna, M. Valiathan and D. Mathur, Micro-Raman Spectroscopy of Silver Nanoparticle Induced Stress on Optically-Trapped Stem Cells, PLoS ONE 7(4): e35075, 1-11, 2012
2. Ajeetkumar Patil, K. S. Choudhari, V. Prabhu, V. K. Unnikrishnan, S. Bhat, Keerthilatha M. Pai, V. B. Kartha and Santhosh Chidangil, Highly Sensitive High Performance Liquid Chromatography-Laser Induced Fluorescence for Proteomics Applications, ISRN Spectroscopy, 1-9, 2012

3. D. Mampalli and S. D. George, Microfluidics – A Lab in your Palm. Resonance 682-690, 2012
4. A. Abdul Ajees, K. Marapakala, C. Packianathan, B. Sankaran, and B. P. Rosen, Structure of an As(III) S-Adenosylmethionine Methyltransferase: Insights into the Mechanism of Arsenic Biotransformation, , Biochemistry, A-J, 2012
5. S. Bhat , Ajeetkumar Patil, L. Rai, V. B. Kartha, Santhosh Chidangil, Application of HPLC combined with laser induced fluorescence for protein profile analysis of tissue homogenates in cervical cancer, The Scientific World Journal, 1-7, 2012
6. A. Manuel, B. R. Kumar, N. S. Basheer, B. S. Kumari, P.I. Paulose, A. Kurian and S. D. George, Thermo–optic characterization of neodymium/nickel doped silica glasses prepared via sol–gel route, Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 98, 474–478, 2012
7. Francesco Lanucara, Barbara Chiavarino, Maria Elisa Crestoni, Debora Scuderi, Rajeev K. Sinha, Philippe Maître, Simonetta Fornarini, S-nitrosation of cysteine as evidenced by IRMPD spectroscopy, International Journal of Mass Spectrometry, Volume 330–332, Page No. 160–167, 2012
8. V. K. Unnikrishnan, K. Mridul, R. Nayak, K. Alti, V. B. Kartha, Santhosh Chidangil, G. P. Gupta and B.M. Suri, Calibration-free laser-induced breakdown spectroscopy for quantitative elemental analysis of materials, Pramana, 79(2), 299–310, page 1 to 12, 2012
9. Santhosh Chidangil, Sujatha Bhat, Ajeetkumar Patil, Lavanya Rai, V.B. Kartha, Screening of Female Malignancies: Protein Profiling of Clinical Samples for Early Detection, Staging and Follow Up. Kiran, 23, 29-38, 2012

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2. V.K. Unnikrishnan, Rajesh Nayak, V.B. Kartha and C. Santhosh, Spectroscopy of Laser Produced Plasma and its Applications, Kiran, 24 (3), 62-67, 2013
3. J.A. Dharmadhikari, A.K. Dharmadhikari and D. Mathur, Probing Molecular Dynamics with Intense, Few-Cycle Laser Pulses, Kiran, 24 (3), 34-38, 2013
4. Simon Lobsiger, Rajeev K. Sinha, and Samuel Leutwyler, Building Up Water-Wire Clusters: Isomer-Selective Ultraviolet and Infrared Spectra of Jet-Cooled 2-Aminopurine (H₂O)_n, n = 2 and 3, dx.doi.org/10.1021/jp407127c, The Journey of Physical Chemistry B, Page A to L, 2013
5. John Thomas, Rodney Bernard, John T. Thomas, Kamlesh Alti, Santhosh Chidangil, Satchi Kumari, Alike Khare, And Deepak Mathur, Femtosecond laser induced forward transfer of indium thin films, Laser and Particle Beams, 1 to 7, 2013

6. V. K. Unnikrishnan, K. S. Choudhari, Suresh D. Kulkarni, Rajesh Nayak, V. B. Kartha and C. Santhosh, Analytical predictive capabilities of Laser Induced Breakdown Spectroscopy (LIBS) with Principal Component Analysis (PCA) for plastic classification, *The Royal Society of Chemistry Advances*, 3, 25872–25880, 2013
7. B. Rajesh Kumar, N. Shemeena Basheer, Achamma Kurian, Sajan D. George, Thermal-Lens Study on the Distance-Dependent Energy Transfer from Rhodamine 6G to Gold Nanoparticles, *Int J Thermophys*, 34, 1982–1992, 2013
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9. N. Shemeena Basheer, B. Rajesh Kumar, Achamma Kurian, Sajan D. George, Silver nanoparticle size-dependent measurement of quantum efficiency of Rhodamine 6G, *Appl. Phys. B*, DOI 10.1007/s00340-013-5513-3, 2013
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11. Ajeetkumar Patil, K S Choudhari, Unnikrishnan V. K., Keerthilatha M. Pai, Ravikiran Ongole, Nanditha Shenoy, V.B Kartha, and Santhosh Chidangil, Salivary protein markers: a non-invasive protein profile-based method for the early diagnosis of oral premalignancy and malignancy, *Journal of Biomedical Optics*, 18(10), 101317-1 – 101317-7, 2013
12. Khoobaram S. Choudhari, Pacheeripadikkal Jidesh, Parampalli Sudheendra and Suresh D. Kulkarni, Quantification and Morphology Studies of Nanoporous Alumina Membranes: A New Algorithm for Digital Image Processing, *Microscopy and Microanalysis*, 19, 1061–1072, 2013
13. V.K. Unnikrishnan, Rajesh Nayak, Praveen Devangad, M.M. Tamboli, C. Santhosh, G.A. Kumar, D.K. Sardar, Calibration based laser-induced breakdown spectroscopy (LIBS) for quantitative analysis of doped rare earth elements in phosphors, *Materials Letters*, 107, 322–324, 2013
14. Arpita Nath, Jayashree A. Dharmadhikari, Aditya K. Dharmadhikari, and Deepak Mathur, Seventh-harmonic generation from tightly focused 2 μm ultrashort pulses in air, *Optics Letters*, 38 (14), 2560-2562, 2013
15. N. Shemeena Basheer, B. Rajesh Kumar, Achamma Kurian, Sajan D. George, Thermal lens probing of distant dependent fluorescence quenching of Rhodamine 6G by silver nanoparticles, *Journal of Luminescence*, Volume 137, Pages 225–229, 2013
16. V. K. Unnikrishnan, Rajesh Nayak, Kiran Aithal, V. B. Kartha, C. Santhosh, G. P. Gupta and B.M. Suri, Analysis of trace elements in complex matrices (soil) by Laser Induced Breakdown Spectroscopy (LIBS), *Analytical Methods*, RBC Publishing, 5, 1294–1300, 2013

17. Vanessa R. M. Rodrigues, Argha Mondal, Jayashree A. Dharmadhikari, Swapnesh Panigrahi, Deepak Mathur, Aditya K. Dharmadhikari, Enhancing the Strength of an Optical Trap by Truncation, PLOS ONE, 8(4), e61310, pages 1 – 6, 2013
18. J. Thomas, R. Bernard, K. Alti, A.K. Dharmadhikari, J.A. Dharmadhikari, A. Bhatnagar, C. Santhosh, Pattern formation in transparent media using ultrashort laser pulses, Optics Communications, 304, 29–38, 2013
19. Aditya K. Dharmadhikari, Himanish Basu, Jayashree A. Dharmadhikari, Shobhona Sharma, Deepak Mathur, On the birefringence of healthy and malaria-infected red blood cells, Journal of Biomedical Optics 18(12), 125001 (December 2013)

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1. Sajjan D. George, Uma Ladiwala, John Thomas, Aseefhali Bankapur, Santhosh Chidangil, Deepak Mathur, Deposition and alignment of cells on laser-patterned quartz, Applied Surface Science, 2014, Vol 305, page 375 – 381
2. Sujatha Bhat, Vasudevan Bhaskaran Kartha, Lavanya Rai, and Santhosh Chidangil, A comparison of protein profiles of cervical tissue homogenate, exfoliated cells from cervix, and serum in normal and cervical malignancy conditions, Journal of Chromatographic Science, 2014.
3. V. K. Unnikrishnan, K. S. Choudhari, Suresh D. Kulkarni, Rajesh Nayak, V. B. Kartha, C. Santhosh and B. M. SurI, Biomedical and environmental applications of laser-induced breakdown spectroscopy, Pramana – J. Phys., Vol. 82, No.2, pp. 397-401 Month 2014.
4. Krithika Dota, Jayashree A. Dharmadhikari, Deepak Mathur and Aditya K. Dharmadhikari, Supercontinuum Generation in Barium Fluoride Using Bessel Beams, Chinese Journal of Physics, Vol. 52, No. 1-II, 2014, Pages 431 to 438
5. Aditya K. Dharmadhikari, H. Bharambe, J.A. Dharmadhikari, J.S. D'Souza and D. Mathur, DNA damage by OH-radicals produced using intense, ultrashort, long wavelength laser pulses. Physical Review Letters, 2014 Apr 4;112(13):138105. Epub 2014 Apr 2.
6. Aseefhali Bankapur, Surekha Barkur, Santhosh Chidangil and Deepak Mathur, A micro-Raman study of live, Single, red blood cells (RBCs) treated with AgNO₃ nanoparticles, PLoS ONE July 2014 | Volume 9 | Issue 7 | e103493, Pages 1 to 10
7. V. K. Unnikrishnan, Rajesh Nayak, V. B. Kartha, C. Santhosh, M. S. Sonavane, R. G. Yeotikar, M. L. Shah, G. P. Gupta and B. M. Suri, Homogeneity testing and quantitative analysis of manganese (Mn) in vitrified Mn-doped glasses by laser-induced breakdown spectroscopy (LIBS), AIP Advances 4, 097104 (2014), Pages 097104-1, 097104-11
8. Jitesh K. Pillai, Sarkarai Venkadesh, A. Abdul Ajees, Barry P. Rosen, Hiranmoy Bhattacharjee Mutations in the ArsA ATPase that restore interaction with the ArsD metallochaperone, Biometals, (2014) 27:1263–1275

9. K. S. Choudhari, Suresh D. Kulkarni, Development of Novel deposition method for Silver nanostructures on flexible and nanopatterned surfaces, ScienceDirect, Procedia Materials Science 5 (2014) 1043 – 1048
10. Suresh D. Kulkarni, K. S. Choudhari, C. Santhosh, Optical Interferometric properties of iridescent nanoporous anodic alumina, ScienceDirect, Procedia Materials Science 5 (2014) 988 – 994
11. Simon Lobsiger, Susan Blaser, Rajeev K. Sinha, Hans-Martin Frey and Samuel Leutwyler, Switching on the fluorescence of 2-aminopurine by site-selective microhydration, Nature Chemistry, 1 – 5
12. B. Rajesh Kumar*, N. Shemeena Basheer*, Achamma Kurian* and Sajan D. George, Effect of Particle Size on the Thermo-Optic Properties of Gold Nanofluids – A Thermal Lens Study, AIP Conf. Proceedings, 118 – 121
13. B. Rajesh Kumar, S. Basheer, S. Jacob, A. Kurian, Sajan D. George, Thermal-lens probing of the enhanced thermal diffusivity of gold nanofluid-ethylene glycol mixture, Journal of thermal Analysis and Calorimetry January, 2015, Volume 119, Issue 1, pp 453-460
14. Ajeetkumar Patil, Sujatha Bhat, Keerthilatha M.Pai, Lavanya Rai, V.B. Kartha, Santhosh Chidangil, “Ultra-Sensitive High Performance Liquid Chromatography- Laser Induced Fluorescence (HPLC- LIF) based Proteomics for Clinical Applications” Journal of Proteins and Proteomics, (presented in 6th PSI meeting and International Proteomics Conference held at IIT, Bombay during 7-9 December, 2014)

* **Monographs:** Nil

* **Chapters in Books:** 05

1. V B Kartha, Jacob Kurien, Keerthilatha M Pai, Lakshmi Rao, Lavanya Rai, K K Mahato, C Murali Krishna and C Santhosh. Diagnosis at the molecular level: Analytical laser spectroscopy for clinical applications. A chapter in a book Photo/Electrochemistry and Photobiology in Environment, Energy and fuel, 2005: 153-221, ISBN: 81-308-0000-4. Edited by Satoshi Kaneko, Publishers - Research Signpost, India
2. R Jyothi Lakshmi, Mohan Alexander, Jacob Kurien, J G R Solomon, P Uma Devi, M S Vidyasagar and V B Kartha. Laser Spectroscopy studies of Radiation effects on animal models and human systems. A chapter in a book Photo/Electrochemistry and Photobiology in Environment, Energy and fuel, 2005: 105 – 151. ISBN: 81-308-0000-4. Edited by Satoshi Kaneko, Publishers - Research Signpost, India.
3. Kamlesh Alti and Alike Khare Manoeuvring Atoms for Lithography using Near Resonant Spatially Varying Laser Field. Progress in Nonlinear Optics Research, Nova Publisher, Ed. by Miyu Takahashi and Hina Gotô (2008).

4. R. Sagar Krishnamurthy, Elsa Zachariah, Aseefhali Bankapur, Chidangil Santhosh, Basavaraj Chougule, Bhavishna Praveen, Manna Valiathan, and Deepak Mathur. Probing Zinc-Oxide Nano-Particle Induced Stress on Stem Cells Using Raman Tweezers. A chapter in Book Biomedical Engineering, 2012 : 317-321, ISBN 978-81-8487-195-1 Edited by Ramesh R. Galigekere, A.G. Ramakrishnan, Jayaram K. Udupa, Publishers – Narosa Publishing House.
5. V.K. Unnikrishnan, Rajesh Nayak, Praveen Devangad, M.K. Dinoop, V.B. Kartha, B.M. Suri and C. Santhosh Biomedical Applications of Laser-Induced Breakdown Spectroscopy (LIBS):A Preliminary Study A chapter in Book Biomedical Engineering, 2012 : 30-34, ISBN 978-81-8487-195-1 Edited by Ramesh R. Galigekere, A.G. Ramakrishnan, Jayaram K. Udupa, Publishers – Narosa Publishing House.

Edited Books: Nil

***Books with ISBN with details of publishers:**

Biomedical Engineering ISBN 978 – 81 – 8487 -195 -1

1. .V K Unnikrishnan, Rajesh Nayak, Praveen Devangad, M K Dinoop, V B Kartha, B M Suri and C Santhosh, Biomedical Applications of LIBS – A preliminary study, Section I, Biomedical Instrumentation and Devices, p.30,Narosa Publishing Pvt Ltd. Delhi, India 2012
 2. R S Murthy, E Zachariah, A Bankapur, C Santhosh, B Chougule, B Praveen, M Valiathan, D Mathur, Probing ZnOnanoparticle induced stress on stem cells using Raman tweezers, Section IX, Applications of Nanotechnology p.317, Narosa Publishing Pvt Ltd. Delhi, India 2012
- * Number listed in International Database (For *e.g.* Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.): 70
 - * Citation Index – range/average: 3-5
 - * SNIP: Not available:
 - * SJR: Not available:
 - * Impact Factor – range/average: 1.5
 - * h-index: Not known

23. Details of patents and income generated:

Nil

24. Areas of consultancy and income generated:

Nil

25. Faculty selected nationally/internationally to visit other laboratories in India and abroad:

Dr. Santhosh Chidangil was a regular Associate of International Centre for Theoretical Physics (AICTP), Trieste, Italy.

Dr. Santhosh Chidangil: Visited University of Bergen, Norway, as part of Seventh Framework Programme, Marie Curie Actions People International Research Staff Exchange Scheme for joint collaborative academic project and exchange, 20th September to 20th October, 2011.

Dr. Rajeev Kumar Sinha: Visited research laboratory of Dr. Samuel Leutwyler of Bern, Switzerland, as a Guest researcher during June 1st, 2013 to 31st July, 2013

Dr. Unnikrishnan V K: Visited International Centre for Theoretical Physics (ICTP) participated in Winter College on Optics January 27th to February 16th, 2013 under the Federation Agreement.

Ms. Surya Harikrishnan: Visited Abdus Salam International Centre for Theoretical Physics (ICTP) participated in Workshop on Portable X ray Analytical Instruments, 29th April to 3rd May, 2013 under the Federation Agreement.

Mr. Ajeetkumar Patil: Visited International Centre for Theoretical Physics (ICTP) participated in Winter College on Optics January 28th to February 15th, 2013.

26. Faculty serving in

Dr SanthoshChidangil, Professor

- a. Reviewer of highly reputed international and national journals
- b. Reviewer of national and international conferences
- c. Selected Faculty by Indian Academy of Sciences for summer projects

Dr Sajan D George, Associate Professor

- a. National committees - NIL
- b. International committees – Selected Reviewer Panel member of US department of Defence and National Research Council, Government of Romania
- c. Editorial Boards

2013 - Editorial Board Member, Scientific Reports, Nature, USA

2013 - Editorial Board Member, Material Science and Engineering Progress, Engineering Press, Austria

2012 - Editorial Board Member, Asian Journal of Physical Sciences, India

Dr Unnikrishnan V K, Associate Professor

Reviewer of highly reputed international and national journals

Life member: Indian Laser Association (ILA)

Dr Abdul Ajees, Associate Professor

Reviewer of highly reputed international and national journals

Dr. Rajeev Kumar Sinha, Assistant Professor

Reviewer of ACS Journals,

J. Phys. Chem. A and Inorganic Chemistry

27. Faculty recharging strategies:

- a) Incentives for publishing research papers
- b) Incentives for obtaining research grants
- c). Financial support to participate in workshops and national and international conferences
- d) Performance Incentives

28. Student projects

- percentage of students who have done in-house projects including inter-departmental projects: 33%
- percentage of students doing projects in collaboration with other universities/industry/institute: 67%

List of the students who have carried out research work in the centre since 2008:

PhD work completed:

1. Mr Chidananda M S, Department of Atomic and Molecular Physics was awarded the PhD degree in 2008 for his thesis entitled “Laser Spectroscopic and Biochemical Investigations on Clinical Samples in Cancer of Human Uterine Cervix”. The study was carried out under the co-guidance of Professor V B Kartha, Guide: K Sathyamoorthy, School of Life Sciences, Manipal.

2. Mr M V P Chowdary, Department of Atomic and Molecular Physics, was awarded the PhD degree in July 2009 for his thesis entitled “Development of Laser Spectroscopy Methods for Early Detection of Breast Cancer”. The study was carried out under the guidance Dr C Murali Krishna.
3. Mr Kalyan Kumar, Department of Pathology, Kasturba Medical College, Manipal University, was awarded the PhD degree by the University in July 2009 for his thesis entitled “Laser Spectroscopy Methods for Follow up of Breast Cancer Treatment – Analytical Techniques”. The study was carried out under the guidance of Dr Lakshmi Rao, Co-Guide: Dr C Murali Krishna.
4. Mrs SudhaKamath, School of Life Sciences, Manipal was awarded the PhD degree by Manipal University in 2009 for her thesis entitled “Fluorescence and PAS studies on tissues and tissue components”. The study was carried out under the guidance of Dr K KMahato
5. Ms Sujatha, Department of Atomic and Molecular Physics, Manipal University, was awarded the PhD degree in July 2009 for her thesis entitled “Protein profile and laser fluorescence spectroscopic studies of clinical samples for early detection of cervical cancer”. The study was carried out under the guidance of Dr Santhosh C.
6. Mr MaheedharKodali, Department of Radio Therapy and Oncology, Manipal University, was awarded in July 2010 for his thesis entitled “Predictive Assays for Response to Radiotherapy in Cervical Cancers”. The study was carried out under the guidance of Dr M S Vidyasagar, Co-Guide: Dr C Murali Krishna.
7. MrUnnikrishnan V K, Department of Atomic and Molecular Physics was awarded the PhD Degree in July 2012 for his thesis entitled “Spectroscopy of laser produced plasmas: Development of a Laser Induced Breakdown Spectroscopy (LIBS) for trace element analysis”. The study was carried out under the guidance of Dr Santhosh C.

MDS (Master of Dental Sciences) dissertations:

1. Dr Shyamsundar, “Application of Laser Raman Spectroscopy in different grades of oral Squamous cell carcinoma” (March 2000).
2. Dr RavikiranOngole, “Detection of Oral Precancers and Cancers using High Performance Liquid Chromatography – Laser Induced Fluorescence Spectroscopy” (December 2002).
3. Dr NanditaShenoy, “Determination of usefulness of saliva and serum in the detection of oral cancer: a pilot study using a modified HPLC – LIF set up” (April 2008).

4. Dr K JeenaPriya, “Efficacy of modified laser induced fluorescence (LIF) set up in oral cancer detection – an in-vitro study” (April 2008).

M.Tech. Dissertations:

1. Ms Bhavishna B, “Raman Tweezer Spectroscopy – As a potential tool to probe Nanoparticles induced cell toxicity” (July, 2009 to December 2009)
2. Ms N Laxmi, “Development of a Surface Plasmon Resonance (SPR) setup for sensing applications” (July 2011-April 2012)
3. Krishna Priya S. R., “Assembling spectrofluorometer for steady state Fluorescence measurements of different Concentration of Rhodamine” (June 2012).

M.Sc. Dissertations:

1. Mr Dinoop M. K - “Parameter Optimization of a Laser Induced Breakdown Spectroscopy (LIBS) for elemental Analysis” (2010-2011).
2. Mr. MuhammedShameem K.M. - “Fiber Optic Evanescent Wave Sensor: - Design, Fabrication and Characterization” (June 2013).
3. Ms.Saniya – “Micro-Raman spectroscopy study of cells using Raman Tweezers setup” (June 2103).
4. Mr.Mahendra K – “ The Crystallization Trials Using Optical Forces” (June 2013).
5. Sharanamma S. Hiremath - “Protein Profile Analysis of Serum using HPLC-LIF for Early Diagnosis of Cardiovascular Diseases” (2014)

B.Sc. Projects:

1. Ms Kim KomalMascarenhas, “Protein-profile study of Urinary Bladder Carcinoma tissue samples by High Performance Liquid Chromatography-Laser Induced Fluorescence” (April 2008 to October 2008.)
2. Ms NiyathiKhetarpal, “Trace Element Detection Using Laser Induced Breakdown Spectroscopy” (April 2008 to October 2008)
3. Mr Shariq Ansari, “In-vivo fluorescence study of water stressed Ocimum Sanctum (Tulsi) Leaves”(2008)
4. Ms. VarshaBhat, “Laser Induced Fluorescence of Tissue Components”. (Guide Dr. Santhosh C., Centre for Atomic and Molecular Physics, Manipal University, Manipal), B.Sc. Student of Mahatma Gandhi Memorial College, Udupi, Period: January to March 2009.
5. Ms. Akshatha, Projectentitled “Raman Spectroscopy of Amino Acids”. (Guide Dr. Santhosh C., Centre for Atomic and Molecular Physics, Manipal University, Manipal), B.Sc. Student of Mahatma Gandhi Memorial College, Udupi. Period: January to March 2009.

IAESTE India MIT internship Dissertations:

1. Mr Tiago Rocha Vaz from Portugal, “Protein profile study of malignant and normal cervical tissue samples using high performance liquid chromatography with laser induced fluorescence and classification of data with principal component analysis”, (September 2009 to December 2009)
2. Mr Valentine Bolsinger from Germany, “An idea of Optimization of the intensity of LIBS detection” (September 2009 to November 2009)
3. Mr Tanis Mar from Spain, “Development of Non-Linear Multi-Class Classification Algorithms for Early Diagnosis of Cancer Based on Serum Protein Profiles” (7th July 2011 to 30th August 2011).
4. Mr Lewis James Armitage from Britain, “Multiple Optical Trapping by Diffraction Modified Intensity Pattern” (21st June 2011 to 21st September 2011).
5. Ms. RomyLoehnert from Germany, “Investigation of LIBS set-up for long distance measurements” (25th July, 2011 to 22nd September, 2011).
6. Ms ArianaKarakutuk from Turkey, “Molecular simulation of protein called arsa with amber” (2nd July 2012 to 31st August 2012).
7. Ms. Annika Wittenbecher from Martin-Luther-University Halle-Wittenberg, “Molecular Modeling of ArsM with Amber” (22nd July, 2014 to 12th September, 2014).

29. Awards/recognitions received at the national and international level by

- Faculty Members:

Dr SanthoshChidangil

Awards and Honours

- 2004-2011-Regular Associate, International Centre for Theoretical Physics (ICTP), Trieste, Italy

Membership in Professional Societies

- Indian Physics Association (LM),
- Indian Laser Association (LM),
- Optical Society of America (M),
- Indian Nuclear Society (LM),
- Society for Optical Engineering (SPIE) (M)
- Indian Science Congress (LM)

- **Dr Sajan D George**

Awards and Honours

- 2006 - FCT Fellowship, Ministry of Portugal, Portugal (did not join)

- **Dr Rajeev Kumar Sinha**

Awards and Honours

2010: Switzerland National Foundation Fellowship

2008: Centre National de la Recherche Scientifique (CNRS) Fellowship

- **Dr Abdul Ajees Abdul Salam**

Awards and Honours

2000-Senior Research Fellow, Council of Scientific and Industrial Research, India

- **Dr Suresh D Kulakarni**

Awards and Honours

2005 -Awardee of University Research Scholarship from Karnatak University, Dharwad.

2008- Post-Doctoral fellowship, Indian Institute of Science, Bangalore

- **Dr. Unnikrishnan V K**

Awards and Honours

2003-First rank (Gold Medal) holder in the MPhil Physics degree examination of Pondicherry, University.

2006-Junior Scientist: Philips funded MAHE-PHILIPS Project on “Oral Cancer Screening in Rural India” .

- **Mr Aseefhali Bankapur**

Awards and Honours

2006-Junior Research Fellow, Department of Biotechnology funded project on Biomedical Engineering of single cells with a combination of Raman Spectroscopy and Optical tweezers. Sanction No. BT/PR6413/MED/14/80/2005

Best Poster Presentation Award for the work “Raman Tweezers Spectroscopy of Single, Live White Blood Cells”, presented in Indian Biophysical Society Symposium on Recent Trends in Biophysics, Department of Physics, Banaras Hindu University, Varanasi. February 13 – 15, 2010

- **Mr AjeetkumarPatil**

Awards and Honours

2006-Junior Scientist 2006-Junior Scientist: Philips funded MAHE-PHILIPS Project on “Oral Cancer Screening in Rural India”

Best Poster Presentation Award for the work on “Laser Induced Fluorescence Spectroscopy of Soft Tissues of the Oral Cavity”, presented in 55th DAE – Solid State Physics Symposium, Manipal Institute of Technology, Manipal University, Manipal. December 26 – 30, 2010.

- **Ms Surya Harikrishnan**

Awards and Honours:

2009- Summer Research Fellowship of the Indian Academy of Sciences. Work completed at University of Mumbai-Department of Atomic Energy-Centre for Excellence in Basic Sciences (UM-DAE-CBS)

Qualified State Eligibility Test (SET) for teaching.

- **Mr K S Choudhari**

2006-Junior Scientist: 2006-Junior Scientist: Philips funded MAHE-PHILIPS Project on “Oral Cancer Screening in Rural India”

2008 -Awardee of Institutional Research Scholarship from NITK, Surathkal.

30. Seminars/Conferences/Workshops organized and the source of funding (national/international) with details

Sl. No.	Seminars/Conferences/ Workshops	Source of funding (national/international)	Amount
1	A discussion meeting on Recent Advances in Photonics on 11 Apr 2009	Andor Technology, Northern Ireland.	Rs. 39,391.00
		Holmarc Opto-Mechatronics Pvt Limited, Kochi.	Rs. 10,000.00
		Sri Durga Laboratory Equipment Supplies, Mangalore.	Rs. 2,500.00
		Laser Science Services (I) Pvt Ltd., Mumbai.	Rs. 40,000.00
2	One-day symposium on Laser Technology and Photonics on 20 Mar	Andor Technology, Northern Ireland.	Rs. 30,000.00
		Laser Science Services (I) Pvt Ltd., Mumbai.	Rs.30,000.00
			Rs.10,000.00

	2010	Holmarc Opto-Mechatronics Pvt Ltd, Kochi.	
3	One day symposium on Recent Trends in Photonics on 29 March, 2011	Specialise Instruments Mkt. Co., Bangalore.	Rs. 20,000.00
		Holmarc Opto-Mechatronics Pvt Ltd, Kochi	Rs. 10,000.00=
		Laser Science Services (India) Pvt Ltd., Chennai	Rs. 20,000.00
		TOWA Optics (India) Pvt Ltd., Bangalore.	Rs. 20,000.00
4	One day Symposium on Nanoscience and Technology on 9 March, 2012	Labindia Instruments Pvt Ltd., Thane.	Rs. 25,000.00
5	Recent Advances in Photonics on 10 March, 2012		Rs. 60,000.00
		M/s Holmarc Opto-Mechatronics (P) Ltd., Kochi	Rs. 10,000.00
6	Workshop on Use of Instrumentation of Physical Sciences in Archaeology during 19- 21 March 2012	Tata Institute of Fundamental Research (TIFR), Mumbai	Rs. 35,000.00
		Tata Institute of Fundamental Research (TIFR), Mumbai	Rs. 40,000.00
7	National Workshop on Photonics in Medicine and Biology from 20-22 August 2012	Council of Scientific and Industrial Research, New Delhi	Rs. 50,000.00
		Defence Research & Development Organisation, New Delhi	Rs. 50,000.00
		Department of Biotechnology, New Delhi	Rs. 50,000.00
		Laser-Spectra Services India Pvt Ltd	Rs. 40,000.00
		Specialise Instruments Marketing Co, Bangalore	Rs. 30,000.00
		Laser Science, Bangalore	Rs. 20,000.00
		Aimil Ltd Bangalore	Rs. 15,000.00
		TOWA Optics Pvt Ltd Bangalore	Rs. 10,000.00
		Holmarc Opto-Mechatronics Pvt Ltd, Kochi	Rs. 10,000.00
		SPEKTRON Instruments INC, Chennai	Rs. 5,000.00
8	One Day Symposium on Recent Advances in	Anatek Services Pvt.Ltd.	5,000.00
		Deeksha Instruments Corporation	10,000.00

	Photonics held on 23 rd February, 2013	Laser Science Services (India) Pvt.Ltd. Agilent Technologies India Pvt. Ltd	10,000.00 45,000.00
9	One Day Symposium on Nanoscience and Technology held on 24 th February, 2013	Specialise Instruments Methrom Sinsil Holmarc Indian Council of Medical Research (ICMR)	25,000.00 10,000.00 5,000.00 10,000.00 40,000.00 50,000.00
10	One Day Symposium on Recent Trends in Biophysics held on 25 th February, 2013	Defence Research and Development Organisation (DRDO) Xerox DBT (Yet to receive) Anatek Technologies	50,000.00 75,000.00 20,000.00 25,000.00
11	Workshop on Three Dimensional Structure (Drug) Using X-ray Crystallography” held on February 26, 2013.	Thermo fisher scientific India Pvt. Ltd.,	
12	DAE-BRNS National Laser Symposium – held during 6 - 11 January, 2014		
13	The Theme Meeting on Ultra Fast Science-2014 held during October 30 th – November 1 st 2014		
14	One day Symposium on Recent Advances in Photonics held on 23 rd July, 2014		
15	“Modulation, B. Sc. Interaction Programme” held on 24 th January, 2015	SPIE Manipal University Student Chapter	
16	“Anshu – Ray of Light” held on February 28 th 2015	SPIE Manipal University Student Chapter	
17	Kiran held on 25 th April, 2015	SPIE Manipal University Student Chapter	

31. Code of ethics for research followed by the departments:

The department follows research ethics of Manipal University

32. Student profile course-wise:

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
MSc Photonics					
Batch: 2009 – 2010	8	4	1	100	100
Batch: 2010 – 2011	15	3	7	33.33	71.42
Batch: 2011 – 2012	16	3	2	100	100
Batch: 2012 – 2013	22	2	4	100	100
Batch: 2013 – 2014	6	1	1	NA	NA
Batch: 2014 – 2015	30	3	7	NA	NA
MSc Nanoscience & Technology					
Batch: 2012 – 2013	5	2	2	100	100
Batch: 2013 – 2014	9	3	-	NA	NA
Batch: 2014 – 2015	15	4	-	NA	NA
M.Sc. Biophysics					
Batch: 2013 – 2014	7	1	1	NA	NA
Batch: 2014 – 2015	4	-	-	NA	NA
(NA = Not Applicable)					

33. Diversity of students

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M.Sc. Photonics 2009-2011 (2009-10 batch)	0	60	40	0
M.Sc. Photonics 2010-2012 (2010-11 batch)	10	70	20	0
M.Sc. Photonics 2011-2013 (2011-12 batch)	0	80	20	0
M.Sc. Photonics 2012-2014 (2012-13 batch)	0	83	17	0
M.Sc. Photonics 2013-2015 (2013-14 batch)	0	50	50	0
M.Sc. Photonics 2014-2016 (2014-15 batch)	0	70	30	0
M.Sc. Nanoscience & Technology 2012-2014 (2012-13 batch)	0	75	25	0
M.Sc. Nanoscience & Technology 2013-2015 (2013-14 batch)	0	66	33	0
M.Sc. Nanoscience & Technology 2014-2016 (2014-15 batch)	0	50	50	0
M.Sc. Biophysics 2013-2015 (2013-14 batch)	0	50	50	0

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

80 per cent of the students who have passed the course in the year 2011 had joined for research and the rest 20 per cent have joined in Photonics industry.

35. Student progression

Student progression	Percentage against enrolled
UG to PG	NA
PG to M.Phil.	Nil
PG to Ph.D.	80
Ph.D. to Post-Doctoral	NA
Employed	
• Campus selection	Nil
• Other than campus recruitment	20
Entrepreneurs	Nil

36. Diversity of staff

Percentage of faculty who are graduates	
of the same University	0
from other universities within the State	36
from universities from other States	64
from universities outside the country	0

37. Number of faculty who were awarded PhD, DSc and DLitt during the assessment period:1

38. Present details of infrastructural facilities with regard to

a) Department Library

- Books: More than 250 and
- Journals: 2 (Nature Photonics, Applied Spectroscopy)

b) Internet facilities for staff and students: Yes

c) Total number of classrooms: 04

d) Class rooms with ICT facility: 04

e) Students' laboratories: 03

- General Photonics Laboratory,
- Advanced Photonics Laboratory – I and
- Nanoscience&TechnologyLaboratory

f) Research laboratories

- Laser Induced Fluorescence and Laser Induced Break Down Spectroscopy laboratory, funded by BRNS, DAE, Govt. of India
- Femtosecond laser with micro-machining facility, funded by PSA's office
- Raman Spectroscopy laboratory funded by Manipal University
- Molecular Spectroscopy laboratory, funded by Manipal University
- Sample preparation/Wet laboratory funded by Manipal University
- Raman Tweezers facility funded by DBT
- HPLC-LIF facility funded by DST

39. List of doctoral, post-doctoral students and Research Associates

a) From the host University: 2

b) From other universities: 5

40. Number of postgraduate students getting financial assistance from the University.

Nil

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Not Applicable

42. Does the department obtain feedback from

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Feedback from faculty members are always taken and discussed in the staff meeting. Their inputs are considered while revising the syllabus and modification of teaching methodology.

- b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Feedback from students on staff is taken. Corrective measures, wherever needed, are taken to enhance the efficiency and effectiveness of teaching and evaluation procedures.

- c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

Not Applicable

43. List the distinguished alumni of the department (maximum 10)

Not Applicable (First batch of the M.Sc. Photonics students passed out only recently, i.e. in 2011)

44. Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts.

Sl#	Presenter	Topic	Location	Month & Year
1	Dr V B Kartha, Former Head, Spectroscopy Division, Bhaba Atomic Research Centre, Mumbai.	Life with Photons	Department of Atomic and Molecular Physics (DAMP)	29 March, 2011
2	Dr Deepak Mathur, Senior Professor, Tata Institute of Fundamental Research, Mumbai.	Photonics Progress and Opportunities	Department of Atomic and Molecular Physics (DAMP)	29 March, 2011
3	Dr Joseph Paul, Graduate School of Biomedical Engineering, The University of New South Wales, Sydney	Optic technologies and NMR Imaging	Department of Atomic and Molecular Physics (DAMP)	22 December, 2010
4	Dr Ranjan Kumar Singh, Banaras Hindu	Raman spectroscopy and	Department of Atomic and	2 August, 2011

	University	Applications	Molecular Physics (DAMP)	
5	Dr Reji Philip, Raman Research Institute, Bangalore	Nanophotonics	Department of Atomic and Molecular Physics (DAMP)	29 March, 2011
6	Prof. T. Pradeep, Indian Institute of Technology, Madras	<i>Luminescent Clusters of Noble Metals</i>	Department of Atomic and Molecular Physics	9 th March 2012
7	Prof. S. A. Shivashankar, Indian Institute of Science, Bangalore	<i>Metalorganic Routes to Nanomaterials and Nanostructures</i>	Department of Atomic and Molecular Physics	9 th March 2012
8	Dr. Chittaranjan Patra, Indian Institute of Chemical Technology, Hyderabad	<i>Biomedical Application of Nanotechnology for Cancer Therapeutics and Angiogenesis</i>	Department of Atomic and Molecular Physics	9 th March 2012
9	Dr. Aditya Dharmadhikari, Tata Institute of Fundamental Research, Mumbai	<i>Carbon nanotubes: a vital agent for microbubbles, dendrites and crystals growth</i>	Department of Atomic and Molecular Physics	9 th March 2012
11	Dr. Deepak Mathur Senior Professor, Tata Institute of Fundamental Research, Mumbai	<i>Blood, Saliva, and DNA: explorations and adventures in Biophotonics</i>	Department of Atomic and Molecular Physics	10 th March, 2012
12	Dr. Biswajit Pal, CCMB, CSIR, Hyderabad	<i>Resonance Raman studies of soluble Guanylate Cyclase, the NO sensor</i>	Department of Atomic and Molecular Physics	10 th March, 2012
13	Dr. V. H. S. Moorthy, Department of Electronics & Communications, MIT, Manipal University	<i>Fabrication of plasmonic nanostructures by nanosphere lithography technique for biosensing and solar cell applications</i>	Department of Atomic and Molecular Physics	10 th March, 2012

14	Dr. V.P.N Nampoori, Professor emeritus, International School of Photonics, Cochin University of Science and Technology	<i>DNA Photonics</i>	Department of Atomic and Molecular Physics	10 th March, 2012
15	Dr. R. S. Bisht, Former Joint Director General, Archaeology Survey of India	<i>Plenary Lecture</i>	Department of Atomic and Molecular Physics	19th March to 21st March 2012.
16	Dr. Deepak Mathur Senior Professor, Tata Institute of Fundamental Research, Mumbai.	<i>Techniques in Archaeology</i>	Department of Atomic and Molecular Physics	19th March to 21st March 2012.
17	Dr. V.B.Kartha, Former Head, Spectroscopy Division, Bhaba Atomic Research Centre, Mumbai.	<i>Absorption Spectroscopy</i>	Department of Atomic and Molecular Physics	19th March to 21st March 2012.
18	Dr. Ranjan Singh, Banaras Hindu University, Varanasi.	<i>Raman Spectroscopy</i>	Department of Atomic and Molecular Physics	19th March to 21st March 2012.
19	Dr. Unnikrishnan. V.K., Centre for Atomic and Molecular Physics, Manipal University, Manipal.	<i>Laser Induced Breakdown Spectroscopy (LIBS)</i>	Department of Atomic and Molecular Physics	19th March to 21st March 2012.
20	Dr. G. Krishnamoorthy TIFR, Mumbai	<i>Laser Spectroscopy and Bio-molecular Dynamics</i>	Department of Atomic and Molecular Physics	19th March to 21st March 2012.
21	Dr. V.P.N Nampoori, Professor emeritus, International School of Photonics, Cochin University of Science and Technology.	<i>Fluorescence Spectra of Dye- DNA System and its Plausibility as Laser Medium</i>	Department of Atomic and Molecular Physics	19th March to 21st March 2012.
22	Dr. Asima Pradhan, IIT Kanpur	<i>Polarization Based Optical Studies for Minimally Invasive Detection of Disease</i>	Department of Atomic and Molecular Physics	19th March to 21st March 2012.
23	Dr. D. Velmurugan, University of Madras, Chennai.	<i>Structure Based Drug Design for curing</i>	Department of Atomic and Molecular	19th March to 21st March 2012.

		<i>Inflammation, Diabetes and Viral Diseases</i>	Physics	
24	Dr. N. Subhash, CESS, Trivendrum	<i>Diagnostic Applications of Diffuse Reflectance Spectroscopy and Multispectral Imaging</i>	Department of Atomic and Molecular Physics	19th March to 21st March 2012.
25	Dr. Satish Kumar Adiga, Clinical Embryology, Department of Obstetrics & Gynecology, Kasturba Medical College, Manipal University	<i>Use of Laser in Assisted Reproductive Technology</i>	Department of Atomic and Molecular Physics	19th March to 21st March 2012.
26	Dr. Ravikiran Ongole, MCOOS, Mangalore	<i>Laser Spectroscopy: An Adjunctive Diagnostic tool for Potentially Malignant Disorders of Oral Cavity</i>	Department of Atomic and Molecular Physics	19th March to 21st March 2012.
27	Dr. S. R. Inamdar Karnataka University, Dharwad	<i>Fluorescence Techniques (FRET as well as rotational diffusion) and Their Applicability in Biology and Medicine</i>	Department of Atomic and Molecular Physics	19th March to 21st March 2012.
28	Dr. Anuj Sharma Gautam Buddha University, Gr. Noida	<i>Optical Sensors Based on Surface Plasmons for Biomedical Applications</i>	Department of Atomic and Molecular Physics	19th March to 21st March 2012.
29	Dr. Jayashree Dharmadhikari, TIFR, Mumbai.	<i>Dynamics of Red Blood Cells Subjected to Optical and Fluid Forces</i>	Department of Atomic and Molecular Physics	19th March to 21st March 2012.
30	Dr. Aditya Dharmadhikari, TIFR, Mumbai.	<i>Effect of Intense Ultra short Laser Radiation on Biological Matter</i>	Department of Atomic and Molecular Physics	19th March to 21st March 2012.
31	Dr. V. B Kartha	Bio-Photonics and	Department of	February 23 rd ,

	Founder, HOD Centre for Laser Spectroscopy	Bio-Medical Spectroscopy: Animal Models	Atomic and Molecular Physics	2013
32	Dr. Kailash Rustagi IIT Bombay, Mumbai	Photonics-existing devices and prospects	Department of Atomic and Molecular Physics	February 23 rd , 2013
33	Dr. Hema Ramachandran, Raman Research Institute, Bangalore	Single atoms and single photons	Department of Atomic and Molecular Physics	February 23 rd , 2013
34	Dr. Anuj Bhatnagar Society for Applied Microwave Electronics Engineering & Research (SAMEER), Mumbai	Integrated Optics: Guiding and manipulating light for device applications	Department of Atomic and Molecular Physics	February 23 rd , 2013
35	Dr. Jyotishmaan Dasgupta Department of Chemical Sciences, Tata Institute of Fundamental Research, Mumbai	Ultrafast Raman spectroscopy: Is there any new information?	Department of Atomic and Molecular Physics	February 23 rd , 2013
36	Dr. V. Lakshminarayanan Soft Condensed Matter Laboratory, Raman Research Institute, Bangalore	Electrochemistry of nanomaterials for biosensors and catalysis	Department of Atomic and Molecular Physics	February 24 th , 2013
37	Dr. Deepa Khushalani Materials Chemistry Research Group, Tata Institute of Fundamental Research, Mumbai	A Chemist's Approach to Improving Efficiency in Dye Sensitized Solar Cells	Department of Atomic and Molecular Physics	February 24 th , 2013
38	Dr. Beena Jain Laser Biomedical Applications and Instrumentation Division Raja Ramanna Centre for Advanced Technology, Indore	Nanobiophotonics	Department of Atomic and Molecular Physics	February 24 th , 2013
39	T. Pradeep Department of	Affordable and Clean Drinking	Department of Atomic and	February 24 th , 2013

	Chemistry, Indian Institute of Technology Madras, Chennai.	Water through Nanomaterials	Molecular Physics	
40	R.K. Vatsa, Chemistry Division, Bhabha Atomic Research Centre, Mumbai.	Interaction of radiation with atoms/molecules and nanoclusters: Is there a difference?	Department of Atomic and Molecular Physics	February 24 th , 2013
41	Dr. Tej P. Singh Distinguished Biotechnology Research Professor Department of Biophysics, All India Institute of Medical Sciences, New Delhi	Structural Basis of the Antibiotic Action of Peptidoglycan Recognition Protein, PGRP-S of the Innate Immune System	Department of Atomic and Molecular Physics	February 25 th , 2013
42	Professor D. Velmurugan CAS in Crystallography and Biophysics University of Madras, Chennai	Three Dimensional Structure Determination of Biomolecules Using X-ray Crystallography	Department of Atomic and Molecular Physics	February 25 th , 2013
43	Professor Manju Bansal Molecular Biophysics Unit Indian Institute of Science, Bangalore	Role of DNA Structural Features in Gene Expression	Department of Atomic and Molecular Physics	February 25 th , 2013
44	Professor Hanudatta S. Atreya NMR Research Centre Indian Institute of Science, Bangalore	Structural Biology by NMR Spectroscopy: Development of Novel Cancer Diagnostics and Therapeutics	Department of Atomic and Molecular Physics	February 25 th , 2013
45	Dr. B. Syed Ibrahim Bioinformatics Centre, Pondicherry University	Structure of the C-terminal Domain of Transcription Factor IIB from Trypanosoma Brucei	Department of Atomic and Molecular Physics	February 25 th , 2013
46	Professor D. Velmurugan Head, Centre of Advanced Study in Crystallography and Biophysics, University of Madras, Guindy, Chennai	Theory behind the 3D structure determination of small molecules – Part – I	Department of Atomic and Molecular Physics	February 26 th , 2013

		Theory behind the 3D structure determination of small molecules – Part – II		February 26 th , 2013
		Live demo: 3D structure determination of small molecules		February 26 th , 2013
47	Dr. V. B. Kartha	OF MICE AND MEN: Lasers in Life Sciences	Department of Atomic and Molecular Physics	January 8th, 2014
48	Dr. S.K. Mohanty, Univ. of Texas	Neuronal guidance by light-generated physical cues: Force, flow, heat and others	Department of Atomic and Molecular Physics	January 8th, 2014
49	Dr. S. K. Majumder, RRCAT, Indore	Tissue optical spectroscopy: Towards clinical diagnosis of cancer	Department of Atomic and Molecular Physics	January 8th, 2014
50	Prof. S. Umapathy, I.I.Sc., Bangalore	Exploring ultrafast energy flow and the effect of viscosity on the low frequency internal motions in barrier crossing problem using Ultrafast Raman Loss Spectroscopy	Department of Atomic and Molecular Physics	January 8th, 2014
51	Prof. G. Doehler, Germany	Generation and Detection of Terahertz Radiation Using Lasers	Department of Atomic and Molecular Physics	January 8th, 2014
52	Sri A. S. Joshi, RRCAT, Indore	Indigenous development of high energy high power laser and its amplifier optics	Department of Atomic and Molecular Physics	January 9th, 2014
53	Dr. Partha Roychoudhuri, IIT Kharagpur	High-Performance Erbium-doped Amplifier and	Department of Atomic and Molecular	January 9th, 2014

		Laser in PCF Host	Physics	
54	Dr. Mrinmay Pal, CGCRI, Kolkata	High Power Fiber Lasers and Recent Activities at CSIR-CGCRI	Department of Atomic and Molecular Physics	January 9th, 2014
55	Dr. V. Nirmal , UoH, Hyderabad	Angular momentum of light	Department of Atomic and Molecular Physics	January 9th, 2014
56	Dr. Andal Narayanan, RRI, Bangalore	Cavity optomechanical systems: A new paradigm for realizing quantum effects with light and mechanical forces	Department of Atomic and Molecular Physics	January 9th, 2014
57	Dr. B.K. Gowasmi, BARC, Mumbai	Optical Chaos synchronization and its application in R&D of secure communication	Department of Atomic and Molecular Physics	January 9th, 2014
58	Dr. A.V. Gopal, TIFR, Mumbai	Nanostructured materials for photonics and plasmonics	Department of Atomic and Molecular Physics	January 9th, 2014
59	Dr. Jayashree D., MU, Manipal	Probing molecular dynamics with intense, few-cycle laser pulses	Department of Atomic and Molecular Physics	January 9th, 2014
60	Dr. ManikPradhan, S.N.Bose Institute, Kolkata	Applications of cavity ring-down laser spectroscopy to biomedical disease detection using exhaled breath analysis	Department of Atomic and Molecular Physics	January 9th, 2014
61	Dr. Arnulf Materny, Germany	Four-Wave Mixing Techniques for Femtosecond Time-Resolved Spectroscopy	Department of Atomic and Molecular Physics	January 10th, 2014
62	Dr. K. Dasgupta, BARC, Mumbai	Pulsed Tunable Laser	Department of Atomic and	January 10th, 2014

		Advancements for Resonance Ionization Spectroscopy	Molecular Physics	
63	Dr. Bhuvanesh Ramakrishna, RRCAT, Indore	Laser Driven Ion Acceleration	Department of Atomic and Molecular Physics	January 10th, 2014
64	Dr. V. B. Tiwari, RRCAT, Indore	Optical nanofibers and cold atoms	Department of Atomic and Molecular Physics	January 10th, 2014
65	Shri M.S. Ansari, RRCAT, Indore	Electromagnetic compatibility for Lasers	Department of Atomic and Molecular Physics	January 11th, 2014
66	Shri Nitin O. Kawade, BARC, Mumbai	Automated Wavelength Control System for Single Longitudinal Mode Dye Laser	Department of Atomic and Molecular Physics	January 11th, 2014
67	Shri Rakesh Kaul, RRCAT, Indore	Laser – A Powerful Tool for Surface Engineering	Department of Atomic and Molecular Physics	January 11th, 2014
68	Dr. SaiSanthosh Kumar Raavi, IIT Hyderabad	On the role of molecular charge transfer states in ultrafast photo-charge generation in solid-state dye sensitized solar cells	Department of Atomic and Molecular Physics	October 31, 2014
69	Dr. Francesco Banfi, Universita Cattolica Dels acrocuore, Italy	Impulsively excited Hypersonic Surface Phononic Crystals: from first principles to applications	Department of Atomic and Molecular Physics	October 31, 2014
70	Dr. S VenugopalRao, University of Hyderabad	Ultrafast laser ablation in liquids: Physics and Applications	Department of Atomic and Molecular Physics	October 31, 2014

75	Dr. Aditya Dharmadhikari, TIFR, Mumbai	Direct writing of structures in transparent materials with ultrafast laser pulses	Department of Atomic and Molecular Physics	October 31, 2014
74	Dr. Reji Philip, RRI, Bangalore	Acceleration of neutrals in an ultrafast laser produced Zn plasma	Department of Atomic and Molecular Physics	October 31, 2014
72	Dr. Sajan D. George, Manipal University	Tailoring surface wettability using a femtosecond oscillator	Department of Atomic and Molecular Physics	October 31, 2014
73	Dr. K. Porsezian, Pondicherry University	Optical Solitons: Mathematical discovery to Technological Revolution	Department of Atomic and Molecular Physics	October 31, 2014
74	Mr. Swagatha Acharya, IIT Kharagpur	Electronic Origin of Pairing in High T _c Cuprates	Department of Atomic and Molecular Physics	October 31, 2014
75	Dr. Rama Chari, RRCAT	Ultrafast Spectroscopy of Nanomaterials	Department of Atomic and Molecular Physics	November 1, 2014
76	Dr. S. Prabhu, TIFR	Tera Hertz (THz) Spectroscopy and Applications	Department of Atomic and Molecular Physics	November 1, 2014
77	Mr. Ajay Jha, TIFR	Ultrafast Electron Injection and Recombination Dynamics at Diketopyrrolopyrrole-based Polymer-TiO ₂ Interface	Department of Atomic and Molecular Physics	November 1, 2014
78	Dr. Avnish Kumar Sharma, RRCAT	Laser diagnostics for high energy high power Nd:phosphate	Department of Atomic and Molecular Physics	November 1, 2014

		glass based laser systems		
79	Dr. P.K. Singh, RPD, BARC	A 2D IR Investigation of Nano-confined Water using an Infrared Reporter Probe	Department of Atomic and Molecular Physics	November 1, 2014
80	Dr. PrathikSen, IIT, Kanpur	Understanding the Novel Binary Mixtures of Chlorinated-methanes and Primary-alcohols by Spectroscopic Studies	Department of Atomic and Molecular Physics	November 1, 2014
81	Mr. P. Sreekanth, RRI, Bangalore	Spectral dispersion of ultrafast optical limiting in reduced graphene oxide	Department of Atomic and Molecular Physics	November 1, 2014
82	Dr. Junichro Kono, Professor of Rice University, Texas, USA	To deliver a lecture through SPIE Visiting Lecture Grant and as a part of Dr. TMA Pai Chair for Biophotonics Activity	Department of Atomic and Molecular Physics	20 th July 2014
83	Dr. R. A. Yadav, Department of Physics, Banaras Hindu University, Varanasi	The Role of Symmetries in Molecular Spectroscopy	Department of Atomic and Molecular Physics	11 th , 12 th , and 13 th June, 2014

Special lectures given by eminent scholars:

Workshops and seminars in 2012:

- One day Symposium on Nanoscience and Technology on 9 March, 2012
- Recent Advances in Photonics on 10 March, 2012
- Workshop on Use of Instrumentation of Physical Sciences in Archaeology during 19-21 March 2012
- National Workshop on Photonics in Medicine and Biology from 20-22 August 2012

Workshops and seminars in 2013:

- One Day Symposium on Recent Advances in Photonics held on 23rd February, 2013
- One Day Symposium on Nanoscience and Technology held on 24th February, 2013
- One Day Symposium on Recent Trends in Biophysics held on 25th February, 2013
- Workshop on Three Dimensional Structure (Drug) Using X-ray Crystallography” held on February 26, 2013.

Workshops and seminars in 2014

- DAE-BRNS National Laser Symposium – held during 6 - 11 January, 2014
- The Theme Meeting on Ultra Fast Science-2014 held during October 30th – November 1st 2014
- One day Symposium on Recent Advances in Photonics held on 23rd July, 2014

45. List the teaching methods adopted by the faculty for different programmes.**For M.Sc. Photonics and M.Sc. Nanoscience and Technology**

Routine Lectures

Laboratory courses

Interactive teaching

Demonstration of research level experiments

Tutorials

Weekly seminars

Certificate courses:

Routine Lectures

Demonstrations of research level experiments

46. How does the Department ensures that programme objectives are constantly met and learning outcomes are monitored?

Teaching plan of all faculty members involved in teaching are monitored by the Head of the Department.

Students' feedback on each faculty member are taken

47. Highlight the participation of students and faculty in extension activities.

Students are actively involved in the Journal Club to arrange seminars on popular science.

Organize awareness programmes to attract school and college students in interdisciplinary subjects like Photonics, Nanophotonics, Biophotonics and motivate them to take a career in science.

48. Give details of “beyond syllabus scholarly activities” of the department.

- a. Students are encouraged to choose topics on recent scientific developments in interdisciplinary subject areas in their weekly seminar. Credits are given to the students for giving seminars.
- b. Students are encouraged to join for certificate courses offered by the Department.
- c. Students get opportunities to participate in conference/workshop/symposia organized by the Department.

49. State whether the programme/department is accredited/graded by other agencies? If yes,give details.

ISO certification (ISO 9001-2008, ISO 14001 – 2004)

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

The Department of Atomic and Molecular Physics (DAMP), is dedicated to advanced research and teaching. The department is progressively aiming at become a leading centre for research in a vast area of atomic and molecular physics, consisting of ultra-fast

phenomena in atoms and molecules, light matter interactions, optics and quantum electronics, condensed matter physics, and nanophysics. The department initially focused exclusively on research and now has made its mark in the academic arena with the introduction of M.Sc. Photonics course launched in September 2009. This being the first step to meet the national and international needs of expertise in Photonics, the department has also started certificate courses in ‘Laser Applications in Medicine and Biology’ and ‘Nanoscience and Nanotechnology’ during the year 2010-2011. Short-term application oriented courses of these kinds will be conducted regularly round the year. Manipal University has signed a Memorandum of Understanding (MoU) with Tata Institute of Fundamental Research (TIFR) for joint research collaboration to promote basic and applied research in the campus. Federation agreement has been signed with AICTP, Trieste, Italy, to facilitate the visit of young faculty members of our department to participate in the scientific programmes organized by AICTP, Trieste, Italy, during the period 2012-2014.

The Department has designed and developed several instruments to carryout research in the area of biophysics, biophotonics and biomedical optics. The Laser Induced Fluorescence setup is developed for the *invitro/invivo* detection of various types of cancer. The locally assembled Raman spectrometer looks into the classification of different stages of the cancer by employing various statistical tools such as PCA, ANN etc. on the recorded *in vitro/in vivo* Raman spectra. In the Raman Tweezers setup developed at the department is dedicated for optical trapping of single cell in their physiological conditions and study the Raman spectra to understand their dynamics. In the HPLC-LIF laboratory, the protein profile analysis on clinical samples (saliva, blood serum etc.,) is being carried out for early detection of cancers. The recently established femtosecond laser lab is aimed at micromachining and the development of diffractive optical components for photonics applications.

51. Future plans of the department.

- To become a Centre of Excellence with focus on fundamental research in contemporary and thrust areas of Atomic and Molecular Physics.
- To identify, initiate and explore research in the cutting edge areas of atomic and molecular physics including interdisciplinary subjects
- To create an environment to promote this endeavour and to shape future direction of research and development.

The department has launched its first academic programme in the year 2009 by offering a postgraduate programme in Photonics with advanced curriculum by giving emphasis on photonics applications. The department has already launched another postgraduate programme in Nanoscience and Technology during this academic year. Further, another program on Biophysics will be initiated in the academic year 2013.

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:

1. Good infrastructure
2. Qualified faculty members
3. Well- equipped research laboratories
4. Opportunity to interact with experts from Engineering, Medicine and Basic Science disciplines from one location (Manipal University).
5. National and international collaborations

Weakness:

1. Difficulty in getting very good students for the Postgraduate and PhD programs.

Opportunities:

1. Funds are available with various Government funding agencies for interdisciplinary research like Photonics, Biophotonics and Nanobiophotonics.
2. In Photonics which is, one of the thrust areas, several positions for R&D as well a higher studies (PhD) are available in European Union and United States of America (USA).
3. Government of India has identified the importance of Photonics and there is already a Photonics initiative by allocating nearly Rs.100 crores in the 12Five year Plan.
4. Manpower is needed with expertise in Photonics technologies to cater the needs of companies that develop products on efficient LED lighting, optic fiber communication and solar cell technologies.

Challenges:

1. Getting sufficient research grants from various funding agencies to continue the ongoing research and development activities.
2. Getting intelligent and committed students for Postgraduate and PhD programmes.
3. Publication of research articles in high impact journals
4. Filing patents

1. **Name of the Department:** School of Management, Manipal

2. **Year of establishment:** 1999

3. **Is the Department part of a School/Faculty of the University?**

Yes (Part of Manipal Institute of Technology, Manipal)

4. **Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)**

Masters of Business Administration (MBA)

5. **Interdisciplinary courses and departments involved -NA**

6. **Courses in collaboration with other universities, industries, foreign institutions, etc.**

Nil

7. **Details of programmes / courses discontinued, if any, with reasons**

Nil

8. **Annual/ Semester/Choice Based Credit System**

Trimester Choice Based Credit System

9. **Participation of the department in the courses offered by other departments**

Participate in Medical/Engineering/Pharmacy/Hotel Management/Sports Management Institutions in handling Management related courses.

10. **Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)**

	Sanctioned	Filled
Professor	2	2
Associate Professors	5	5
Asst. Professors	12	12

11. **Faculty member profile with name, qualification, designation and specialisation (D.Sc./D.Litt./ Ph.D./M.Phil., etc.)**

[As on December 31, 2014]

Sl#	Name	Qualification	Designation	Specialization	No. of Years of Experience (T= Teaching I= Industry R=Research)	No. of Ph.D. students guided for the last 4 years
1.	Dr. K.V. M. Varambally	MA PhD	Professor	Economics	T - 30 R - 30	3
2.	Dr. Rajasekharan Pillai K	BA, MA, MBA M Phil, Ph D	Professor	Economics and Research Methodology	T - 16 I - 07	-----
3.	Dr. V.K. Ranjith	BBM, MBA FDPM (IIM-A) Ph D	Assoc. Prof.	Finance/ Strategy	T - 18 I - 01	--
4.	Mr.Raveendra Rao	B.E., MBA, Pursuing PhD	Asst. Prof.- Selection Grade	Marketing	T - 18 I - 04	--
5.	Mr.Suhan	DME, B.A. MBA M Com., M.Phil, Pursuing PhD	Asst. Prof.- Selection Grade	Marketing	T - 16 I - 02	--
6.	Dr. Pallavi Upadhyaya	B Sc, MCM (Master of Computer Mgmt), PhD	Assoc..Prof.	Information Systems	T - 16	--
7.	Dr. S. Lakshminarayanan	B Sc., MA, DLL, MBA, PhD	Assoc. Prof.	HR	T - 16 I -04	--
8.	Dr.Yogesh Pai P	B.E, MBA, M.Phil, PhD	Asst. Prof.- Senior Scale	Operations	T - 15 I - <01	--
9.	Mr.Nandan Prabhu	B.Com, M.Com, Pursuing PhD	Asst. Prof.- Selection Grade	Finance	T - 25 I - 03 (Print Journalism)	--
10.	Mrs. Kavitha T C	B.Sc MBA PGDMM	Asst. Prof.- Senior Scale	Marketing and System Management	T - 15	--
11.	Dr. Smitha Nayak	BBM, MBA, Ph.D	Assoc. Prof.	Marketing	T - 12 I - 01	--
12.	Dr.Swathi K S	BAMS, MBA	Asst. Prof.	Healthcare	T - 05 I - <01	--
13.	Dr. Sagarika R Kamath	BHMS, MHA	Asst. Prof.	Healthcare	T - 02 I - <01	--
14.	Dr. Savitha	BA, MA, MBA M Phil, Ph D, NET, H.G.Dip	Assoc..Prof.	Finance	T - 10	--
15.	Mr. Navin	B Com, M. Com, LLB, MBA, NET	Asst. Prof.	Human Resource/Law	T - 06	--
16.	Mr. Ashish Viswanath Prakash	BE, MBA	Asst. Prof.	Operations	T - 02	--
17.	Mr. Suraj Francis Noronha	B.Com, MBA, MA, UGC(Mgt.)	Asst. Prof.	Human Resource	T - 07	--

18.	Mrs. Chetana Balakrishna Maddodi	B. Sc, MCA, MBA	Asst. Prof.	Marketing	T – 03 I - 15	--
19.	Dr. Rajesh R Kamath	MBBS, MHA	Asst. Prof.	Masters in Hospital Administration	T – 02 I - 02	--

12. List of senior Visiting Fellows, faculty members, adjunct faculty members, emeritus professors

Visitors to SOM during 2011 and 2012

1. Brig (Dr.) PS Siwach, Dir. Admin and Gen Services, Manipal University, Jaipur.
2. Mr. Giles Brooker, Chairman, Giles Brooker Group, Auckland and Ms. Prabha, Govindasamy, Director, Giles Brooker Education Development Services Pvt Ltd.
3. Ms. Asha Menon, Head-HR, Manipal International University, Malaysia.
4. Prof. Frank Scrimgeour-Dean, Waikato Management School, New Zealand.
5. Dr. Asad Mohsin-Chair of Tourism and Hospitality, Waikato Management School, New Zealand.
6. Mr. Ramanan, CEO, Raise Consultancy, Chennai.
7. Kamal Kumar Chand, HR Head-BPO India, Xchanging, Xchanging Towers, SJR iPark, EPIP Area, Whitefield Bangalore, India.
8. Mr. Shantaram, President, NHRD, Chennai Chapter.
9. Mr. Shailendra Marathe, Director – Capital Markets, Dell Services.
10. Mr. Firoze Andhyrujina, Senior Advocate, Supreme Court, Mumbai.
11. Mr. Rajesh Nair, Vice_President (Marketing), Idea Cellular Ltd, Bangalore.

12. Padmabhushan Prof. NS Ramaswamy, Founder Director of IIM-B.
13. Dr. RC Sastry, Chief Consultant, Stony Carter Consultants (P) Ltd, Vivekanandanagar, Habsiguda, Hyderabad 500 007
14. Dr. Ashok H Chachadi, Director, Kousali Institute of Management Studies, Karnataka University (Dharwad).
15. Dr. Mallikarjuna, Learning and Development Executive, Apollo Hospitals, Bangalore.
16. Mr. Jagadish Acharya, CEO Asian Paints, Mumbai.
17. Sri. P.D. Shenoy, IAS (Retired) Former Managing Director, KSRTC, Bangalore.
18. Sri. V.K. Talithaya, President, Primacy Industries Ltd., Mangalore.
19. Air Vice-Marshal (Prof.) Ramesh Karnik, Director, Justice K.S. Hegde Institute of Management, Nitte.
20. Dr. K. Govinda Bhat, DGM, Corporation Bank, Pune.
21. Dr. T. Mallikarjunappa, Professor, Dept. of Management Studies, Mangalore University, Mangalore
22. Mr. D.T. Pai, former Chairman of Syndicate Bank
23. Mr. Shashikanth Jayaraman, Head- HR, TVS Automobile solutions Ltd
24. Mr. Prasad Raj Kanchan, President, Udupi Chamber of Commerce and Industry
25. Mr. Muki Reghunathan, Founder and CEO, Pepper Square, Bangalore
26. Sri T. Chandrasekhar, Director, PFC, TIFAC
27. Sri. Kartik Puttaiah, CEO, Invntree, Bangalore.
28. Dr. M. Prithviraj, Executive Secretary, KSCST
29. Mrs. Manjari Bhargava, Arjuna Awardee winner for swimming
30. Mr. Mohanraj, VP-HR, Manipal Media (P) Ltd.,
31. Sri S Ramakrishna, Chief Operating Officer, TATA Tele-Services (TATA DOCOMO), South India

32. Mrs.UrmilaVenkatesh, Director Raman Computers Pvt Ltd, Mysore
33. Ms.DivyaSaxena, Senior Executive,Sir Ganga Ram Hospital, New Delhi
34. Mr.RavindraShenvi, Senior Manager – HR, Suzlon Wind International Ltd., Padubidri
35. Mr.MuralidharKini, Chartered Accountant, Udupi (Guest Faculty)
36. Mr.B.Ballal, Chartered Accountant, Udupi (Guest faculty)

International visitors

1. Dr. Ronald D'Souza, Luzern University, Switzerland
2. Edinburgh Napier University (ENU), U.K.
 - i) Dr MammedBagher, ENBS's MBA Director
 - ii) Dr Grant MacKerron, Head of School of Management
 - iii) PremKapur, Former President ITC Welcomgroup
3. Four officials (listed below) of Group T University, Belgium
 - i) Dr.Pinjal Kumar (International matters, management and Electromechanical Engg)
 - ii) Prof Luc Geurts (Electronics),.
 - iii) Prof Sabine Vercruysse(Bio-Chemical/Chemical, Food technology),.
 - iv) Prof Geert Waeyenbergh (Management/Electromechanical Engg).
4. Mr. Greg Coezho, George Brown College, TORONTO
5. Ms.VandanaMahajan, Director, International Academic Liaison, University of Toranto, Ontario, Canada
6. Officials from Waikato University, New Zealand
7. Mr Mick Rash (Head of the International Office and Overseas Partnerships)
8. Ms Michelle MacFadyen (Regional Manager, International Office) from Robert Gordon University (RGU), Aberdeen

Visitors during 2013

1. Naveen Sharma, Director – Internal Audit, Al Shirawi Group Dubai, UAE on 12.12.2013.

International visitors

1. Dr. Ronald D'Souza, Luzern University, Switzerland
2. Edinburgh Napier University (ENU), U.K.
 - i) Dr Mammed Bagher, ENBS's MBA Director
 - ii) Dr Grant MacKerron, Head of School of Management
 - iii) Prem Kapur, Former President ITC Welcomgroup
3. Four officials (listed below) of Group T university, Belgium
 - i) Dr. Pinjal Kumar (International matters, management and Electromechanical Engg)
 - ii) Prof Luc Geurts (Electronics).
 - iii) Prof Sabine Verduyck (Bio-Chemical/Chemical, Food technology),.
 - iv) Prof Geert Waeyenbergh (Management/Electromechanical Engg).
4. Mr. Greg Coezho, George Brown College, TORONTO
5. Ms. Vandana Mahajan, Director, International Academic Liaison, University of Toronto, Ontario, Canada
6. Officials from Waikato University, New Zealand
7. Mr Mick Rash (Head of the International Office and Overseas Partnerships)
8. Ms Michelle MacFadyen (Regional Manager, International Office) from Robert Gordon University (RGU), Aberdeen

Visitors during 2014

1. Dr. D Ashok, Professor in Marketing, VIT Business School, VIT University, Vellore-632014, Tamilnadu, India. Ph: 09345307314, email id: dashok@vit.ac.in
2. Mr. Pramod, General Manager, Manipal Press, Manipal.
3. Mr. P. Prabakaran, Country Head, TUV Rheinland, Coimbatore.
4. Mr. Nishit Mohanty, Head – HR, MEMG, Bangalore.
5. Mr. Gaurav Prakash, Entrepreneur, Founder & CMO, WLS Solutions.

International visitors

1. Prof. Dr. Hans G. Jansen, Head of India Liaison Office, Hochschule Bremen University of Applied Sciences, Neustadtswall 30, D-28199 Bremen, Ph: +49(O) 421, 59053188, Fax: +49(O) 421, 59053169, Email: india@hs-bremen.de, www.hs-bremen.de.
2. Dr Stephan Buse, Deputy Director, Hamburg University of Technology (TU Hamburg-Harburg), Hamburg, Germany is visiting Manipal on 28 November 2014.
3. The Dean of School of Management, Edinburgh Napier University (ENU) along with his team visited Manipal on 3 and 4 of December, 2014.

13. Percentage of classes taken by temporary faculty members- programme-wise information

5-7 %

14. Programme-wise Student Teacher Ratio –MBA programme:

12.6:1

15. Number of academic support staff (technical) and administrative staff: sanctioned and filled

Technical: - Sanctioned: 02, Filled: 02

Administrative: - Sanctioned: 09, Filled: 09

16. Research thrust areas recognized by funding agencies:

Nil

17. Number of faculty members with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise.

Nil

18. Inter-institutional collaborative projects and grants received

a) All India collaboration : NIL

b) International: NIL

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received.

Nil

20. Research facility / centre with

- State recognition NIL
- National recognition: NIL
- International recognition : NIL

21. Special research laboratories sponsored by / created by industry or corporate bodies:

Nil

22. Research Output in last 3 years

		2012	2013	2014
Completed funded research projects		-	-	-
Completed non-funded research projects		-	-	-
Completed PhD research projects		01	02	02
Completed PG research projects		120	120	120
Completed UG research projects		NA	NA	NA
Publications	International	2	0	6
	National	1	1	1
Books		-	-	-
Chapters in books		1	-	3
Conference presentations	International	2	2	9
	National	11	05	01

Publications:

International

2012

- Nayak,S., Nayak,V., & Menezes,R. (2012) . Telemedicine: The future of healthcare delivery. *International Journal of Computer Science and Management Research*, 1(1),4-11.
- Nayak, S., Nayak, V. & Insha,A. (2012) ICD-10 Implementation at RTIICS- Case Study. *World Journal of Science and Technology*. 2(12), 18-20.

2014

- Lakshminarayanan, S., & Savarimuthu, A. (2014) Examining the Relationship between Work-Family Conflict and Job satisfaction among Women Working in IT Industries in Bengaluru. *International Journal of Conceptions on Management and Social Sciences* Vol. 2, Issue. 2, May' 2014; 23-26.
- Pai, Y.P, and Chary, S.T. (2014). The impact of healthscapes on service quality and behavioral intentions, *International Journal of Conceptions on Management and Social Sciences*, 2(2), 18-22.
- Suhan, a research paper "Cause related marketing in creation of trust on organic cosmetics-An empirical investigation" is published in the *International Journal of Conceptions on Management and Social Sciences* Vol. 2, Issue. 2, May' 2014; ISSN: 2357 – 2787.
- Prabhu Nandan and Varambally KVM (2014), Spirituality and organizational Development: Lessons from Ancient Wisdom. *International Journal of Spirituality and organizational Development* Vol.1, Issue 1, July 2014.
- Kavitha T C and D. Ashok, 'Business and Non-Business students' attitudes towards Consumerism', *International Research Journal of Business and Management*, Volume V, May 2014, Pg 82-91.
- Navin Kumar K (2014). Role of Perceived Organizational Support and Organizational Justice on Employee Turnover Intentions: A Literature Review. *International Journal of Management and Social Science Research Review*, ISSN -349-6738, Vol.1, Issue 5, Nov – 2014, Page 106-112.

National2012

Lakshminarayanan, S., & Savarimuthu, A. (2012). Sunil's dilemma-The tug of work and family: A case study on work-life balance issues of a dual career couple, *Progressive Outlook*, 2(1), 47-48.

2013

Upadhyaya P, Mohanan P, Prasad K.M (2013), Barriers to B2B E-marketplace adoption: an empirical study of Indian manufacturing MSMEs, *Review of Integrative Business and Economics Research*, Volume 2 (issue 1), 555-565, <http://sibresearch.org/riber.html>.

2014

Lakshminarayanan, S., An Analysis of Work-Life Balance Among Women Employees in Selected ITES Companies of Bangalore: An Empirical Study, published in the book titled

Issues and Solutions of Work-Life Balance published by Archers & Elevators Publishing House, Bangalore (ISBN:978-81-923134-3-6). P.No:46-54

Conference Presentations

International

2012

- Upadhyaya, P., Mohanan P., & Prasad K.M. (2012). Motives and Benefits of B2B e-marketplace adoption: An empirical study of Indian MSMEs. In Chang A.C. & Sandhu P.S. (Eds.), *Proceedings of the International Conference on Humanities, Economics and Geography* (pp. 202-205). Bangkok, Thailand: PSRC.
- Pai, Y.P., & Chary, S.T. (2012). Measuring hospital service quality: A conceptual framework. In Chang C.A. and Sandhu, P.S. (Eds). *Proceedings of the International Conference on Humanities, Economics & Geography* (pp 192-95), Bangkok, Thailand: PSRC

2013

- S. Lakshminarayanan, (2013) Interdisciplinary Business & Economic Research organized by University of Kuala Lumpur, Malaysia during 15 & 16 February, 2013.
- P Pai Yogesh, Interdisciplinary Business & Economic Research organized by University of Kuala Lumpur, Malaysia during 15 & 16 February, 2013.

2014

- Dr. V.K. Ranjith, presented a paper titled "Middle managers involvement in strategy a case of banking sector" is presented at the 2nd Pan –IIM World Management Conference during November 5-8, 2014 at IIM, Kozhikode.
- Lakshminarayanan S, presented a research paper titled 'Examining the Relationship between Work-Family Conflict and Job satisfaction among Women Working in IT Industries in Bengaluru' in an International Conference on Engineering Management and Social Sciences at Sri Lanka during 27 & 28 March, 2014.
- Savith presented a paper titled 'Factors Determining Renewal of Membership in Micro Health Insurance' in an International Conference on Global Business, Economics, Finance & Social Sciences organized by GBR Journals & SDMIMD, Mysore at Ramada Powai Hotel & Conventional Center, Mumbai during 19-21 December, 2014.

- Pai P Yogesh Presented a research paper titled ‘The impact of healthscapes on service quality and behavioral intentions’ in an International Conference on Engineering Management and Social Sciences at Sri Lanka during 27 & 28 March, 2014.
- Nayak Smitha presented a paper titled ‘Impact of Mass Media on Healthcare Seeking Behaviour’ in an International Conference of Public Mental Health and Neuroscience organized by Sarvasumana Association, Bangalore during 18-19 December, 2014.
- Suhan presented a research paper titled ‘Cause related marketing in creation of trust on organic cosmetics-An empirical investigation’ in an International Conference on Engineering Management and Social Sciences at Sri Lanka during 27 & 28 March, 2014.
- Prakash Viswanath Ashish presented a paper titled ‘Emotive Robot: A non-Invasive EEG based BCI System’ in an International Conference on Advanced Trends in Engineering and Technology-2014 (ICATET) organized by, VJ Engineering College, Kerala on 28th March, 2014.
- Prakash Viswanath Ashish presented a paper titled ‘A Novel Motor Imagery Classification for Brain Computer Interfacing: The Emotive Robot’ in an International Conference on Large Area & Flexible Microelectronics-2014 organized by, R V College Of Engineering, Bangalore during December 18 -20, 2014.
- Maddodi B Chetana, paper presented at World Conference on Applied Science Engineer & Technology at Nepal during 27-29 September, 2014.

National

2012

- Nayak, S. & Varambally, K.V.M. (2012, January 21-22). Utilization of maternal healthcare services in rural areas: A study. Paper presented at the conference on Rural Transformation and Developmental Perspectives: Managerial challenges, Manipal, Karnataka.
- Upadhyaya, P., & Mohanan P. (2012, January 21-22). Role of information technology in the development of rural MSMEs. Paper presented at the conference on Rural transformation and developmental perspectives: Managerial challenges, Manipal Institute of Management, Manipal, Karnataka.

- Prabhu S. & Nayak P. (2012). Involvement of students in academic research: IPR issues. Paper presented at the national conference on Involvement of students in quality enhancement of higher educational institutions, Sambhram Academy of Management Studies, Bangalore, Karnataka.
- Varambally, K.V.M. (2012, September 4-5). Healthcare policy and development perspectives: The case of public private partnership. Paper presented at the International conference on public policy and governance, Indian Institute of Science, Bangalore, Karnataka.
- Nayak, S. (2012, January 6-7). Utilization of maternal healthcare services in Kaup village, Udupi district. Paper presented at the conference on Healthcare management, IHMR, Jaipur, Rajasthan.
- Rao, R.K. (2012, January 21-22), Value addition to rural products. Paper presented at the national conference on Rural transformation and development perspectives: Managerial challenges, Manipal Institute of Management, Manipal, Karnataka.
- Swathi, H.S. (2012, January 21-22). Healthcare delivery system in rural India: Problems & prospects. Paper presented at the national conference on Rural transformation and developmental perspectives: Managerial challenges, Manipal Institute of Management, Manipal, Karnataka.
- Prabhu, S. (2012, March). Intellectual property rights in knowledge economy. Paper presented at the national conference on Knowledge economy paradigm: Panacea for organization's high performance, Soundarya Institute of Management and Science, Bangalore, Karnataka.
- Prabhu, S. (2012, February). Uniform civil code a welfare measure: State prevaricates and abdicates the obligation. Paper presented at National conference on Constitution and Government policies: Doctrinal contradictions, Christ University Law School, Bangalore, Karnataka.
- Prabhu, S. (2012, January 21-22). Microfinance institutions in rural areas: Guidelines for empowerment and policy framework. Paper presented at the national conference on Rural transformation and development perspectives: Managerial challenges, Manipal Institute of Management, Manipal, Karnataka.
- Prabhu, S. (2012, January 21-22). Corporate governance practices and rules in business competition. Paper presented at the International conference on Ethics, Governance & IFRS, Sri Dharmasthala Manjunatheshwara College, Ujire, Karnataka.

2013

- Pillai K Rajasekharan, (2013) Development disparity and Social Research organized by Christ University, Bangalore during 29-31 January, 2013.
- T C Kavitha, A Study on Distribution Channel Strategies by FMCG in Rural Emerging Market. Paper presented at the International Conference on Emerging Markets and Issues in Management, VIT, Vellore, TN, India.
- Ranjith, V.K, Prabhu, S, (2013, March) "Higher education Institutions and Entrepreneurship-A case of Manipal University" at Christ University, Bangalore.
- K.S Swathi, (2013), 'Medical Waste management-An Innovative Approach' in the National conference on "Emerging Sectors: Growth Drivers for Indian Economy" organized by M.S. Ramaih Institute of Management, Bangalore, held on March 8, 2013.
- K.S Swathi, (2013), World Bank global partnership for development- a case study has presented in a national conference on public private partnership with special reference to infrastructure development, industrialization and tourism held by

S.D.M College of business management post graduate center for management studies & research on 28th January 2013.

2014

- Ranjith V.K Presented a case titled "Leveraging Lakme" in the Case Center conference at IIM, Bangalore during 8 & 9 September, 2014.

23. Details of patents and income generated

Nil

24. Areas of consultancy and income generated

Nil

25. Faculty members selected nationally/ internationally to visit other laboratories in India and abroad

Nil

26. Faculty members serving in

a) National committees b) International committees c) Editorial Boards d) any other (please specify):

- Prof Yogesh Pai P is a member of the expert group appointed by the Mission Director, National Rural Health Mission, Directorate of Health Services, Madhya Pradesh.
- Dr. V.K. Ranjith is a member of IIM Ahmedabad Alumni Association.
- Dr. V.K. Ranjith is a member of SAP Strategy as Practice an International online platform for strategy professors and practitioners.
- Dr. V.K. Ranjith is a member of Editorial Board (Indian) Annamalai International Journal of Business Studies and Research.
- Dr. V.K. Ranjith is a member of Strategic Management Forum of India.
- Dr. Yogesh Pai P, Reviewer for the three international Journals such as International Journal of Health Care Quality Assurance, Leadership in Health Services and Clinical Governance: an International Journal published by MCB Press (Emerald), UK.

27. Faculty member recharging strategies

Nil

28. Student projects

- Percentage of students who have done in-house projects including inter-departmental projects: 5
- Percentage of students doing projects in collaboration with other universities / industry / institute: 95%

29. Awards / recognitions received at the national and international level by

- Faculty members 2
- Doctoral / post-doctoral fellows nil
- Students: NIL

30. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.

1. National Conference on Rural Transformation and Developmental Perspectives: Managerial Challenges on 21st & 22nd January, 2012.
2. Tax Planning & Investment Workshop 24th January, 2012.
3. Manipal Institute of Management, Manipal organized two days “Skill and Technology Up gradation Programme on I.T. Applications in Management of Small Business Enterprises” during 30-31st July, 2012.
4. Conducted National Workshop on Intellectual Property Rights (IPR) – Practices & Management on 17th & 18th February, 2012.
5. Workshop on Entrepreneurship on 5th March, 2012.
6. Role of MUTBI for promoting Entrepreneurship on 2th July, 2012.
7. Workshop on IT Applications in Management of Small Business Enterprises in association with POWER and sponsored by SIDBI on 30th & 31st July, 2012.
8. Management Conclave on 13th September, 2012.
9. FDP on Data Analysis for Research on 5th – 7th October, 2012.
10. Seminar on Essential Financial Concepts was conducted by Financial Forum of School of Management, Manipal on 23.11.2014 on the topic “Demystifying Finance”.
11. MBA Healthcare Management student forum had organized one day workshop on “Healthcare Delivery at Grass-root Level” on 29.11.2014. Mr. Amritayan Das, Associate District Coordinator, BBC Media Action Delhi was the resource person for the event. Dr. (Col). M Dayananda (Medical superintendent & COO, Kasturba Hospital) Chief Guest of the inaugural function. Coordinators: Dr. Yogesh Pai P & Dr. Swathi KS.

31. Code of ethics for research followed by the departments The broad principles are as follows:

- The research should be an original investigation undertaken in order to generate and disseminate new knowledge.
- Research workers should, in all aspects of their research demonstrate integrity and professionalism; demonstrate intellectual honesty; effectively and transparently manage conflicts of interest or potential conflicts of interest; and ensure the safety and confidentiality of those associated with the research
- Research methods and results should be open to scrutiny and debate.

32. Student profile course-wise:

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
MBA	538	75	43	100	100

33. Diversity of students

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
MBA	10	55	34	1

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise:

None

35. Student progression

Student progression	Percentage against enrolled
UG to PG	Not Applicable
PG to M.Phil.	Not known
PG to Ph.D.	Not known
Ph.D. to Post-Doctoral	Not known
Employed <ul style="list-style-type: none"> • Campus selection • Other than campus recruitment 	60 % 35% (Estimate)
Entrepreneurs	Not known

36. Diversity of staff

Percentage of faculty members who are graduates	
of the same university	21
from other universities within the State	52
from universities from other States	27
from universities outside the country	NIL

37. Number of faculty members who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period

01

38. Present details of infrastructural facilities with regard to

a) **Library** - A well-stocked library with over 16,839 books

b) **Internet facilities for staff and students** – Staff and students are provided access to the internet through Manipal University’s high speed Internet gateway of 30 Mbps through BSNL’s STM ring, 10 Mbps from Bharti and 4 Mbps from VSNL’s gateway.

c) **Total number of class rooms** - 6

d) **Class rooms with ICT facility** - 6

e) **Students’ laboratories** - 1

f) **Research laboratories** - NIL

39. List of doctoral, post-doctoral students and Research Associates

a) **From the host university** -

Name of the candidate	Topic	Guide/Co-guide	Reg.No
1. Prof. Raveendra Rao	“Managing IPR’s in Education Institutions”	Prof. Murugaiah, Institute of Management Studies. Davangere University	13PHBA08
2. Prof. Suhan	Cause related Marketing in creation of Trust through Corporate social responsibility – An Empirical Study	Dr. A.P Achar Director, Sahayadri Institute of Management, Mangalore.	13PPMG0010
3. Prof. Nandan Prabhu	“Transformational Leadership and team Effectiveness: An Empirical study of Moderated Meditational Model of Workplace Spirituality and Trust”	Dr. L.L. Rodrigues HOD, Dept. Humanities, MIT, Manipal	

4. Prof. Kavitha TC	ICT adoption among faculty in Management Institutes	Dr. Ashok VIT, Vellore	13PHD0206
5. Mr. Navin Kumar	Role of perceived organizational support and justice on employee turnover intentions with mediating effect of employee engagement	Dr. Babu Thomas St. Aloysius Advanced Research Center, Mangalore	13 MGE 171
6. Suraj Francis Noronha	Performance Management and Control, Implementation Strategies in Medium & Large enterprises in the Coastal districts of Karnataka	Dr. P.G. Aquinas Mangalore University Mangalore	4NM10PBM01

b) From other universities

Name of the candidate	Topic	Guide/Co-guide	Reg.No
Mrs.Vrishali Bhat, Faculty member,TAPMI	Impact of Market Risks on Indian Firms Issuing Foreign Currency Convertible Bonds	Dr. Pratap Chandra Biswal Dr. KVM Varambally	090900052

40. Number of post graduate students getting financial assistance from the University.

MANIPAL UNIVERSITY, MANIPAL		
Type of scholarship	2013-14	2014-15
AGE SCHOLARSHIP	401,300	471,600
INT SUBSIDY ON EDU LOAN	79,687	73,776
KONKANI SCHOLARSHIP	759,800	1,039,600
SAGES	131,000	796,150
STAFF CHILD/SPOUSE SCHOLARSHIP	2,731,425	2,912,775
Grand Total	4,103,212	5,293,901

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology. :

Nil

42. Does the department obtain feedback from

- a. Faculty members on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes. New electives /specializations are introduced based on faculty member feedback.

- b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Yes. The feedback is used in identifying areas needing improvement and action taken accordingly.

- c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

Feedback is obtained informally and is used in effecting changes in curriculum.

43. List the distinguished alumni of the department (maximum 10)

Top Alumni List

- 1) Vishal Kalra, Team Manager - Investment Consulting at Mercer Investment Consulting, New Delhi.
- 2) Ajay Gajanan Desai, DGM - HR (Corporate) at Legrand (India), Mumbai.
- 3) Thomas Stephen, Vice President at Karvy Private Wealth, Bengaluru.
- 4) Jayson M, Business HR Head- Secondary Care at Apollo Health and Lifestyle Limited, Bengaluru.
- 5) Vivian Fernandes, AVP-Credit Analyst at Copal Amba (a Moody's subsidiary), India.
- 6) Kiran Punja, Country HR Manager - India and HR Business Partner - APAC & EMEA, VeriSign, Bangalore.
- 7) Shilpa Jadhav, Manager Human Resources at Target Corporation, Bengaluru.
- 8) Nishant Worah, Director Client Services at Infinite Computer Solutions, Singapore.
- 9) Simon Avinash, Recruitment Lead - Asia Pacific and Japan at SAP, Bengaluru.
- 10) Mathew George, Unit Head at Asian Paints Ltd, Calicut.

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

Guest lecture on “Global Financial Crisis” by Dr. Mallikarjunappa, Professor, Dept. of Management Studies, Mangalore University, Mangalore on 9th January, 2012.

- Alumni Meet of MIM at “Celebrate Banquet”, S Hotel, #60, 13th Cross, 2nd Main, J P Nagar 3rd Phase, Bengaluru—560078 on 4th Feb, 2012
- Conducted Kurukshetra – 2012 on 10th & 11th February, 2012.
- Triomphe – 2012, Inter B-School Football Badminton tournament on 14th & 15th February, 2012.
- Conducted on Management Conclave, Series of guest lectures conducted on 15th February, 2012.

- Conducted Annual Sports Day on 20th February, 2012.
- Guest lecture on “Compensation Management’ on 24th February, 2012.
- Guest lecture on “Talent Management Strategies” on 27th February, 2012.
- Annual Day on 3rd March, 2012.
- Environment and Health Awareness Camp at Vishnumoorthy High school, Kudi, Kodibettu by Social Forum of MIM on 28th July, 2012.
- Guest lecture on the topic Virtual Internship for MBAs on 1st August., 2012.
- Inauguration of Parichay 2012, an in-house Management and Cultural event on 1st August, 2012.
- Guest lecture on Health Insurance and TPA on 16th August, 2012.
- Guest lecture for HR students on Issues in Contact Labour on 4th September, 2012.
- Teacher’s Day celebration on 5th September, 2012.
- Onam celebrations by students on 7th September, 2012.
- Guest lecture by Prof. Vedantham Krishnan on Effective Executives for the 21st Century on 11th September, 2012.
- Guest lecture by Mr. Babith Nayak on Employability v/s work ability v/s performance in context of HR processes-Mahindra Vehicle Manufacturers Limited on 12th September, 2012.
- Conducted Annual Day on 16th March, 2013.
- Conducted Annual Sports Meet on 17th December, 2013.
- Social forum organised a Health Awareness and Career Orientation program at the Government High School, Shivapura Village, Karkala Taluk on 22.08.2014. Dr. Smitha Nayak & Dr. Swathi KS were the coordinators.
- Conducted Parichay Programme during 26.07.2014 – 05.08.2014, Mr. Pramod, General Manager, Manipal Press, Manipal was the Chief Guest and Dr. Yogesh Pai P was the Coordinator.
- Conducted a five day ISO 9001:2008 Lead Auditor certification course from 16.10.2014 to 20.10.2014. Mr. P. Prabakaran, Country Head, TUV Rheinland, Coimbatore was the Resource person.
- Organised Sardar Patel’s Birth Anniversary as the “Rashtriya Ekta Diwas” (National Unity Day) on 31.10.2014: Two competitions for students were conducted that was participated by large numbers. The students had a speech competition and collage competitions that were conducted on that day. Dr. Yogesh Pai P was the coordinator.
- Conducted Clean and Green Programme on 4.11.2014. Dr. Satish Shetty, Former Director, Blood bank, Kasturba Hospital, Manipal was the Chief Guest of the programme. Dr. Smitha Nayak was the Coordinator.
- Conducted Birth Anniversary of Maulana Abdul Kalam Azad as National Education Day on 11.11.2014. Dr. Srikanth Prabhu, Associate Professor, Computer Science Engg Dept. MIT, Manipal was the Resource person of the programme and Dr. Yogesh Pai P was the Coordinator.
- Guest lecture on Recent Trends in HR with special reference to HR initiatives taken at MAGE on 12.11.2014. Mr. Nishit Mohanty, Head - MEMG, Bangalore was Resource person of the programme and Dr. S. Lakshminarayanan was the Coordinator.

- Guest lecture on Entrepreneurial Opportunities in Digital Marketing on 12.11.2014. Mr. Gaurav Prakash, Entrepreneur, Founder & CMO, WLS Solutions was the Resource person of the programme. Dr. Pallavi Upadhyaya and Prof. Chetana Maddodi were the Coordinators.
- Guest lecture on Driving down the cost of high-quality health care, Lessons from Aravind Eye Care System, India on 27.11.2014 by Sanil Joseph MHA, MSc (Public Health) Senior Faculty & Hospital Management Consultant, Aravind Eye Care System.
- Conducted FLAME-2014, Forum for Learning and Acquiring Marketing Excellence, a Marketing event on 06.12.2014. Mr. Avinash Shenoy, Director, Lamina Suspension Products Pvt. Ltd., was the Chief Guest of the programme. Ms. Sinchana, Senior Principal Consulting Manager, Oracle and Ms. Sanghamitra Bhargav, Senior PR Executive, Flipkart were the Resource persons.
- Guest lecture on 'Trading in Stock Market' on 15.12.2014 by Mr. Viprav Dhandhukia, Manager, Technical Analyst Research, Karvy Stock Broking Ltd., Hyderabad. Dr. Savitha was the Coordinator.
- Conducted Annual Sports Day on 17.12.2014. Dr. Anice George, Dean, Manipal College of Nursing, Manipal was the Chief Guest of the inaugural programme.
- Guest lecture on Managerial issues in Hospitals on 19.12.2014 by Dr. Ranjan Shetty, Professor & Unit III Head, Department of Cardiology, Kasturba Medical College, Manipal.
- Oratory competition for MBA students as part of observing the Birthday of Shri Atal Bihari Vajpayee on 24.12.2014.

45. List the teaching methods adopted by the faculty members for different programmes.

Lectures, case discussions, role plays, and simulations, course ware software.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

Through feedback from students, alumni and employers

47. Highlight the participation of students and faculty members in extension activities.

Respective committees involving students and faculty members conduct the extension/ social service activities

48. Give details of “beyond syllabus scholarly activities” of the department.

Guest lectures by Industry experts in all specializations, Management conclaves, programmes by different specialization forums.

49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details.

ISO 9001:2008 and ISO 14001:2004 Certified by TUV. MBA is recognized by AICTE.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

New knowledge in the area of Management studies has been generated through the papers published /presented at conferences by faculty members

51. Future plans of the department.

- Achieve 100% placement for students through on campus recruitment.

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strength

1. Young faculty members
2. Faculty members with doctoral qualifications
3. Brand name of University
4. Good industry contacts
5. Infrastructure

Weakness

1. Courses are outdated in some areas
2. Weak placement record
3. Relatively poor quality of student intake

Opportunities

1. Demand for MBA graduates
2. Possibilities of introducing new areas of specialisation
3. International collaborations through Manipal University
4. Increased student intake
5. Acquiring international accreditation

Challenges

1. Intense competition due to mushrooming number of MBA colleges
2. Uncertain market for fresh MBAs
3. Drying up of research funding
4. Increasing student/parent expectations
5. Insufficient supply of trained faculty members.

1. **Name of the Department: Department of Commerce**
2. **Year of establishment:** 2007
3. **Is the Department part of a School/Faculty of the university? :**
Yes, part of School of Management, Manipal Institute of Technology, Manipal
4. **Names of Programmes offered (UG, PG, M Phil, PhD, Integrated Masters, Integrated PhD, etc.):**
 UG programmes offered - BBM (e-Banking and finance), BBM (Financial Markets), BBM (Professional) and BBM (Logistics and Supply Chain)

 BBA (JDM) - Bachelor of Business Administration in Jewellery Design and Management
 BBA (JDM-Lateral) - Bachelor of Business Administration in Jewellery Design and Management- Lateral – a two year programme for diploma holders.

 PG Courses Offered –M Com (Logistics and Supply Chain)
5. **Interdisciplinary courses and departments involved:** NIL
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:**
 - BBM (Professional) in collaboration with Chartered Institute of Management Accountants (CIMA), UK.
 - BBM (Logistics and Supply Chain) credit transfer collaboration with Massey University New Zealand
 - BBM Programs credit transfer collaboration with University of Cincinnati, USA
 - BBM Programs credit transfer collaboration with University of South Florida, USA
 - M Com (Logistics and Supply Chain Management) in collaboration with Confederation of Indian Industry (CII), Logistics Institute, Chennai.
7. **Details of programmes discontinued, if any, with reasons:** - NIL
8. **Annual/ Semester/Choice Based Credit System:** Semester based credit system.
9. **Participation of the department in the courses offered by other departments:**

Subject	Programme	Constituent Institution
Land Economics	M .Arch	Faculty of Architecture, MIT

10. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Assistant Professors)

BBM (Programmes)

	Sanctioned	Filled
Professor	1	1
Associate Professors	NIL	NIL
Assistant Professors	18	18

BBA (JDM)

	Sanctioned	Filled
Professors	1	1
Associate Professors	-	-
Assistant Professors	3	3
Assistant Lecturers	2	2

11. Faculty profile with name, qualification, designation and specialization (DSc/DLit/ PhD/MPhil, etc.)

BBM (Programmes)

SI #	Name of the Faculty	Designation	Specialization	Educational Qualification	No. of years of Experience	No. of PhD students guided for the last 4 years
1	Sandeep S Shenoy	I/c Head and Asst. Prof. - Selection Grade	Finance	MFM, M Phil	12 (Academic) 06 (Industry)	-Nil-
2	Dr H G Joshi	Professor	HRM	M Com, Ph D	25 Years	1 – Completed 13-in Progress
3	Santosh Shetty G	Asst Prof.- Selection Grade	Business Administration HR	M Com, Phil	12	Nil-
4	Varalakshmi Alapati	Asst. Prof.	Mathematics and Statistics	M. Sc.	06	Nil-

Sl #	Name of the Faculty	Designation	Specialization	Educational Qualification	No. of years of Experience	No. of PhD students guided for the last 4 years
5	Mr Guru Prasad Rao	Asst. Prof.	Finance	MBA	05	Nil-
6	Mr S. Sai Sachidhananda	Asst. Prof. – Senior Scale	Human Resource	MBA M Phil	05	Nil-
7	Mr Surendra Pai	Asst. Prof.	Banking, Insurance	CAII B	05	Nil-
8	Mr Jose Mamman	Asst. Prof.	Financial Accounting	MBA	03	Nil-
9	Mr Vikram Baliga	Asst. Prof.	HRM	MBA	05 (academic) 07 (Industry)	Nil-
10	Mr Praveen Kumar	Asst. Prof.	Marketing	MBA	03	Nil-
11	Mr Niranjan Prabhu	Asst. Prof.	Finance	MBA	03	Nil-
12	Mrs E Geetha	Asst. Prof.	Finance	M Com	04	Nil-
13	Mrs R Ambigai	Asst. Prof. – Senior Scale	HRM Strategic Human Resource Management	MBA M Phil	06	Nil-
14	Mr Abhishek S Rao	Asst. Prof.	Human Resource	MBA	02	Nil-
15	Mr Santosh Nayak	Asst. Prof.	HR & Marketing	MBA	02 (academic) 04 (Industry)	Nil-
16	Mr Adithya D Shetty	Asst. Prof.	Marketing	MBA	<01	Nil
17	Mr Lumen Shawn Lobo	Asst. Prof.	Finance	MBA	05	Nil
18	Mr Ruchir Anand	Asst. Prof.	Marketing & Operations	BE MBA	03 (academic) 13 (industry)	Nil
19	Mrs Linsy Mathew	Asst. Prof.	Finance	MBA	<01 (academic) 03 (industry)	Nil

BBA (JDM)

Sl #	Name of the Faculty	Designation	Specialization	Educational Qualification	Total Exp. (Years)	No of PhD students guided for the last 4 years
1	Prof (Col) M Madhav Shanbhag	Professor	Management	BE, M Tech, MBA	38	Nil
2	Mrs Rekha I S	Asst. Prof.	Management	MBA, Diploma in Export Management	08	-Nil-
3	Mrs Jyothi S Shetty	Asst. Prof.	Computer applications	MBA, PGDCA	06	-Nil-
4	Mr. Mukesh H V	Asst. Prof.	Marketing	B.Tech MBA ,NET & JRF	06	-Nil-
5	Ms Vijetha Bhat	Assistant Lecturer	Jewellery and Gemology	BBA (Jewellery Design and Management)	04	-Nil-
6	Ms. Helen Sam	Assistant Lecturer	Jewellery Design (Manual)	BBA(JDM)	01	Nil

12. List of senior Visiting Fellows, faculty, adjunct faculty, emeritus professors:**BBM (Programmes)**

Sl #	Name of the faculty	Guest/ Adjunct Faculty	Post / Designation held	Company/ Institution	Area of expertise
1	Mr Jayaram Shetty	Guest	Retired Branch Manager	Vijaya Bank	Banking
2	Mr Sujir Prabhakar	Guest	Retired Deputy General Manager	Syndicate Bank	Banking
3	Mr Praveen Suvarna	Adjunct	Executive Vice President, Quality Assurance	Yes Bank Ltd, Mumbai	Banking and Quality Assurance

4	Mr Ravi Krishnamoorthy	Adjunct	Chief Operating Officer	SBI Life Insurance, Mumbai	Banking and Insurance
5	Mr Nitin K Tike	Adjunct	Senior Vice President	National Institute of Securities, Mumbai	Capital Markets
6	Dr Pradeep B Salgaonkar	Adjunct	Director,	Sri Sri Institute of Management Studies, Margoa, Goa	Customer Relationship Management Total Quality Management

BBA (JDM)

Guest Faculty: - 2013

Sl #	Faculty Name	Designation
1	Mr Gururaj Aithal	Advocate
2	MsPallavi	Asst Professor, Taxation

Guest Faculty: - 2014

Nil

13. Percentage of classes taken by temporary faculty – programme-wise information

BBM Programs –10%

BBA (JDM) - UG course -2%

PG course - Nil

14. Programme-wise Student Teacher Ratio:

BBM (Programmes): 30:1

& M.Com:-15:1

BBA (JDM) - B.B.A. – 20:1

PG – 5:1

15. Number of academic support staff (technical) and administrative staff :sanctioned and filled :

BBM (Programmes):- 6 sanctioned and 6 filled

BBA (JDM): - Academic support staff (technical): Sanctioned and filled: 2
 Administrative staff: Sanctioned and filled: 5

16. Research thrust areas recognized by funding agencies:

Our department has identified Government as well as Non-Government (NGO) bodies for research support. Few government funding agencies like AICTE, UGC, CSIR, NSTMIS, DRDO, DST, etc. have identified Economics, Commerce, Management, Business Administration, Social Work, IPR Management, Human Resources in S and T, Social and Behavioral Research, Humanities, Social Sciences, Insurance and Banking, World trade and other applicable areas for Multidisciplinary/Extramural Research.

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise.

NIL

18. Inter-institutional collaborative projects and grants received

A National level seminar on “Accounting: An aid for Superlative Business Development” sponsored by the Institute of Chartered Accountants of India, New Delhi on the 29th of August, 2012. – Grant received Rs 54,000

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received:

- DST funded Entrepreneurship awareness camp at Dr T M A Pai Polytechnic – Rs. 11,474 in 2012.
- DST funded Entrepreneurship awareness camp – Rs. 30,083/- in 2013
- DST-NIMAT Project granted Rs. 60,000/- for conducting EAC in 2014.

20. Research facility / Centre with

- **state recognition** – Nil
- **national recognition** - Nil
- **international recognition** – Nil

21. Special research laboratories sponsored by / created by industry or corporate bodies: Nil**22. Research Output:****Ongoing Projects: BBM Programmes**

Funded research projects	0
Non-funded research projects	0
PhD research projects	04
PG research projects	24
UG research projects	226

In last three years: BBM Programmes

		2012	2013	2014
Completed funded research projects		--	Nil	Nil
Completed non-funded research projects		----	Nil	Nil
Completed PhD research projects		-----	Nil	Nil
Completed PG research projects		-----	Nil	24
Completed UG research projects		68	66	92
Publications	International	04	06	07
	National	01	03	--
Books		---	--	--
Chapters in books		07	--	--
Conference presentations	International	10	09	12
	National	23	01	02

BBA (JDM)

		2012	2013	2014
Completed funded research projects		Nil	Nil	Nil
Completed non-funded research projects		Nil	Nil	Nil
Completed PhD research projects		Nil	Nil	Nil
Completed PG research projects		Nil	Nil	Nil
Completed UG research projects		Nil	Nil	Nil
Publications	International	Nil	Nil	Nil
	National	Nil	Nil	Nil
Books		Nil	Nil	Nil
Chapters in books		Nil	Nil	Nil
Conference presentations	International	Nil	Nil	Nil
	National	7	Nil	Nil

Publications: Number of papers published in peer reviewed journals (national / international):-

BBM (Programmes):-

Sl #	Faculty	Title	Journal	Volume	Page nos.	Year	National OR International	Indexed OR Non Indexed
1	Sandeep Shenoy, Guruprasad Rao & Abhishek Rao	A Study of Retension issues of Insurance Advisors as a Profession in an Indian Perspective	Asian Journal of Research in Business Economics & Management	04	30-38	2014	International	

2	Sandeep Shenoy, Guruprasad Rao	Risk Awareness & Usage of Child Insurance Plan with special reference to Hdfc Standard Life Insurance Company in India	Global Journal for Research Analysis	06	116-121	2014	International	
3	Sandeep Shenoy, Guruprasad Rao & Abhishek	The Role of Information Technology & Insurance Penetration: A Study	International Research Journal of Business & Management	10	77-85	2014	International	
4	Sandeep Shenoy, Guruprasad Rao, Santhosh Nayak	Feasibility study of Islamic Insurance (Takaful) in India: Challenges & Prospects	Asian Journal of Research in Business Economics & Management	09	7-15	2014	International	
5	Sandeep Shenoy, Guruprasad Rao, Abhishek Rao	An Imperical Study on Private Health Insurance in Rural Areas of India: Challenges and Opportunities	International Research Journal of Business & Management	13	1-10	2014	International	
06	Darryl Jeethesh D souza, H G Joshi	Development of agricultural e-	International Journal of	04		2014	International	

		commerc e framewor k for India:a strategic Approach	Enginee ring Researc h & Applicat ions					
07	Jose Mamman	Applicati on of Research Methodol ogy in Social Entrepren eurship	IJMSSR	01	1-6	2014	Internat ional	
08	Mrs R Ambigai	Change in working landscape and new career opportuni ties for women in ITES	Asian Journal of Researc h in Business Econom ics & Manage ment	VOL 5	38- 42	2013	Internat ional	
09	Mrs R Ambigai, Sinu	Self- Effective ness for Protectio n against Child Sexual Abuse	Journal of School Social Work	04	11	2013	Nationa l	
10	Vikram Baliga	Sampling Design in the study of consumer purchase behavior towards vegetable s with specific reference to Udupi District	Bruti Journal of Business and Finance	03	1-6	2013	Nationa l	

11	Vijayalaxmi, Chandrasekar Adiga, H G Joshi, S V	Network routing problem – A simulation environment using intelligent technique	International Journal of Advanced Computer Research	04	166-171	2013	International	
12	Varalakshmi Alapati, Chowdary Prasad, Srinivas K S	Banking Innovation for Eco Friendly Environment – A New Trend of Lean and Green Management	Journal of International Academic Research for Multidisciplinary	06	400-421	2013	International	
13	Alapati, Varalakshmi and Rao, K.S. Srinivasa	A Study on Pediatric Dental Practice among patients in Manipal Region.	International Journal of Research in Social Sciences	4	140-157	2013	International	
14	Abhishek Rao, Geetha	Contemporary Innovative Business Practices key to sustain & Success – A case study on GATI-KWE	Journal of International Academic Research for Multidisciplinary	5	201-213	2013	International	
15	Baliga, Vikram and Joshi, Harish G and Pai, Surendra	Review of literature encompassing consumer purchase	International Journal of Computer Science	8	3271 - 3278	2013	International	

		behavior observed at the time of marketing of horticulture crops worldwide	and Management Research					
16	Rao, Abhishek K P and Pai, Surendra	Strength of the chain lies in its weakest link	Journal of AIMA	07	94-97	2013	National	
17	Baliga, Vikram and Joshi, Harish G and Singh, Sahib Dayal	Agri-Entrepreneurial Development: Exploring Local Realities.	Bruti Journal of Business and Finance,	2	1-12	2012	National	
18	Mr. Sandeep Shenoy	Life Insurance Products in India: Market Strategies and Customer Perceptions	Journal of Risk Management and Insurance, Assumption University, Thailand ISSN:0859-3604	16	68-86	2012	International	-----
19	Mrs R Ambigai	Successful Careers through Effective Evaluation of Individual Career Motives	International Journal of Mgt	Vol 2- issue 2	233-241	Dec 2012	International	----

20	Mrs R Ambigai	Social Media an emerging thrust on Consumerism- A Descriptive Study	International Journal of Consumerism	Vol 1 Issue 1		Feb 2012	International	Ulrich's Periodicals Directory and Cabell's Directory of Publishing.
21	Mrs R Ambigai	A Case Study Approach on Koodankulam Nuclear Power Project	International Journal of Mgt	Vol 2 Issue 1	167-176	July 2012	International	----

* **Monographs**

- * **Chapters in Books** – Student Learning Material (SLM) for Sikkim Manipal University

Sl #	Name of the Faculty	Study Materials	Year
1	Guru Prasad Rao	E-Business and Economic Environment in India	2012
2	Vikram Baliga	Retail Management and Merchandising Management	2012
3	Praveen Kumar	Small Business Management and E-Business	2012
4	Jose Mamman	E-Business	2012
5	Niranjan Prabhu	Economic Environment in India	2012
6	Surendra Pai	Business strategy and International Marketing	2011-12 & 2012-13
7	Santhosh Shetty	Financial Accounting, Management Accounting and Marketing Management	2012
8	Sai Sachidhanada Bhat	Research Methodology	2011

* **Edited Books - Nil**

* **Books with ISBN with details of publishers :**

- a) Book on “Information Technology and its implications on Banking Sector; Challenges and Prospects” by Dr C K Hebbar, Sandeep Shenoy and Dr Abubakar Siddique: ISBN; 978-93-82062-88-2, Excel India Publishers, New Delhi.

- b) Book on “Production Management” for fashion designing course of Sikkim Manipal University, Manipal by Mr Lumen Shawn Lobo: ID B1527; Manipal Press Limited, Manipal

CONFERENCE PRESENTATIONS (Papers) in last three years. (2012) Thirty Three						
SI #	Name of the principal author	Co-authors	Title	Conference	Location	Month and date
1	Prof Sandeep Shenoy	Dr C K Hebbar Dr Devaraj M	Investment Habits and Consumer’s Perceptions towards Insurance Policies: An Indian Perspective	International Conference-16 th APRIA Conference organized by Sungkyunkwan University, Seoul ,South Korea	Seoul, South Korea	July 22-25
2	Mr Santhosh Shetty	-----	A study on Performance Management with reference to PMS in private universities	International conference on “Challenges in management studies” organized by MS Ramaiah Institute of Technology, Bangalore.	Bangalore	July 11-13
3	Mr Santhosh Shetty	-----	Information technology and its implication on banking sector- Customers’ perception about innovative banking services-organized.	National Conference on “Information technology and its implication on banking sector” organized by Department of PG Studies, University College.	Mangalore	April 17-19
4	Mr Santhosh Shetty	-----	Ethical Issues and good governance	“Ethical issues and good governance” organized by Don Bosco Institute of Bio Sciences and	Bangalore	January 5-7

				Management Studies, Bangalore.		
5	MrsVaralakshmiAlapati	Dr K S Srinivasa Rao	Hospital Management – Cost Benefit Analysis of Oral Dental Hygiene	National Conference on Healthcare Management: Issues and Challenges	Bangalore	January 6-7
6	MrsVaralakshmiAlapati	Prof Chowdary Prasad and Dr K S Srinivasa Rao	Lean and Green – A Special Reference to Banking Sector	National Conference on Lean Operations and Systems – Lean and Green	Bangalore	March 9
7	MrsVaralakshmiAlapati	-----	Cyber threats to Indian Banking Industry	National Conference on Information Technology and Its Implications on Banking Sector	Mangalore	April 17-19
8	MrsVaralakshmiAlapati	E Geetha	Impact of Mutual Funds in Indian Capital Market – An Overview	International Conference on Emerging Trends in Finance and Accounting	Mysore	August 03-04
9	MrsVaralakshmiAlapati	-----	IT influence in managing Human Resource in Banking Sector – an Overview	International Conference on Managing Human Resources at the Workplace	Mysore	December 14-15
10	Dr J P Kumar	Mrs R Ambigai	Successful Careers through Effective Evaluation of Individual Career Motives	“New Frontiers in Management – A National Convention” organized by Navraj Educational Trust	Coimbatore	November 17
11	Mr S Saisachidhananda	MrsPallavi DR	Contemporary Banking Mantra – Plastic	National Level Conference	Coimbatore	September 29

			money to Elastic money.			
12	Mr S Saisachidhanda	Mr Surendra Pai	Bank without a Bank – A New Banking Model	National Conference on Information Technology and Its implication on Banking Sector: Challenges and Prospects, organised by Department of PG Studies, University college.	Mangalore	April 17-19
13	Mr S Saisachidhanda	-----	Deregulation of Interest Rate on SB A/c's in Indian Banks	National Level Conference	Mangalore	April 17-18
14	Mr Guru Prasad Rao	Anant Bhushan	Gaining Better Employee Engagement for Efficient Business Strategy in Banking Industry	National Conference on Information Technology and its implication on Banking Sector: Challenges and Prospects organized by Department of PG Studies, University College of Mangalore, Mangalore	Mangalore	April 17-19
15	Mr Guru Prasad Rao	Anant Bhushan	Quality: Assurance for Reliable Education	National Conference on “Global mindset – Preparing the Youths to faces the Challenges of the World” organized by	Mangalore	February 6

				SDM PG Centre for Management Studies and Research		
16	Mr Guru Prasad Rao	Dasharath Shetty	A Study of Customers' Satisfaction in Rural Banking -A Case Study	National Conference on Rural Transformation and Developmental Perspectives: Managerial Challenges organized by Manipal Institute of Management, Manipal University	Manipal	January 21-22
17	Mr Vikram Baliga		A Study on Capital Adequacy Ratio and Stock Prices of Public and Private Sector Banks-An Indian Perspective	International Conference on India Inc. Innovative Management Strategies, ICIIMS-2012	Bangalore	January 5-7
18	Mr Vikram Baliga	Mr Sandeep Shenoy and Sahib Dayal Singh	Talent Management Strategies in Public sector Banks for Workforce Retention and Development	National Conference on Information Technology and Its implication on Banking Sector: Challenges and Prospects, organised by Department of PG Studies, University college.	Mangalore	April 17-19
19	Mr Vikram Baliga	Mr Sahib Dayal Singh	The dynamics of distribution in agri-entrepreneur	Issues of Global Business and Finance, organized by	Goa	November 24

			ial developmen t- Exploring local realities	Sri Sri Institute of Management		
20	Mrs E Geetha	-----	Core banking functionaliti es-a perspective view	“Information Technology and its implications on banking sector: Challenges and Prospects” organized by Department of Postgraduate studies- University College	Mangalore	April 17 - 19
21	Mrs E Geetha	Varalaks hmi	Impact of Mutual funds in Indian capital Market	International conference on “merging trend in finance and accounting” organized by SDMIMD	Mysore	August 3, 4
22	Mrs E Geetha	Vijaya Arjunan	Survey on role of emergency funds financial safety	International conference on “Public Policy and Governance” organized by Indian Institute of Science	Bangalore	Sep 4- 6
23	Mr Surendra Pai	----	Business Reporting and XBRL’	“Bhruti” organized by Sri Sri Institute of Management Studies, Margoa , Goa.	Goa	Novemb er 24
24	Mr Surendra Pai	Mr Vikram Baliga	‘Revisiting Providing Urban facilities for Rural Area’	National conference organized by Manipallinstit ute of Management	Manipal	January 21-22

25	Mr Niranjan Prabhu	Anusudha C	“Emerging new realities in this victimized world”	“International Conference on Emerging Markets”- Organized by Department of Management Studies, VIT, Vellore.	Vellore	March 16
26	Mr Niranjan Prabhu	---	Banking and Rural environment	National Conference on Information Technology and Its implication on Banking Sector: Challenges and Prospects, organized by Department of PG Studies, University college.	Mangalore	April 17-19
27	Mr Praveen Kumar	Mr Bharath Jaya Kumar and Mr Gaurav Bhole	Online Shopping – An Emerging Shopping Trend in India	“Marketing Paradigms in Emerging Economies” (ICOM) 2012/ Faculty of Management Studies, Banaras Hindu University, Varanasi.	Delhi	December 4-5
28	Mr Praveen Kumar	Mr Gaurav Bhole	Online shopping – a change in shopping style.	“Emerging Dimensions in Marketing” organized by Saintgits Institute of Management, Kottayam.	Kottayam	November 22-23
29	Mr Praveen Kumar	---	Customer Buying Behavior in e-retailing.	“Bhruti” organized by Sri Sri Institute of Management	Goa	November 24

				Studies, Margoa , Goa.		
30	Mr Praveen Kumar	---	Role of touch points in customer relationship management in banking sector.	Information Technology and its implications on banking sector: Challenges and prospects. / Department of Post Graduate studies in Commerce. University college, Mangalore.	Mangalore	August 3-4
31	Mr Jose Mamman	Roshen Najeeb, Vaibhav Verma	Empathy, Reliability, Assurance, Positively Influences the service quality in Banks.	National Conference on Information Technology and Its implication on Banking Sector: Challenges and Prospects, organised by Department of PG Studies, University college.	Mangalore	April 17-19
32	Mr Jose Mamman	Dr H G Joshi, Robin Issac	Literature Review on Psychologic al Factors affecting Entrepreneu rship	International Conference in Managing Human Resource at Workplace.	Mysore	Decemb er 14-15
33	Mr Abhishek Rao	Sahib Singh and Siva Vara Prasad Reddy	Online Banking An Introspectio n	Titled” Inclusive Growth: Need to Rethink the Business Model	Bhubaneswa r	Novemb er 8-10

(2013) TEN						
1	Dr C K Hebbar	Mr Sandeep S Shenoy	1. The Role of Information Technology & Insurance Penetration: A Study. 2. An Empirical Study on Private Health Insurance In Rural Areas of India: Challenges And Opportunities	International Conference	St. Johns University, US	28 - 31 st July, 2013
2	Mr Surendra Pai	Mr Jayarama Shetty	Customer of the future-2030	Society for Technology & Management Professional	International Conference	June 2013
3	Dr C K Hebbar	Mr Guruprasad Rao	1. A Study on Retention issues of Insurance advisors as a profession in an Indian Perspective. 2. Risk Awareness and usage of Child Insurance Plan with Special Reference to HDFC Standard Life Insurance Company Pvt Ltd.	International Conference	St. Johns University, US	28 - 31 st July, 2013
4	Mr Abhishek Rao	Mrs Geetha	Contemporary Innovative Business Practices	International Conference	Bangalore University	16-17 May, 2013

			Key to Sustain & Success			
5	Mrs Varalakshmi	Ms Shrutika Nayak	Evaluation of customer satisfaction of ATM Services WSRT to SBI & ICICI	International Conference	Bangalore University	16-17 May, 2013
6	Mr Vikram Baliga		Consumer Purchase Behaviour observed at the time of Marketing of Horticulture crops: Review of Literature with the global perspective	International Conference	Bangalore University	26-27th September, 2013
7	Mrs Varalakshmi	----	NPA'S Scenario in India Public Sector Banks-An Overview	International Conference	Bangalore University	26-27th September, 2013
8	Mrs Geetha E	---	Challenges & Growth of Ecommerce Business in India	International Conference	Bangalore	22-23 November, 2013
9	Mr Vikram Baliga		Sampling design in the study of consumer purchase behavior towards vegetables with specific reference to Udupi District	International Conference	Mangalore	29th November, 2013

10	Mr Surendra Pai		NPA's in Banks- By Chance or by choice?	Department of Commerce, Indian Academy Degree College-	Bangalore (National Conference)	December 2013
2014(Fourteen)						
1	Mr Santhosh Shetty		Role of Ethical Leadership in Value Creation in Indian Business	6th International Conference on "Ethical Leadership: The Indian Way	Bangalore	9-10th January, 2014
2	Mr Santhosh Shetty		Analysis of Present Trends in Human Resource Management	the National Conference on "Innovations in IT and Management (NCI ² TM-14	Pune	21-22 February, 2014
3	Mr Jose Mamman	--	Factors that lead to the development of Syndicate bank in South Karnataka District of India	Emerging Trends in World Economy Through Innovation & Entrepreneurship Development	Pune	14-15 March, 2014
4	Mr Jose Mamman	--	Application of Research Methodology in Social Entrepreneurship	UGC sponsored National Seminar	Patiala	27-28th March, 2014
5	Mr Vikram Baliga		The Use of Cluster Analysis in the study of consumer buying behaviour towards vegetables with special reference to udupi district	International Conference	Research Colloquium, Manipal University, Manipal	April 2014

6	MrsGeetha E	Mr Abhishek Rao	Factors influencing the selection of logistics providers - A shippers Prespectives	International Conference	Research Colloquium, Manipal University, Manipal	April 2014
7	MrsAmgibai R	Divya Gupta & Olga, M Com Studetns	Critical Observation on Supplier Relationship Management of Karnataka Cooperative Milk Producers' Federation Limited (KMF) and its Functional Effectiveness		Research Colloquium, Manipal University, Manipal	April 2014
8	Dr H G Joshi		Multi Disciplinary Approach in Social Science Research – Manipal Experience	International Conference	Thailand	3-4 July, 2014
9	Mr Sandeep Shenoy	Mr Santosh Nayak	Feasibility Study of Islamic (Takaful) Insurance I India: Challenges &Prospects	18 th Annual Conference of Asia-Pacific Risk and Insurance Association	Russia	27-30th July, 2014
10	Mr Abhishek Rao	MrsGeetha	A Sutdy on Factors Influencing the Selection of 3PL Logistics Providers – Users Perspective.	First Middle East Conference on Global Business, Economics, Finance & Banking	Dubai	10-12 October , 2014

11	Mr Sandeep Shenoy	Mr Niranjan Prabhu	A Study on Telematics Technology in Motor Insurance: Creating Value in an Indian Perspective	First Middle East Conference on Global Business, Economics, Finance & Banking	Dubai	10-12 October, 2014
12	Mr Vikram Baliga		Defining Constructs and Variables in developing and Marketing Model for MattiBrinjal	International Seminar	Goa	14th November, 2014
13	Mr Praveen Kumar		Online atmospherics and its implications on N-Commerce User	International Seminar	Goa	14th November, 2014
14	Mrs Varalakshmi		An exploratory study on the Factors Effecting Npas Using Fuzzy Ahp	International Conference on "Graph Algorithms, High Performance Implementations and Applications,	Coimbatore	17-19th December, 2014

BBA (JDM):- 07

Sl #	Faculty	Title	National OR International
YEAR : 2012			
1	Mrs. Jyothi Shetty , Asst. Prof	"Evolving E-Marketing in India" National Conference on Changing Marketing Paradigm in Product & Service Sector at Mohali in Feb 2012	National
2		"E-Retailing and Net-Mall Strategy" 4th National Conference on New Vistas Of Retail Marketing at Erode, Tamilnadu in March 2012	National
3		"Hurdles in Women Empowerment :Indian Context" National Conference on	National

	Mrs. Vijeta Bhat, Asst. Lecturer, MIJM	Women Empowerment:Challenge of 21st Century at Udaipur,Rajasthan on 4th & 5th Feb, 2012 – Mrs. Vijeta Bhat, Asst. Lecturer, MIJM	
4		“Evaluation of Performance Management System in educational institutions a case study	National
5		“Opportunities and Challenges of organized Jewellery Retailing” 4th National Conference on New Vistas of Retail Marketing at Erode, Tamilnadu in March 2012 --	National
6		“Challenges and Opportunities for MSMEs – Indian Jewellery Sector Context” National Conference on MSMEs at Chandigarh in March 2012	National
7	Dr. Prathima J Acharya, Asst. Librarian	“Women Entrepreneurship”	National

- * **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)**–11
- * **Citation Index – range / average** - Nil
- * **SNIP**–Nil
- * **SJR**–Nil
- * **Impact Factor – range / average** - 0.583
- * **h-index**– Nil

23. Details of patents and income generated: Nil

24. Areas of consultancy and income generated: Nil

25. Faculty selected nationally/ internationally to visit other laboratories in India and abroad – Nil

26. Faculty serving in

- a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Name of the faculty	Role	Organization/Professional body
Mr Sandeep Shenoy	<ul style="list-style-type: none"> • Member • Team 	<ul style="list-style-type: none"> • All India Management Association • Indian Merchant Chambers (IMC),

	<p>Leader/CEQM</p> <ul style="list-style-type: none"> • Member • Member • Board of Advisors 	<p>Ramakrishna Bajaj National Quality Award Trust</p> <ul style="list-style-type: none"> • Board of studies, Department of Design, Faculty of Architecture ,Planning and Design , MIT, Manipal University • Confederation of the Indian Industry • AIESEC ,Manipal
Mrs R Ambigai	<ul style="list-style-type: none"> • Member 	<ul style="list-style-type: none"> • Coimbatore Management Association • Institute of Science and Technical Education
Mr Guru Prasad Rao	<ul style="list-style-type: none"> • Certified Financial Education Resource person • Member • Member • Member • Course Leader 	<ul style="list-style-type: none"> • Securities Exchange Board of India • Board of Studies, Department of Commerce, Manipal University. • Indian Institute of Banking and Finance • Confederation of the Indian Industry • Association of Chartered Certified Accountants
Mr Vikram Baliga	<ul style="list-style-type: none"> • Member • Member 	<ul style="list-style-type: none"> • Board of Studies, Department of Commerce, Manipal University. • Confederation of the Indian Industry
Mr Abhishek Rao	<ul style="list-style-type: none"> • Member • Member 	<ul style="list-style-type: none"> • Confederation of the Indian Industry • SHRM India
Mr Sai Sachidhanada Bhat	<ul style="list-style-type: none"> • Member 	<ul style="list-style-type: none"> • Indian Science Congress
Ms E Geetha	<ul style="list-style-type: none"> • Member 	<ul style="list-style-type: none"> • Association of Indian Management Scholars
Mr Niranjana Prabhu	<ul style="list-style-type: none"> • Member 	<ul style="list-style-type: none"> • All India Management Association
Mr Adithya D Shetty	<ul style="list-style-type: none"> • As evaluator for International Student exchange Programme • Member • Course Leader 	<ul style="list-style-type: none"> • IAESTE • Board of Studies, Dept. of Commerce, Manipal University • Association of Chartered Certified Accountants

Mr Jose Mamman	<ul style="list-style-type: none"> As evaluator for International Student exchange Programme 	<ul style="list-style-type: none"> IAESTE
Dr H G Joshi	<ul style="list-style-type: none"> Honorary Member 	<ul style="list-style-type: none"> International Research Enthusiastic Society, Philippines

27. Faculty recharging strategies

- Faculty participation in extra-curricular activities like sports and cultural activities
- Attending Faculty Development programs, workshops, seminars, guest lectures and participation in conferences
- Quality circle meetings to enhance ideation and creativity
- Team building through week end get together, staff birthday celebrations, recognizing special achievements.

28. Student projects:-

BBM (Programmes)

- percentage of students who have done in-house projects including inter-departmental projects : 28%
- percentage of students doing projects in collaboration with other universities / industry / institute: 72%

BBA (JDM)

- percentage of students who have done in-house projects including inter-departmental projects – **NIL**
- percentage of students doing projects in collaboration with other universities / industry / institute – 100 % final year BBA and PG Diploma students do projects in collaboration with industry

29. Awards / recognitions received at the national and international level by

Faculty

Mr Sandeep S Shenoy, I/c Head Dept. of Commerce and Deputy Director Q&C (Manipal Campus), was assigned team leader role for assessment of a Ramakrishna Bajaj National Quality Award (RBNQA) application for the 2010 and 2012 award cycles. Leading a team of examiners for assessing an award application is a privilege which is entrusted to only highly efficient and competent senior examiners

as it involves interaction with the Top management of reputed Organizations, whose applications come for assessment

Mr Guru Prasad Rao, Assistant Professor, Department of Commerce won the Best Paper Award for the Paper Titled “Intrapreneurship in India: Challenges Ahead” in the Technical Session “Entrepreneurs and Indian Economy” of the National Seminar on “Entrepreneurship and Business Development in India: Issues and Cases” Organized by Kousali Institute of Management Studies, Karnataka University, Dharwad on November 4 and 5, 2011.

Mr Guru Prasad Rao, Assistant Professor of the Department is officially certified as “Financial Education Resource Person” from Security and Exchange Board of India (SEBI). Mr Rao will be the part of SEBI's initiative to spread Financial Education to the various segments of the Society across India.

Students

BBM programmes

- Two of BBM students Mr RoshenNajeeb and Mr VaibhavVerma,II Year, presented a paper on “Determining the applicability of accepting FDI inflows for economic growth in various states, developing a composite index” at “International Conference on Leadership in Business and Management for Sustainable Global Economy” organized by IIT, DELHI, during the month November, 2012. The paper has been published in the Global Journal of Finance and Management, 2012, Volume 4, ISSN 0975 – 6477.
- Mr Sahib Dayal Singh and Mr Akash Justin, Students, II Year, presented a paper on “Understanding Investors Confidence in Emerging Markets: Post Sub Prime Crisis” at the International Conference on “Emerging Markets and Issues in Management” organized by VIT Business School of VIT University, Vellore, during the month of March 2012.
- Ms. AnusudhaChaurasia, Student, II Year, presented a paper on “Emerging New Realities in this Victimized World” at the International Conference on “Emerging Markets and Issues in Management” organized by VIT Business School of VIT University, Vellore, during the month March 2012.
- Anant Bhushan, Student, III year, won the Best Paper Award for the Paper titled "Dynamic Environment of Electronic Services in Indian Banking Sector" at the National Conference on "Contemporary Issues in Banking" organized by Department of Commerce, Manipal University on Feb 15, 2011
- Two BBM students Mr Priyank Tiwari and Mr ParithoshGour completed Equity Derivatives – A beginner’s module with 80and 71per cent marks respectively.
- Two BBM students Mr Priyank Tiwari and Mr ParithoshGour completed Investments Analysis and Portfolio Management Module with 90.56 and 72.25 per cent marks respectively
- Mr Priyank Tiwari, student, BBM has completed AMFI-Advisory Module with the percentage of 61.25
- Rahul Fofalia, student, BBM has secured 90 per cent marks in Financial markets: Basic module, Securities market: Beginners Module by NCFM-NSE’s Certification on Financial Markets.

- In HOPE 2008, organized by Welcomgroup Graduate School of Hotel Administration, Manipal, a constituent college of our University, the BBM students won First Prize for “Fashion Show”, depicting their talents in non-academic activities.
- Our Students won overall championship at the management festival ‘Sympulse’ organized by Symbiosis, Pune for two consecutive years 2011 and 2012.
- Ren Trevor Dias & Abhijith Kotian, represented Manipal University in the South Zone University Cricket Tournament at Pondicherry, held in December, 2013.
- Mr Shiraz Munawar HASSANALI ,Waquar Muhidden& Mohammed Shariff awarded as runner up in India South Zone Inter Medical Football Tournament, Yenepoya University held in October, 2013.
- Ishan Asthana & Ria Bhat secured first position in Finance in Genesis 13 organised at SDM College, Mangalore in August, 2013.
- Mr Ren Trevor Dias earned a sponsored Trip to Goa to attend the International Conference on Business & Finance to be held on 14th November, 2014 organised by Sri Sri Institute of Management, Margao,Goa.
- Ms Ria Bhat, attended the 3rd International Conference on Paradigm Shift in Innovative Business Management & presented the paper entitled “Women Entrepreneurship in Rural Areas” held at Vishist School of Management, Indore from 6-7 December, 2014.
- Mr Neelakanta Rao Nanubala, pursuing 2nd Sem M Com, participated in the Winter Internship Programme 2014 from 22nd December, 2014 to 20th January, 2015 in the National Human Rights Commission. During the internship he was given an opportunity to learn about various Human Rights issues including the functioning of the Commission. He has worked on the project Criminal Law Amendment Act &Voilence againt Women. His overall performance has been adjudged as Distinction.
- Erasmus Mundus Scholarship for Roshen Najeeb
- Roshen Najeeb, BBM Financial Market (2011-14) has been awarded Erasmus Mundus Scholarship, funded by European Union, to pursue Masters in Development Economics, Technology Governance and Innovation Policy at Tallinn University of Technology, Estonia
- The scholarship covers the following:-
- Subsistence allowance - 1000 Euro per month.
- Travel costs including one return ticket from my Home University (Manipal) to the Hosting University.
- Full insurance coverage - health, travel, insurance.
- Participation fees (tuition and others) at the Hosting University for the duration of the scholarship.
- THE DEPARTMENTS FIRST OVERSEAS PLACEMENT FOR THE YEAR 2013-14

- Ms Himali Saini, a student of final year e-Banking and Finance was offered a contract of employment by Workz.ae, a Dubai based leading telephone product and service provider. Ms Saini is offered the role of a Production Executive and would join the Company in June, 2014.

BBA (JDM):-

- Ms Divya Kapoor, student BBA (JDM) has won the “Best Paper” Award during the national level Gemology Seminar held at Mysore.
- Ms Pavithra, a BBA (JDM) student has received the Best Jewellery Design award, in the National Jewellery Design competition conducted by SRR Jewels, Mumbai.
- Ms Joliss Helen George, a BBA (JDM) student has received the Best Jewellery Design award and a cash prize of Rs.10, 000/- in the National level Jewellery Design competition, AAKAR conducted by The Art of Jewellery and Maison De La Perle , Tahiti.
- Ms Spandana, a student of SoJM won the “Dream Team” “Hall of Fame” awards and outstanding performance trophy at ‘TANISHQ’ for her Project.
- Dinu D, a BBA (JDM) student has won the best design/idea award in the National-level Design Contest conducted by Tanishq (TITAN) this year.

30. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.

BBM (Programmes):-

YEAR 2012

Sl #	Conference / Symposium / Workshop	Name of the External Resource Person/s	Source of Funding
1	National Conference on “Contemporary Issues in Banking”	Mr Ananthakrishna, Non-Executive Chairman, Karnataka Bank and Mr DevanandaUpadhyaya, General Manager – IT, Syndicate Bank	State Bank of India, Syndicate Bank, Karnataka Bank, Saraswat Bank, Abhyudaya Bank
2	National Level Workshop on “Accounting - an aid for superlative business development” in association with ICAI	Mr Madhukar Hiregange, Vice Chairman, Board of Studies, ICAI, New Delhi, Mr Nanu R Mallya, senior partner, M/s. Mallya and Mallya, Bangalore	Institute of Chartered Accountants of India, New Delhi
3	International Symposium on “Corporate Financial	Mr GulzariBabber, President, CIMA, United	Corporation Bank, KarurVysya

	Re-engineering” in association with Chartered Institute of Management Accountants (CIMA)	Kingdom, Mr Mark Bevan, Vice President, JCB India, Mr Suresh Menon, South India Head, Security and Exchange Board of India (SEBI), Chennai.	Bank, Karnataka Bank, Indian Overseas Bank, Saraswat Bank.
4	Workshop on “Investment Management”	Mr Radhakrishna Sharma, Certified Financial Education Resource Person, Security and Exchange Board of India (SEBI)	Self-financed.
5	Seminar on “Indian Economy: Challenges Ahead” in association Department of Geopolitics and International Relations	His Excellency Shri Balmiki Prasad Singh, Governor of Sikkim.	Self-financed
6	Workshop on “Entrepreneurship Culture and Overview of Business Taxation”	CA Yadav Hemmady, PoornaPrajna Institute of Management, Udupi and Dr Bharath, PoornaPrajna Institute of Management, Udupi	Self-financed
7	Seminar on “Entrepreneurship and Social Empowerment”	Mr Vilas Nayak, CEO – Hanuman Motors Pvt Ltd, Udupi.	Self-financed
8	Workshop on “Convergence of Accounting Standards and Accounting Standards of Banks	Dr T Mallikarjunappa, Professor and Head of Department of Business Administration, Mangalore University,	Self-financed
9	Entrepreneurship Awareness Camp titled ”Entrepreneurial Opportunities for New Venture Creation-Challenges and	Sessions handled by Internal and Visiting faculties of the Department of Commerce	Entrepreneurship Development Institute of India, DST Funded

	Prospects” for students of Dr T M A Pai Polytechnic		
YEAR 2013			
1	Workshop on Customer Relationship and Portfolio Management in Investment Banking	Mr Praveen Suvarna, Executive Vice President, Quality Assurance, Vice President, Business Banking, YES Bank Limited, Mumbai,	Self –Financed
2	Three Day Workshop on “Entrepreneurial Opportunities for New Venture Creation – Challenges and Prospects		DST Funded
3	Workshop on “Proven Techniques on Effective Communication”	S N Surkund, Former Assistant General Manager, Publicity, Union Bank of India	Self –Financed
4	One day Faculty workshop on “Basic Statistical Tools for Research in Social Sciences	Mr Ruchir Anand, HOD, Alva’s Institute of Business Administration, Moodabidri	Self-Finances
5	Student meet on Career Opportunities in Trade, Industry & Service Sector	Mr K Shivashanmugam, FKCCI Mr Vishnu Bharath, Chairman, Education Committee, FKCCI	
6	Societal Contribution through Entrepreneurial Innovations	Dr T M A Pai Chair for Social Entrepreneurship, Manipal University- SitaramHegde, Retired Teacher, Manipal, Junior College	Dr T M A Pai Chair for Social Entrepreneurship
7	Workshop on Career (RE)Focus - Skills	Mr Sai Sridhar, Counsellor, Confederation of Indian	As per MOU

	Inventory Assessment For Employment Readiness	Industry, Institute of Logistics	
8	One Day Workshop on “Introduction to DEMAT, TRADING & Financial Planning:	Mr Harish Belman, Business Associate, Motilal Oswal Securities	Self-Finances
9	Social Entrepreneurship Mentoring	Dr T M A Pai Endowment for Social Entrepreneurship	Dr T M A Pai Social Entrepreneurship
10	Entrepreneurship Awareness Camp	Sessions handled by Internal Faculty	Entrepreneurship Development Institute of India, DST Funded
Year 2014			
1	Developing Analytical Skills for Job Readiness	Dr Rajesh Kamath, Assistant Professor, Department of Public Health, Manipal	Self-Financed
2	Agri Growers meet & Networking	Dr Hanmanthappa, Dr Dhananjay, Dr Vijayalaxmi	Dr T M A Pai Social Entrepreneurship
	Three Day Short Certification Programme on Logistics & Supply Chain	Mr Sai Sridhar, Counsellor, Confederation of Indian Industry, Institute of Logistics	As per MOU
3	Benchmarking Best Practices for Service Quality	Mr Praveen Suvarna, Executive Vice President, Quality Assurance, YES Bank Limited, Mumbai	Self-Financed
4	“Capital Market Awareness” Association with Bombay Stock Market Exchange (BSE)	Mr Sumeet Nayak, Vice President, Lotus Knowlwealth, Mumbai	Self-Financed
5	Pre Press hands on workshop	Dr T M A Pai Chair for Social Entrepreneurship	Dr T M A Pai Chair for Social Entrepreneurship

6	Workshop on Business Communication – An Essential pre requisite for hiring & Selection	Mr SurkundShivshankar, Retired Assistant General Manager, Union Bank, Mumbai	Self-Financed
7	Workshop on “Risk Management & Total Quality	Praveen Suvarna, Executive Vice President, Quality Assurance, YES Bank Limited, Mumbai	Self-Financed
8	E-Commerce and its Trends in Global Context	Mr Sai Sridhar	As per MOU
9	Entrepreneurship Awareness Camp	Sessions Handled by Internal Faculty & Industry visit to local factory	Entrepreneurship Development Institute of India, DST Funded

BBA (JDM):-

Year	Workshops	Seminars
2010	5	3
2011	7	4
2012	5	1
2013	2	1
2014	3	2

YEAR: 2012		
Sl No	Conference/Symposium/Workshop	Name of the External Resource Person/s
1	A diamond grading course was organized at MIJM by the Gemological Institute of America (GIA) the world's foremost authority on diamonds & colour stones, from 21 to 25 February 2012.	Mr. Jamsheed Dastoor, a specialist in Diamond Grading from GIA was the resource person for the course..
2	A Colored Stone grading course was organized at the institute by the Gemological Institute of America (GIA) from 09 to 11 April 2012.	Mr. Arjun Pansari, a specialist in coloured stones an instructor from GIA was the resource person for the course
3	A one day workshop on "3D Matrix" ,latest jewellery design software, conducted on 03 August 2012	Mr. Harish Pawaskar, M.D M/S Harish Pawaskar Designs, Bangalore
4	A Workshop on "Financial Education" was held on 29 August 2012 for the students of MIJM.	Prof Radhakrishna Sharma Finance Professor from Justice K S Hegde Institute of Management, NITTE was the resource person for the workshop.
5	A diamond grading course was organized at the institute in association with Gemological Institute of America (GIA) from 19 to 23 November 2012.	Mr. JamsheedDastoor, a specialist in Diamond Grading from GIA was the resource person of the course.
6	A seminar on "Challenges and opportunities in the Jewellery Industry" was held at the institute on 4th October, 2012.	Mr. C. K. Venkataraman, CEO, Jewellery, Titan Industries, Bangalore was the Chief Guest and resource person for the seminar.

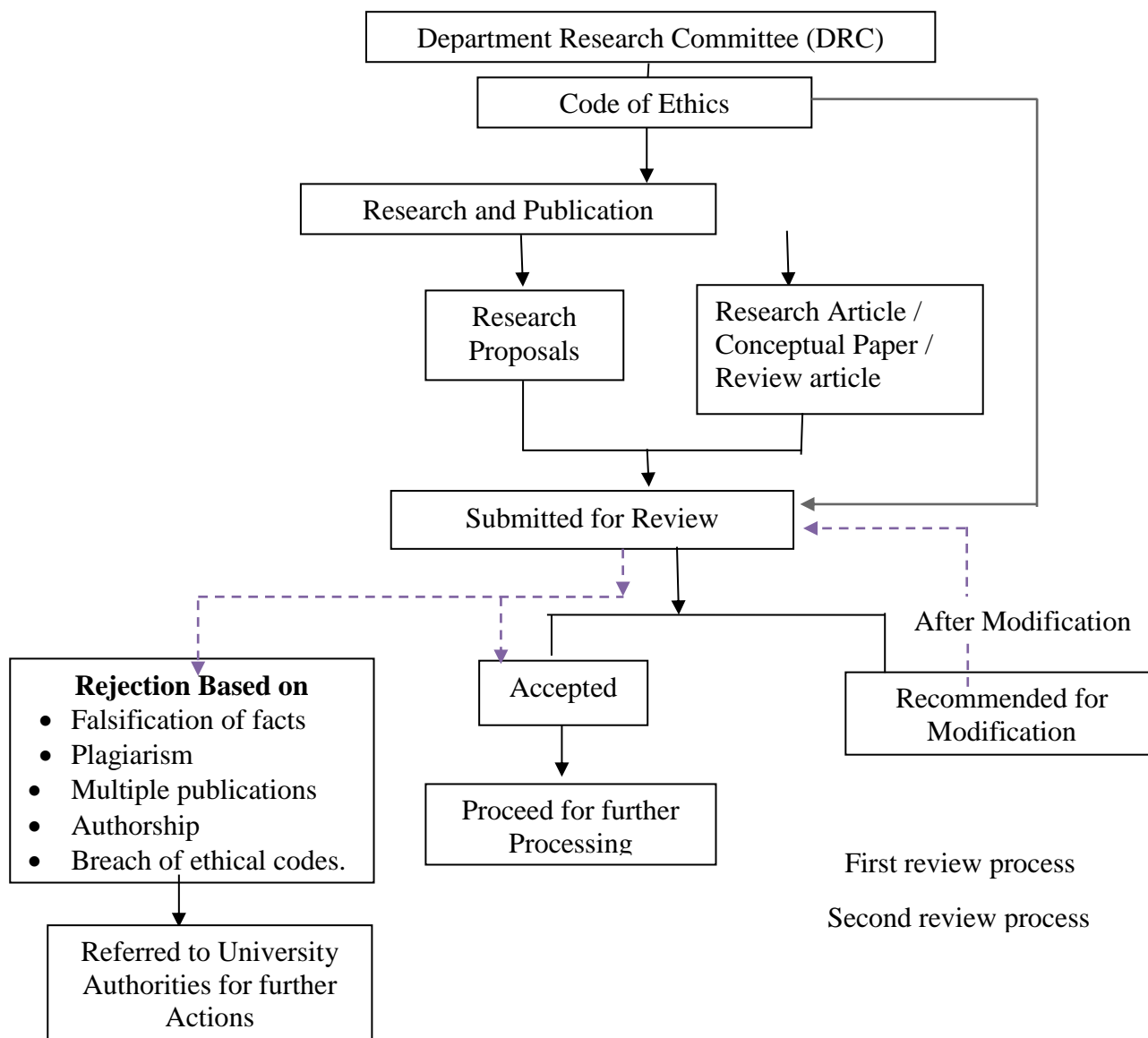
YEAR :2013		
1	One day workshop on “ Navarathnas and their astrological significance ” at Manipal institute of jewellery management held at Manipal Institute of Jewellery Management , Manipal on 23 March 2013.	Mr.KaushikSanhgvi, MD, Mahavir Gems, Mumbai the resource person for the workshop on “ Navaratnas and their astrological significance ”
2	School of Jewellery Management organized a two days workshop on “ Fashion Jewellery ” held at School of Jewellery Management on 28 th & 29 th March 2013.	Mr. Venkatesh Acharya , Mr. B. B Ramachandra and Mr. Shivalingaiah From RTDC, Bangalore as the resource persons.
3	School of Jewellery Management organized a seminar on “ Identification of Gemstones ” & “ Castings ” from 03 rd to 05 th October 2013 held at School of Jewellery Management	Mr. Kaushik S Sanghvi, Managing Director, Mahavir Gems, Mumbai & Mr. AshutoshV Nadgowda , Mumbai was the resource persons for the seminar.
4	One day workshop on “ Navarathnas and their astrological significance ” at Manipal institute of jewellerymanagement held at Manipal Institute of Jewellery Management , Manipal on 23 March 2013.	Mr. Kaushik S Sanghvi, Managing Director, Mahavir Gems, Mumbai & Mr. AshutoshV Nadgowda , Mumbai was the resource persons for the seminar.
YEAR 2014		
1	School of Jewellery Management organized a Workshop on “ Artificial Jewellery ”on 22 nd Feb 2014. 25 ladies from Udupi/Manipal attended the workshop. This workshop provided an opportunity to local ladies to design and make artificialjewelleryusing beads	Conducted by BBA(JDM) students
2	School of Jewellery Management organized a Two Days Workshop on making “ Fashion Jewellery ” using low cost materials on 28 th & 29 th March 2014.	Mr. Venkatesh Acharya , Mr. B. B Ramachandra and Mr. Shivalingaiah Expert instructors from Regional Design & Technical Development Centre, Bangalorewere invited as the resource persons for the workshop.

3	School of Jewellery Management organized a two days Exhibition on Fashion Jewellery on 25^h& 26th April 2014.	Exhibition on Fashion Jewellery items done from the students of BBA(JDM) . The exhibition was inaugurated by Mrs. Parvathi Ramnarayan (W/o Dr. K. Ramnarayan, Vice Chancellor, Manipal University).
Seminar		
1	School of Jewellery Management organized a seminar on “Women Entrepreneurship” on 26-11-2014.	Mrs. Renu Jayaram, Managing Partner of Jayadev Group, Udupi who was invited as the resource person, spoke on the importance of entrepreneurship, especially the women entrepreneurs in present day context.
2	“Challenges & Opportunities of online selling of artificial jewellery” held at School of Jewellery Management on 14 Nov 2014	Miss. Vidhi Chandakan alumni of our institute and the co-founder of online jewellery sales company “Daamak” at Bangalore gave a talk on “Challenges & Opportunities of online selling of artificial jewellery” .

31. Code of ethics for research followed by the departments

Faculty members from Department of Commerce are concentrating on quality research output with a strong focus on maintaining ethical code of conduct.

“Code of Ethics” is monitored by Department Research Committee (DRC) which has a significant role in educating the faculty towards quality Research and publication with strong ethical standards to achieve “No Harm” for human involved in research activities as participant, researcher, and Funding agencies. Following flowchart details the monitoring process by DRC



32. Student profile programme-wise:

2007 Batch

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
BBM e-banking and finance	110	36	33	78	97

2008 Batch

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
BBM e-banking and finance	486	63	39	81	97

2009 Batch

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
BBM e-banking and finance	303	42	25	57	100

2010 Batch

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
BBM e-banking and finance	323	64	21	58	81

2011 Batch

Name of the programme (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
BBM e-banking and finance	384	63	24	NA	
BBM Financial Markets		24	01	NA	

2012 Batch

Name of the programme (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
BBM e-banking and finance	441	28	12	NA	
BBM Financial Markets		14	3	NA	
BBM Professional		27	13	NA	

2013 Batch (General)

Name of the programme (refer to question no. 4)	Applicatio ns received	Selected		Pass percentage	
		Male	Female	Male	Female
BBM e-banking and finance	522	26	19	NA	
BBM Financial Markets		20	2	NA	
BBM Professional		18	13	NA	

Name of the programme (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
BBM Logistics & Supply Chain Management	32	18	4	NA	
M Com Logistics & Supply Chain Management		14	12	NA	

2013(NRI) Batch

Name of the programme (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
BBM (e-banking and finance)	45	1	2	NA	
BBM Financial Markets		----		NA	
BBM Professional		3		NA	
BBM Logistics & Supply Chain Management		3		NA	

2014 Batch (General)

Name of the programme (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
BBM e-banking and finance	716	27	17	NA	
BBM Financial Markets		17	8	NA	
BBM Professional		23	7	NA	
BBM Logistics & Supply Chain Management		25	5	NA	
M Com Logistics & Supply Chain Management	53	31	19	NA	

2014 (NRI) Batch

Name of the programme (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
BBM e-banking and finance	60	1	2	NA	
BBM Financial Markets				NA	
BBM Professional		1	3	NA	
BBM Logistics & Supply Chain Management				NA	

BBA (JDM):-**(2009-2012)**

Name of the programme (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
BBA(JDM)-Regular	125	17	12	90	95
BBA(JDM) – Lateral	10	3	2	100	98

Year 2013:-

Course	Applications received	No.of Students			Pass Percentage		
		Batch	Male	Female	Batch	Male	Female
BBA(JDM)	Nil	2011	15	14	2011	53%	79%
	Nil	2012	23	21	2012	45%	77%
PGDJSRO	Nil	2012	06	04	2012	100%	100%

Year 2014:-

Course	Applications received	No.of Students			Pass Percentage		
		Batch	Male	Female	Batch	Male	Female
BBA(JDM)	Nil	2011	15	14	2011	100%	100%
	Nil	2012	23	21	2012	57%	81%

(2010-13)

Name of the programme (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
BBA	120	24	23	65%	70%
BBA – Lateral	10	5	1	50%	100%
PG	40	10	8	100%	100%

33. Diversity of students- 2012-13**BBM (Programmes):-**

Name of the programme (refer to question no. 4)	Percentage of students from the same university	Percentage of students from other universities within the State	Percentage of students from universities outside the State	Percentage of students from other countries
BBM e-banking and finance	0	67	24	9
BBM Financial Markets	0	24	66	10
BBM Professional	0	53	35	12

2013-14

Name of the programme (refer to question no. 4)	Percentage of students from the same university	Percentage of students from other universities within the State	Percentage of students from universities outside the State	Percentage of students from other countries
BBM e-banking and finance	0	33	65	02
BBM Financial Markets	0	18	73	09
BBM Professional	0	18	70	12
BBM Logistics & Supply Chain Management	0	15	81	04
M Com Logistics & Supply Chain Management	08	65	27	0

BBA (JDM):-

Name of the programme	Percentage of students from the same university	Percentage of students from other universities within the State	percentage of students from universities outside the State	Percentage of students from other countries
BBA	Nil	40	59	1
BBA- Lateral	Nil	100	Nil	Nil
PG Diploma	2	58	40	-

34. How many students have cleared Civil Services and defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Name of the Student	Competitive examination	Year of Passing	Percentile Score
Anurag Bhatia	CAT	2012	95
Sahana Shetty	MAT	2013	88
Padmashree Rao	MAT	2013	80
AnusudhaChaurasia	MAT	2013	78
Nikita Pinto	MAT	2013	70
Karishma Ail	MAT	2012	84
Saheen Saba	MAT	2013	81

35. Student progression:**BBM (Programmes)**

Student progression	Percentage against enrolled
UG to PG	30
PG to MPhil	-
PG to PhD	-
PhD to Post-Doctoral	-
Employed	

Student progression	Percentage against enrolled
• Campus selection	60
• Other than campus recruitment	5
• Entrepreneurs	5

BBA (JDM):-

Student progression	Percentage against enrolled
UG to PG	5
PG to MPhil	NIL
PG to PhD	NIL
PhD to Post-Doctoral	NIL
Employed	
• Campus selection	90
• Other than campus recruitment	5
• Self-Employment	5

36. Diversity of staff**BBM (Programmes)**

Percentage of faculty who are graduates	
of the same university	27
from other universities within the State	27
from universities from other States	40
from universities outside the country	6

Percentage of faculty who are graduates	
of the same university	32
from other universities within the State	32
from universities from other States	31
from universities outside the country	05

BBA (JDM)

Percentage of faculty who are graduates	
of the same university	33.33
from other universities within the State	50
from universities from other States	16.66
from universities outside the country	Nil

37. **Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period:** Nil
38. **Present details of infrastructural facilities with regard to**

BBM (Programmes):-

- a) **Library** – The Department has an in-house library for ready reference of about 100 books and more than 200 student project reports. The staff and students of the Department also avail the services offered by the School of Management library.
- b) **Internet facilities for staff and students:** Wi-Fi facility for all the teaching staff and 60 Computers for students.
- c) **Total number of class rooms** – 6
- d) **Class rooms with ICT facility** -5
- e) **Students' laboratories** – 1 with 60 computers.
- f) **Research laboratories** – 0

BBA (JDM):-**a) Library**

Total area of the library (in Sq. Mts.): 400sq ft

SOJM Library Statistics 2013

Sl. No.	Items	Total No.
1	Text Books	756
2.	Journals	03
3.	Magazines	04
4.	CD's	53
5.	Project Reports	169
6.	News Papers	04

Total seating capacity: 40

b) **Internet facilities for staff and students:** Internet with 1GB band width.

c) **Total number of class rooms:** 4

d) **Class rooms with ICT facility:** All class rooms have internet facility.

e) **Students' laboratories:** 3

(i) **Computer Lab:-** Jewellery Management has a well-equipped networked computer lab. All the computers in the lab are loaded with latest softwares like SPSS, TALLY, POS, Oracle, Visual Basic in addition to the jewellery designing softwares like Corel Draw, Adobe Photoshop, Jewel Cad, Rhino and Precious CAD.

(ii) **Gemology Lab:-** The Gemology Lab of the institute is equipped with sophisticated instruments to train the students in identifying, testing, cutting and grading gemstones & diamonds. The students are imparted specialized training in Gemology by the experts in the field invited as guest lectures.

(iii) **Design Lab:-**The students' creativity and designing skills are harnessed by imparting training in plain gold & studded jewellery designing by experienced faculty. Students are also encouraged to take part in various national and international jewellery design competitions.

(iv) **Workshop :-**The institute has a well equipped jewellery workshop with state of the art technology where students are imparted practical training in making all types of ornaments like necklace, ear-rings, bangles, pendants etc.

f) **Research laboratories:** Nil

39. List of doctoral, post-doctoral students and Research Associates

a) **From the host university**

Name of the Doctoral Research Scholar	Area of Research
Mr Jose Mamman	Social Entrepreneurship
Mr Vikram Baliga	Agriculture Marketing
Ms Moni Kokilam	Drug Supply in Chain Management
Mr Satish Kumar	Women Empowerment Through SHG
Mr Vishwanath Pai	Innovation methods & Indexing Innovative Technology
Mr Sandeep Shenoy	Capital Market

b) From other universities

Name of the Doctoral Research Scholar	Area of Research
Ms Priyanka Pandey	Internet Banking
Mr Sai Sachidhananda	A Study on Banking Technology & its effect in Public & Private Sector Banks – “A Competitive Study” in Karnataka State
Mrs E Geetha	Study on Automobile and IT Industries in India-Based on Stock price movements
Mrs Valaralakshmi Alapathi	Mathematical Modeling of the factors effecting NPA's in banks using fuzzy AHP
Mr Santhosh Shetty	Role of NGO's in Entrepreneurship Development

40. Number of postgraduate students getting financial assistance from the University:

Not Applicable

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

BBM: The Department of Commerce undertakes a need assessment exercise every time a new programme is launched. The Department has launched BBM with an option of transferring credits to foreign universities if required and MCom in Logistics and Supply Chain Management in collaboration with Confederation of Indian Industry, Logistics Institute, Chennai. Both these programmes were started with focus on national and international requirements in that specific sector. Deliberations with Industry experts are a constant feature in the design and development of new programmes. Various mega events like International Symposium, Conferences, workshops, seminars, guest talks etc., provide platform for such deliberations with experts. The experts express their views and provide inputs in

their field of expertise which forms a valuable base for the design and development of the industry aligned course curriculum.

Besides, the department feels that the faculty handling the subject is the complete authority in the modulation of the subject content. The faculty's participation in the Faculty development programs gives him/her an opportunity to understand the latest trends, developments and updation in the area. Such updation is then assimilated into the course content in consultation with the Head of the Department.

The Department promotes participative approach to learning. Students are equal contributors to updation in the course content as they are the end beneficiaries of any initiatives taken.

BBA (JDM):-

Need assessment exercise was undertaken before the development of new PG Diploma programme.

The programme was under taken to meet the additional requirement of sales and retail executives by Reliance Jewels with 100 per cent job guarantee for candidates by Reliance retails.

42. Does the department obtain feedback from?

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

BBM: Faculty meetings are held twice a week to discuss matters related to academics. Faculty is given the autonomy to evaluate the course-work and make modifications if necessary in due consultation with the Head of the Department. A team of faculty members is constituted to work specifically on each subject and to work towards the holistic development of subjects under the programme. Any changes with regard to the subject, proposed by the faculty is put before the team for discussions and deliberations and modifications are done, if found necessary. These modifications are then implemented into the curriculum on approval from the Board of Studies Committee.

BBA (JDM): -Yes. During the monthly staff meeting faculty members give their feedback on the curriculum as well as teaching-learning-evaluation. The feedback is considered as an important input for making changes in the curriculum during BoS meetings.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

BBM: Every faculty is rated on his/her subject through an online feedback process which is collected from the students every semester. The students are allowed to post their opinion/remarks and rate the faculty on parameters like subject knowledge, lecture content, teaching style, class participation, assignment, assessment, enthusiasm, accessibility, mentoring, leadership qualities etc. Student feedback is a critical component in rating of the faculty under the Performance Management System.

BBA (JDM):- Online feedback system has been implemented to collect and utilize students' feedback on staff, curriculum and teaching-learning-evaluation. The suggestions for improvement provided in the feedback system are implemented on priority.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

BBM: Alumni meet is conducted once in a year. Alumni share their work experience among their juniors during the alumni meets. Distinguished alumni are also requested to deliver guest talks to motivate their juniors and share intricacies of their work environment.

Employers provide feedback during the pre-placement talks addressed as a part of the Recruitment Campaign. The talks insist on employee attitude, job description, work culture and skill sets required to excel in the corporate world. Pre-placement talk is where the employers are given an opportunity to assess the general aptitude of their prospective employees before they move on to assess workforce individually. This is a need analysis for both parties.

BBA (JDM):-Feedback obtained from Alumni and their employers is used to change the curriculum to make it more relevant to the industry.

43. List the distinguished alumni of the department (maximum 10)

Name	Designation	Company
Mr. Anant Bhushan	Fund Analyst	Northern Trust
Mr Sahib Singh	Supervisor, Accounts-Administration & Industrial Relations	Larsen & Turbo
Mr. Samar Sikka	Director & Associate Producer	Gurbani Media Pvt Ltd
Mr Mahen Kevin Rodrigues	Accounts Supervisor	Larsen & Turbo
Mr. VishveshMadhavan	Senior Sales Head	Sheraton Bangalore

BBA (JDM)

#	Name of the Student	Batch	Achievement
1	Varun Mahesh	2005	Proprietor, "VARUN GEMS and JEWELLERY" at Hosakote.
2	Georgie Verghese	2005	Category Manager in Titan Industries Ltd. (Tanishq).
3	Deepak Ramdas Nayak	2005	Managing Partner of SwarnaJewellers, Udupi
4	Sudhanva Acharya	2006	Managing Partner of LakshmidasJewellers, Puttur
6	KunalMathur	2006	Assistant General Manager, Symphony Jewels Pvt Ltd Jaipur
7	Arjun M Shirodkar	2007	Regional Manager Retails, Andhra Pradesh and North Karnataka for Gold Plus, TITAN Industries.
8	SupriyaPramod Raj	2007	Managing Partner, WEDDING PALACE, Udupi.
9	Pavithra	2008	Executive Designer, Tara Jewellers, Chennai.

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts)

BBM (Programmes)

SI #	Name of the Faculty Coordinator	Name of the Conference / Seminar / Symposia / Workshop	External expert/s	Month and year
1	Mr Santosh Shetty	A workshop on “Entrepreneurship Culture and an overview of Business Taxation”-	1.C A Yadav Hemmady 2.Dr. Bharath, Faculties of PoornaPrajna Institute of Management, Udupi.	Feb, 2012
2	MrsVaralakshmi	Workshop on “Statistical Analysis and Interpretation in Research Using SPSS Software”	Dr R Ravanan, Professor, Presidency College, Chennai	Feb, 2012
3	Mr Guru Prasad Rao	a. Investment Management	Mr Naveen Rego, CFP, Mangalore	July, 2012
		b. Workshop on “Indian Financial Markets: Challenges ahead”	Mr Naveen Rego, CFP, Mangalore	2010-2012
		d. Two day Workshop on “Investment Planning and Portfolio Management”	– Mr. NavenRego, CFP, Mangalore	
		e. Organized a one day Workshop on “Basics of Stock Markets” Stock Exchange	Mr Radhakrishna Sharma, Certified Financial Education	

		(NSE) –	Resource Person, SEBI.	
		f. Organized a Certification programme on “International Financial Reporting Standard” in Joint collaboration with Manipal Universal Learning (MUL) and Deloitte.	Resource persons from Deloitte	
		g. National Conference on “Contemporary Issues in Banking”	1. Mr Ananthkrishna, Chairman, Karnataka Bank 2. Mr Devanand Upadyaya. GM, Syndicate Bank 3. Prof H S Srivathsa, TAPMI 4. Prof C K Hebbar, Mangalore University 5. Dr H Ramamohan, Director, Karnataka Bank	
	Mr Vikram Baliga	a. Accounting- An aid for superlative business development	1. Mr Madhukar Hiregange, Vice Chairman, Board of Studies, ICAI, New Delhi, 2. Mr Nanu R Mallya, senior partner, M/s.	August, 2012

			<p>Mallya and Mallya, Bangalore</p> <p>3. Mr. Muralidhar Rao, CA, Assistant General Manager, Karnataka Bank Limited, Mangalore</p> <p>4. Mr Bharat Krishna Nayak, Group Chief Financial Officer, Manipal Group,</p> <p>5. Dr Mallikarjunappa, Professor, Mangalore University</p>	
		b. Innovations and Risk Management in Banking	<p>Mr Praveen Suvarna, Executive Vice President – Quality Assurance, Yes Bank Ltd, Mumbai</p>	<p>February , 2012</p>

		c. Organizational Challenges in Deploying Six Sigma and Lean	Mr Praveen Suvarna, Executive Vice President – Quality Assurance, Yes Bank Ltd, Mumbai	November, 2012
		d. Lean Six Sigma and Green Belt Programme and Business Excellence Model -	– Mr Praveen Suvarna, Executive Vice President – Quality Assurance, Yes Bank Ltd, Mumbai	February, 2013
		e. Basic Statistical tools for research in social sciences –	Mr Ruchir Anand, Head of Department of Management, Alva's College, Moodabidre.	February, 2013
5	Mr Jose Mamman	Global Economic Recession	Prof Satish Kumar, ICICI Manipal Academy	February, 2012
6	Mr Guruprasad Rao	Delivered a Talk on “Marketing of Financial Products during Recession	Mr. Shrikant Beldona, Associate Professor, University of Delaware, United States	January, 2013
7		Guest talk on “Professional certification program for excellence at work place”	Mr Ashok Sahu	January, 2013

8		Delivered a Talk on “Financial Stability Report of RBI”	Mr. G Gopalakrishnan, Executive Director, Reserve Bank of India, Mumbai	April, 2013
9	Mr Vikram Baliga	Guest Talk on “Importance of Training for Employability”	Mr Krishna Iyer, Managing Director, 9 to 6 Consultants, Bangalore	April, 2013
10	Mr Guruprasad Rao	Delivered a Talk on “Significance of Humane touch over technology”	Mr. Krishnaswamy, President, KarurVysya Bank, Karur	April, 2013
11		Delivered a Talk on “Banc assurance”	Mr. Ravi Krishnamurthy, Chief Operating Officer, SBI Life Insurance Company Pvt Ltd	April, 2013
12	Mr Vikram Baliga	Guest Talk on “The Knowledge of Business Analytics for Competitive Edge in Job Selection”	Mr Amit Kumar, Director, CAT, 4 U, Delhi,	August, 2013
13	Mr Vikram Baliga	Guest Talk on “Analytical Competencies for Job Selection”	Mr Ashith Poojary, Manager, T.I.M.E.,	August, 2013
14		Guest Lecture on “Entrepreneurship and Energy in Revolution Sector”	Mr Harish Hande, Managing Director, SELCO, India, Bangalore	September, 2013

15		Interactive session with the faculties on contemporary issues in Banking	Mr. Jayarama Bhat, Chairman and Managing Director, Karnataka Bank Ltd	September, 2013
16	Mr Vikram Baliga	Benchmarking Best Services for Service Quality	Mr Praveen Suvarna, Vice President, Quality Assurance, YES Bank Limited, Mumbai	February, 2014
17	Mr Abhishek Rao	Three Day Short Certification Programme on Logistics & Supply Chain	Mr Sai Sridhar, Counsellor, Confederation of Indian Industry, Institute of Logistics	February, 2014
18	Mr Guruprasad Rao	Workshop on “Capital Market Awareness” in association with Bombay Stock Exchange (BSE)	Mr Sumeet Nayak, Lotus Knowlwealth, Mumbai	February, 2014
19		Conscendo – Third National Level Management Fest	Dr R C Natarajan, Director, TAPMI	February, 2014
20	Mr Santosh Shetty	Guest talk on Recent Changes in Fiscal Policy in India	Prof. Laxminarayana Karanth, Head, Dept. of Commerce, MGM, Udupi	March, 2014
21		Guest Talk on Significance of Statistical Analysis in Research	Prof. Narayana Tantri, Head Dept. of Statistics, Bhandarkar’s College, Kundapur	March, 2014
22	Jose Mamman	Special talk for Faculty Members & Research Scholars on “ A Network	Professor Paul Childerhouse, Director Logistics & Supply Chain Management Programme, Massey University, New	July, 2014

		Perspective of Supply Chain Collaboration”.	Zealand	
23	Mr Abhishek Rao	Managerial Challenges in Supply Chain & Logistics Function	Mr Sai Sridhar, Counsellor, CII Institute of Logistics, Chennai	July, 2014

BBA (JDM)

1. WORKSHOPS

Workshops were organized on following jewellery related subjects;

- BIS Hall Marking
- Gem and Jewellery for women
- Jewellery design using CAD
- Gem stones and Diamonds
- Entrepreneurship Development
- Fashion Jewellery
- Latest techniques in jewellery manufacturing
- Soft Skills Development
- Hallmarking Awareness for Jewellers and Consumers
- Latest Techniques in Gem testing, grading and Calibration of Gem stones
- Trans mind Treasure yourself
- Jewellery Designing using latest software – Precious CAD
- 3D jewellery design using Rhino and Matrix
- GIA – Diamond Grading course in association with Gemological Institute of America
- GIA Coloured Stone Grading in association with Gemological Institute of America

2. SEMINARS

Seminars were organized by inviting experts from industry and academic institutions;

1. “Gems and Diamonds” by Dr Jayashree Panjekar – Head, R&D Department, National Research Centre for Diamonds and Gems, Gemological Institute of India, Mumbai
2. ‘Employment prospects for Jewellery management graduates in the Industry’ by Sri Sumesh Wadhera, - Chief Editor and Executive Publisher,” The Art of Jewellery”, Bangalore.
3. ‘Growing prospects of Gems and Diamonds in the country’ by Dr KT Ramachandran, - Secretary, Gemological Institute of India, Mumbai
4. “Latest Techniques in Gem testing, grading and Calibration of Gem stones” by Mr Kaushik S. Sanghvi, MD, Mahavir Gems, Mumbai.
5. “Radiation by Gemstones” by Mr Kaushik S Sanghvi, MD, Mahavir Gems, Mumbai
6. “Understanding Diamonds” by Mr Kaushik S Sanghvi, MD, Mahavir Gems, Mumbai as the resource person.

7. “Prospect of Jewellery Industry in India” by Mr SumeshWadhera, Publisher and Chief Editor of “The Art of Jewellery” and Director Gold and Jewellery Federation, India
8. “Future of Jewellery Industry in India” by Mr SumeshWadhera, Publisher and Chief Editor of “The Art of Jewellery” and Director GJF India
9. “Essential Skills for Successful Career” by Mr Dinesh Kumar Dwivedi, experienced industrial executive and eminent speaker in the field of communication skills
10. Recruitment Presentations
11. “Prospect of Jewelry Industry in India” by Mr SumeshWadhera, Publisher and Chief Editor of “The Art of Jewellery. Bangalore.
12. “Identification of Gemstones” by Mr Kaushik S Sanghvi, Managing Director, Mahavir Gems, Mumbai
13. “Entrepreneurship and Social Empowerment” byMr Vilas Nayak, CEO, Hanuman Motors, Udupi
14. “Women Entrepreneurship” by MsRenu Jayaram, Managing Partner, JAYDEV Group, Manipal .

45. List the teaching methods adopted by the faculty for different programmes.

Teaching methods for BBM programmes:

- Lectures: In the form of classroom instructions. Delivery is in the form of power point presentations and the chalk and talk mode.
- Discussions: Classroom discussions are encouraged to develop communication, reasoning and participation skills of the students.
- Workshops: Workshop is the practical application of what is taught during classroom instructions and discussions.
- Role plays: Students play characters under role plays with a view to have an in depth understanding of certain concepts related to subjects which are difficult to understand using the traditional methods of teaching.
- Presentations: Tests the speaking, analytical, communication and convincing abilities of the students. Presentations test a student’s confidence and his/her knowledge about the subject. Presentation is an integral component of the internal assessment.
- Industrial visits: The Department plans industrial visits twice a year to provide students an opportunity to understand the working of a production system. Students have visited the Amul plant in Gujarat and Toyota Kirloskar in Bangalore as a part of the Plant visit program.

Department of Commerce organized its First International Study Tour to Singapore during February 28 – March 4, 2014. This unique initiative was attended by 60 students (from all the three years) and three faculties of the department.

The tour covered the following Plant Visits which were highly informative and educative –

- Singapore Newater – One of the World’s largest Waste Water Purification Plant. (Key Learning – Role of Technology for economic growth, Resource mobilization, Labour Management)
- Land Transport Authority of Singapore – The best of its kind Traffic Management in the City. (Key Learning – Management Issues – Planning, Scheduling & Implementation and Standardization of Processes with minimum errors)
- Singapore Urban Redevelopment Authority – The ‘Development Planning’ department of Singapore, which prepares blueprint of development plans for next 30 years. (Key Learning – Planning, Various barriers and challenges for implementation, Cost Benefit Analysis)
- The Tiger Breweries – The Largest Beer Factory in Asia – The Best Technology, The Best Production Process and an Unique Packaging System. (Key Learning – Role of Technology in Production Management, The Concept of Inventory Management, Demand and Supply Analysis, Techniques involved in Packaging and addressing logistics issues, Labour Management)
- **The Summer Internship programme (SIP):** focusses on projects with specific problem statement confronting a business. These projects are undertaken with the application of research methods and basic statistical tools.

BBA (JDM):-

Faculty members make use of Case Studies, Projects Presentations, Library research, Group Assignments, Video shows, Practical Demonstrations etc., as teaching methods for different programmes.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

Objectives for each subject are clearly defined in the syllabus. The lesson plan is designed in accordance with the subject and classes are conducted through various teaching methods outlined by the department. The objectives for each subject are set after taking continuous feedback from industry experts, subject faculty and students. Besides, objectives are also subject to periodic review in the department meetings as they have to correspond with the latest trends in the related area.

Outcomes are measured by conducting a result analysis of each subject through relative grading system. This also provides a base for the design of training and development programme under the placement cell of the department. Student performance measurement can be broadly classified under two categories:

A) Academic performance measurement

1. Class tests
2. Mid-term exams
3. Improvement exams

B) Training programs for employability

1. Aptitude tests.
2. Lecture sessions on job readiness.
3. Mock interview sessions to test attitude.

BBM Programmes: - Programme objectives are stated in the lesson plan and evaluation is done based on the objectives.

Based on the broad subject content outlined by the syllabus, the learning objectives of the subject are drawn

BBA (JDM):-

The Institute ensures that programme objectives are constantly met by-

- (a) Covering the topics as per the lesson plans
- (b) Conducting class tests and quiz tests periodically
- (c) Ensuring minimum 75per cent attendance in all subjects
- (d) Conducting extra classes to weak students.
- (e) Organizing faculty development programme for faculty members.

47. Highlight the participation of students and faculty members in extension activities.

- Zephyr, The Student Forum of Department of Commerce, Manipal University in association with Darpana Charitable Trust, Udupi organized its first CSR activity of the year. Orphanage students of Shri Krishna Balaniketana, Udupi were invited to Manipal Campus for the event, wherein new clothes, sports accessories and cash of Rs 8,000 was donated. Lunch was also served to all the 60 students of Shri Krishna Balaniketana.
- “Marathon 2011-Run for the Gifted” organized by Department of Commerce was held on March 13, 2011 in Manipal. Eighty seven runners completed the race. Both the first and second place winners were from Alva’s College, Moodabidri. Balliappa A. B and Devanna Naik were awarded cash prizes of Rs 5999 and Rs 3999 respectively. The proceeds from the event were donated to the Asare Project of Archana Trust, Manipal. In the lucky draw, two participants Samson S and AnilkumarAdhikari won cash prizes of Rs 1000 each. The Asare Project helped the specially-abled children to become independent. As a mark of appreciation, all the Asare kids participated in the Marathon, which was a 4.1 km run.

BBA (JDM):-

Faculty members and students take active part in organizing/participating in;

- (a) Management events.
- (b) Fashion jewellery manufacturing and exhibition
- (c) Jewellery design competitions
- (d) Jewellery shows
- (e) Industrial visit
- (f) Project work
- (g) Conferences/workshops/seminars
- (h) Sports and cultural events

48. Give details of “beyond syllabus scholarly activities” of the department.**BBM Programs:**

- Students of the department have actively taken part in various activities/projects in association with AIESEC, Manipal University.
- 35 Students have enrolled for the certification programme on NSE Certified Capital Market Professionals (NCCMP) – The programme is implemented in association with National Stock Exchange India (NSE), Mumbai.
- 40 Students have enrolled for the CIMA Study Centre, which delivers certification programmes on Management Accounting. The study centre was launched in the year 2011 in association with Chartered Institute of Management Accountants (CIMA)
- The final year students participated in a training programme conducted by the ‘Zonal Agriculture Research Centre’ Brahmavara, Udupi district on ‘Women Entrepreneurs in Agri-business’ on December 5, 2012. Speaking on the occasion, Dr Jayalaxmi Hegde highlighted the role of women entrepreneurs in the development of agriculture in the district. She also stressed the need for increased participation in the agri-sector by the youth and the experienced. Mr Vikram Baliga, Assistant Professor, Department of Commerce, Mr Sahib Singh, student, final year BBM and Mr Shiraz Munawar Hassan Ali, BBM student, second year, attended the training program.
- Students conduct Management festival at intra-department level called ‘Convergence’ and inter collegiate level called ‘Conscendo’ every year, wherein students of the department get hands-on experience in event management and also the events involve designing and organizing various competitions for testing knowledge of the participants in core areas of management studied at UG level.

BBA (JDM):-

Encouraging students in creative designing, innovative model making.

Participation in national and international level jewellery design competitions and exhibitions, doing projects beneficial to the organization, if adopted

49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details.

ISO 9001:2008, ISO 14001:2001

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

Management in Practice (MIP): is the application of theoretical knowledge to practical situations. Management in Practice is a tool which fosters inquisitiveness and makes students understand the practical aspects of a corporate functioning.

Learning through Dramatization (LTD) is the use of kinesthetic energy to synergize the use of pedagogical delivery. Both faculty members and students believe in the concept of 'action' being a super force in effective communication of the subject-matter.

Corporate Interface Programs: The Department has signed Memorandum of Understanding (MOU) with the Confederation of Indian Industry (CII) and Federation of Karnataka Chamber of Commerce and Industry (FKCCI) with the sole objective of generating new knowledge through application. Professional bodies such as CII and FKCCI provide a platform for students to relate to on-the-job training in firms and companies engaged in logistics and supply chain management in specific, and commerce and business management in general.

Research: Students are encouraged to engage in research by publishing and presenting research papers and articles as co-authors with the faculty members of the department.

Case studies: Case studies facilitate holistic study of the system comprising that of a person, an event or an institution. Videos: Sessions are conducted through visual images. Visuals of talks by famed management gurus are projected

BBA (JDM):- The institute is experimenting with making of Fashion jewellery using various low cost materials

51. Future plans of the department.

The Vision of the department is to develop into a world class centre of excellence in education, training and research by 2020

Future Plan based on our Vision

- Introduce five UG and three PG programmes in specialized areas in collaboration with industry
- Completion of PhD by at least 80 per cent of full-time faculty members
- Publish research papers in high impact journals; at least one paper per faculty member per year
- Apply for Research grants from different funding agencies.
- Collaborate with Foreign Universities in developing student/faculty exchange

programmes, credit transfer, Study abroad and research. Setting up a dedicated center to focus on this area.

- Collaborate with Industry for developing training programmes for their employees.
- Identify and get opportunities for Consultancy in different areas based on customer requirements
- Better Internships and Placement Opportunities for the students.
- Setting up of various centers in the area of Social Entrepreneurship, Economics, Accounting & Finance, Family Business Management, Logistics & Supply Chain & also focusing on training and consultancy.
- Upgrade faculty capabilities and competencies through training in the form of FDPs, workshops and necessary additional qualifications

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

BBM Programs:



1. **Name of the Department: School of Communication**
2. **Year of establishment:** 1997
3. **Is the Department part of a School/Faculty of the university?**

Part of Manipal Institute of Technology, Manipal University.

4. **Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)**

No. of Programmes: 08

Programmes

- 1) BA Journalism and Communication Studies (BAJC)
- 2) B.Sc. Animation
- 3) M.A Communication
- 4) Masters Programme in Film Art and Film Making (Dual-degree)
- 5) PG Diploma in Corporate Communication (PGDCC)
- 6) PG Diploma in Film Art
- 7) Certificate Course in Animation Technology
- 8) Ph.D.

5. **Interdisciplinary courses and departments involved**

Environment and Development Communication, Introduction to Indian Cinema, Introduction to Communication. Study Abroad Programme in Collaboration with Universities in the United States. Other departments involved are: Department of Geopolitics and International Relations and the Department of Philosophy and Humanities, Public Health.

6. **Courses, Programmes in collaboration with other universities, industries, foreign institutions, etc.**

Masters Programme in Film Art and Film Making– Dual-degree Programme in collaboration with EICAR, France.

7. **Details of programmes/courses discontinued, if any, with reasons**

Nil

8. **Annual/Semester/Choice Based Credit System**

Semester System

9. Participation of the department in the courses offered by other departments

Public Health (Community Health Medicine);

Master of Social Work

10. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)

	Sanctioned	Filled
Professor	01	01
Associate Professors	02	02
Asst. Professors	16	20

11. Faculty profile with name, qualification, designation and specialisation (D.Sc./D.Litt./ Ph.D./M.Phil., etc.)

Sl#	Name	Qualification	Designation	Specialization	No. of Years of Experience (T = Teaching I = Industry)	No. of Ph.D. students guided for the last 4 years
1	Mr Varadesh Hiregange	BA, MA – Mass Communication and Journalism MA -Ancient History and Epigraphy MA – English	Director I/C Asst. Prof.- Sr. Scale	Communication and Journalism English	T: 13 I: 10	-
2	Dr Padma Rani	B Sc (Hons), MA Ph D	Assoc. Prof	Communication and Journalism	T: 12	Five students have joined in Dec 2014 under Structured Ph. D. programme of Manipal University.
3	Ms Dhanwanti Nayak	B A MS	Asst. Prof. Selection Grade	Communication	T : 04 Freelance Teaching: 02	-
4	Ms Shubha HS	BBM, MS(Communication) Registered for PhD	Asst. Prof. Selection Grade	Communication	T : 14 I : 05	-

5	Mr Joseph Pavamani	MA (Economics) BA	Asst. Prof. Sr. scale	Economics	T : 08 Freelance Teaching: 10	-
6	Mr K Padmakumar	B.Sc. (Zoology) MA (Mass Communication) M Phil Registered for PhD	Asst. Prof.- Sr. scale	Communication	T :09 I : 06	-
7	Mr Bhadri Sunil Keshavacharya	MA Communication BA	Asst. Prof.- Sr. scale	Communication	T : 11 I : 01	-
8	Mrs Kavita Nagasampige	MA (Journalism and Mass Communication) Registered for PhD BA	Asst. Prof.- Sr. scale	Communication and Journalism	T : 010 I : 03	-
9	Mr Raviraj	MS Communication BSc	Asst. Prof.	Communication	T : 08	-
10	Ms Maitreyee Mishra	MSc Communication for Innovation and Development BAJC	Asst. Prof.	Communication	T : 06 Freelance Teaching: 02 I : 01	-
11	Ms Shruthi V Shetty	MS Communication BA	Asst. Prof.	Communication	T : 04 I : 06	-
12	Ms Anupa Lewis	MS Communication BA	Asst. Prof.	Communication	T : 06 I : <01	-
13	Ms Dipti Nagendran	MS Communication B Com	Asst. Prof.	Communication	T : 03 I : 05	-
14	Ms Pallavi Rao	MS Communication B Com	Asst. Prof.	Communication	T : 02 I : 02	-
15	Ms Shilpa Venkataraman	MS B Com	Asst. Prof.	Communication	T : 02 I : 05	-

16	Mr Shreeraj Gudi	MS Communication BA	Asst. Prof.	Communication	Teaching Exp.: 03 year Industrial Exp.: 03 years	-
17	Dr. Nandini Lakshmi antha	Ph.d, M.A B.Sc	Prof & Joint Director	Communication	Teaching Exp.:14	-
18	Balaji A C	B.com MBA, PG DMT	Asst. Prof (Selection Grade)	Animation	Teaching Exp.: 13 Industrial Exp.: 5	
19	Dr. Unnikrishnan	PhD M.V.A	Associate Professor	Communication	Teaching Exp.: 13 Industrial Exp.: 5	
20	Antony Mariya Cruz A	B.A B.Sc.	Asst. Prof (Selection Grade)	Animation	Teaching Exp.: 17 Industrial Exp.: 1	
21	Manoj Kumar K	BFA-Painting	Asst. Prof (Selection Grade)	Animation	Teaching Exp.: 5 Industrial Exp.: 20	
22	Romeio John Paul	B.Sc. DMT	Asst. Prof (Sr Scale)		Teaching Exp.:5 Industrial Exp.: 4	
23	Praseed O Nair	BFA DFA Diploma in Computer Graphics	Asst. Prof (Sr Scale)		Teaching Exp.: 7 Industrial Exp.: 5	

12. List of senior visiting fellows, faculty, adjunct faculty, emeritus professors

Visiting Faculty members

Dr. N T Bhat Former Professor & HOD Dept.of English MGM College, Udupi
Ms. Manjushree G Naik Ph. D. Scholar (on MU Scholarship)
Mr Prathamesh Pai Software Developer & Creative Director Transducent Technologies Manipal
Ms Amrutha Nayak Assistant Director Channel 'U', Udupi
Dr. Gurumurthy Professor SMS College Brahmavara
Alex Chandy Director Public Relations & Media Communications Manipal University, Manipal
Mr. Raghavendra Assistant Professor-I SMU-DDE, Manipal

Adjunct Faculty

Mr Girish Kasaravalli, National Award winning Film Maker

13. Percentage of classes taken by temporary faculty – programme-wise information

UG Programme: 20per cent

PG Programme: Nil

14. Programme-wise Student Teacher Ratio:

UG and PG student ratio: 16:01

15. Number of academic support staff (technical) and administrative staff: sanctioned and filled.

Academic support staff (technical): 08

Administrative staff: 14

16. Research thrust areas recognized by funding agencies

Media and Communication.

17. Number of faculty with on-going projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise.

1) National- Two

2) i) **ICMR**- Effective Health Communicating Methods amongst young women- An Exploratory Study

ii) **NCW** - Status of Electronic Media Journalist in Karnataka

3) a) Rs 7 Lakhs (ICMR) b) Rs 2,41,290 (NCW)

18. Inter-institutional collaborative projects and grants received

a) All India collaboration b) International

Sl #	Project Name	Chief Investigator	Funding Agencies	Grant received on (Month and year)	Total Grants Received (In Rs.)
1	Amchi Video	Shubha H S	Manipal College of Dental Sciences, Manipal	August 2012	Rs. 15,000
2	National Workshop on 'Short Films Making'	SOC	Flaunge	October 2012	Not Received
3	Content Writing on 'Udupi Tourism' for Dial Mantra Website.	Shruthi V Shetty	Dial Mantra, Udupi	December 2012	Rs. 5,618
4	A research study titled 'Media Perception of Adolescence: A comparative analysis of Adolescence issues in the National newspaper' for Rajiv Gandhi National Institute for Youth Development, Sriperumbudur.	Dr. Padma Rani	UNFPA	2012	Rs. 20,000
5	Manipal University New Year Award Videos	Varadesh Hiregange	-	-	-

6	FM Radio Project for The Manipal Group (TMG)	Padmakumar K	TMG	2012	Rs. 2,40,000
7	Market Research Project for TMG	Padmakumar K	TMG	2012	Rs. 10,000
8	Study of 'AROGYAVANI' as a classical example of Hospital-Newspaper partnership in promoting health communication.	Dr. Padma Rani	UGC, New Delhi	Yet to receive	Rs. 1,50,000
9	FM Radio Project	K. Padma Kumar	TMMG	Dec 2014	Rs.5,00,000
10	Nursing Anniversary Video Project	H.S.Shubha, Kushal Kumar.B	MCON	November 2014	Rs10,000
11	Nursing Anniversary Audio Project	K. Padma Kumar	MCON	November 2014	Rs.15,000

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received.

Sl #	Grant details	Year	Grant Agency	Amount
1	National Seminar	2011	Corporation Bank, ICSSR	5,00,000.00 50,000.0
2	Tagore Festival	2011	Ministry of Culture, Govt. Of India	3,00,000.00
3	Research Project	2013	ICMR	7,00,000.00
4	Research Project	2014	National Commission for Women	2,41,290.00

20. Research facility/centre with NIL

- state recognition
- national recognition
- international recognition

21. Special research laboratories sponsored by/created by industry or corporate bodies

NIL

22. Research Output in last 3 years

	2010	2011	2012	2013	2014
Completed funded research stroke media project	-	-	09	-	-
Completed non-funded research stroke media projects	-	-	01	-	-

Completed PhD research projects	-	-	-	-	-	
Completed PG research projects	60	54	60	55	55	
Completed UG research projects	66	76	98	78	78	
Publications	International	01	01	01	3	1
	National	02	05	02	0	0
Books Edited	01	-	-	-	-	
Chapters in books	01	-	01	-	1	
Conference presentations	International	03	01	10	8	8
	National	02	05	07	2	1

Publications

- * **Number of papers published in peer reviewed journals (national/international):**

Journal Publications:

2010:

National (Indexed):1

National (Non-Indexed):1

International (Indexed): 1

International Journal; Indexed:

1	Maitreyee Mishra, <i>Communicating the True Ecological Cost of Development: Addressing Development and Environment in Orissa, India.</i> CSSR Future Imperatives of Communication and Information for Development and Social Change (Conference Proceedings), 2 (03), 2010.
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National Journal; Indexed:

SN	Particulars
1	Padmakumar K: A Study of Community Radio initiative in South India Science Communicator, Volume ; Issue01; 2010

National Journal; Non-Indexed:

1	Dhanwanti Nayak 'The Importance of Being Useless' IN <i>Learning Curve</i> , A Newsletter from Azim Premji Foundation, Issue XV, pp122-125, August 2010
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2011:**National (Indexed): 4****International (Indexed): 1****International Journal; Indexed:**

1	Jomi Thomas, New Media and Media Students: an Approach and Use Pattern Analysis SEARCH: The Journal of the South East Asia Research centre for Communication and Humanities. Vol. 3, No. 2, 2011, pp 55-70, ISSN 2229-872X
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National Journal; Indexed:

1	Jomi Thomas, The Presence and Extent of Cultural Stereotypes in IT Industry in India: A Gender Analysis, Science Communicator, Volume 4, 32-37, July 2011
2	Dhanwanti Nayak 1. <i>Karaoked: Plagiarism in the Classroom</i> Economic and Political Weekly, February 26-March 11, 2011. 2. <i>Body as Object: Ethical Concerns Underlying Medical Research</i> Economic and Political Weekly June 11-17, 2011. 3. <i>Anthropologists inside Organisations</i> edited by Devi Sridhar and published by Sage. July 12, 2011, esocial sciences 4. <i>Identity and Change: Travel as Metaphor</i> esocial sciences August 9, 2011 esocial sciences

2012:**National (Indexed):2****International (Indexed): 1**

SN	Particulars
1	Nayak, Dhanwanti: 1) Tacit Trust Cannot be Violated: Report of the Presidential Commission for the Study of Bioethical Issues, USA. Indian Journal of Medical Ethics (National Journal; Indexed), Vol.: IX, No 2, April-June 2012. 2) Sensitizing Doctors: A Pedagogical Approach to Medical Humanities. Indian Journal of Medical Ethics, (National Journal; Indexed), vol IX, No 4, Oct-Dec 2012
2	Maitreyee Mishra, Manisha Mishra "Marriage, Devotion and Imprisonment: Women in Bimal Roy's <i>Devdas</i> and <i>Bandini</i> ". Global Media Journal- Indian Edition [ISSN 2249-5835] Volume: 3; Issue: 1 Month/Year: June 2012 Page no: 1-11 Journal type: International, Indexed Journal

2013:**National (Indexed):0****National (Non-Indexed): 0****International (Indexed): 2****International Journal; Non-Indexed:1**

1	Maitreyee Mishra, Environmental Communication in India: Lessons from Orissa. <i>Media Asia</i> , Volume 40 (1), 85-95. [ISSN 0129–6612].
2	Dr.Padma Rani "Privatisation, Convergence and Broadcasting Regulations: A Case study of the Indian Television Industry" The Asian conference on Media and Mass communication ;Official conference proceedings , pages 387-396 (ISSN:2186-5906)
3.	K. Padma Kumar Role of Media in the 21 st century, Asia Media forum, Official conference proceedings, Incheon, South Korea.

2014:**National (Indexed) & Non Indexed :0****International (Indexed): 1****International Journal;(Non Indexed):0**

1	Maitreyee Mishra, Animated Worlds of Magical Realism: An Exploration of Satoshi Kon's 'Millennium Actress' and 'Paprika'. Sage (UK) journal- 'Animation: an interdisciplinary journal' 9(3). ISSN: 1746-8477
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* **Monographs:** Nil* **Chapters in Books:** 02**2010: 01**

Varadesh Hiregange, Preethigonda Hosabashe, Avinash Kamath and Nayana
Nootana

2011: - NIL -

2012: 01

Faculty Name: Dr. Padma Rani, Associate Professor

Title: Chapter 20 India: College Radio Tackling Participation and Social Inclusion

Editor: Kalinga Seneviratne

Title: People's Voices, People's empowerment: community Radio in Asia and beyond"

Edition: AMIC Singapore2012

Publisher: AMIC Singapore2012

* **Edited Books:** 01

Kavitha Nagasampige, Title: 'Editing', for Sikkim Manipal University, June 2010

* **Books with ISBN with details of publishers:** Nil

* **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.):** NIL

* **Citation Index – range / average:** Nil

* **SNIP:** Nil

* **SJR:** Nil

* **Impact Factor – range / average**

* **h-index**

23. Details of patents and income generated

Nil

24. Areas of consultancy and income generated

1) Film Making

2) Advertising

Total income generated:	2012	Rs. 54,656.00
	2013	Rs. 1,29,700.00
	2014	Rs. 12,000.00

25. Faculty selected nationally/ internationally to visit other laboratories in India and abroad

Nil

26. Faculty serving in

a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Prof Varadesh Hiregange, Member, Editorial Board, Global Media Journal

Prof Dhanwanti Nayak, Member, Editorial Board, Indian Journal of Medical Ethics

27. Faculty recharging strategies

Encouraging faculty members to participate in National/International Conferences/Seminars/Workshops and outbound training programmes

28. Student projects

- percentage of students who have done in-house projects including inter-departmental projects

95 percent

- percentage of students doing projects in collaboration with other universities/industry/institute

5per cent

29. Awards/recognitions received at the national and international level by

- Faculty
- Doctoral / post-doctoral fellows
- Students

NIL

30. Seminars/Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.

- National Seminar on Media Conscience – Changes, Challenges and Chances in March 2011. Rs 5,00,000 sponsored by Corporation Bank and Rs 50,000 sponsored by ICSSR, New Delhi

Prominent Persons: Vinod Mehta, the then Editor of Outlook Magazine; ChandanMitra, Editor, Pioneer; TS Sudhir, Former NDTV Correspondent

- Tagore Festival in October 2011: Rs 3, 00,000 sponsored by Ministry of Culture, Government of India.

Prominent Persons: Dr UR Ananthamurthy; Prof Shiv Vishwanathan; Prof Shamik Bandopadhyay; Prof Buroshiv Das Gupta

31. Code of ethics for research followed by the departments

As laid down by Manipal University.

32. Student profile course-wise:

Particulars	Applications received	Selected		Pass %		
		Male	Female	Male	Female	Total
2013-2014	224	24	32	24%	30%	54%
2010-2013	398	56	52	45.78%	54.22%	76.85%
2011-2013	192	20	39	40.38%	59.62%	88.14%

33. Diversity of students

Name of the course (refer to question no. 4)	Percentage of students from the same university				Percentage of students from other universities within the State				Percentage of students from universities outside the State				Percentage of students from other countries			
	10-11	11-12	12-13	13-14	10-11	11-12	12-13	13-14	10-11	11-12	12-13	13-14	10-11	11-12	12-13	13-14
BA Journalism & Communication- Studies (BAJC)				Qualifying Exam is: 10+2, which is a Board Exam												
MA Communication	5.1	10.7	20		36.2	33.9	52	27	58.6	55.2	28	0	0	0	0	
Masters Programme in Film Art & Film Making (Dual-Degree)	-	-	0	1	-	-	50	4	-	-	50	0	-	-	0	
PG Diploma in Corporate Communication (PGDCC)	0	0	0	2	50	0	66.6	3	50	100	33.	0	0	0	0	
PG Diploma in Film Art	-	-	-	0	-	-	-		-	-		-	-	-	-	
Certificate Course in Animation Technology				Qualifying Exam is: 10+2, which is a Board Exam												

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Nil

35. Student progression

Student progression	Percentage against enrolled
UG to PG	15
PG to M.Phil.	Nil
PG to Ph.D.	0.1%
PhD to Post-Doctoral	Nil
Employed	
• Campus selection	100
• Other than campus recruitment	2
Entrepreneurs	2

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	35.29%
from other universities within the State	11.77%
from universities from other States	23.53%
from universities outside the country	29.41%

37. Number of faculty who were awarded PhD, DSc. and DLitt. during the assessment period

1

38. Present details of infrastructural facilities with regard to

- a) **Library:** 11,667 Books; 60 Periodic Journals; Subscription to EBSCO Host and JSTOR
- b) **Internet facilities for staff and students:** Wi-Fi facility for students and staff Members; Laptops for the faculty members; LAN and WAN connectivity.
- c) **Total number of classrooms:** 12
- d) **Class rooms with ICT facility:** 12
- e) **Students' laboratories:** 05 (Video Lab; Sound Lab; PG Computer Lab; UG Computer Lab; MAC Lab)
- f) **Research laboratories:** Nil

39. List of doctoral, post-doctoral students and Research Associates

- a) From the host university – Doctoral students-1
- b) From other universities –Doctoral students- 5

40. Number of post graduate students getting financial assistance from the university

2010-2011	2011-2012	2012-2013	2013-2014
08	10	12	15

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Decision was taken going by the enthusiasm of students to study film making abroad. It was primarily based on the general queries made by the students about such courses.

42. Does the department obtain feedback from

a. Faculty members on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes, Faculty members are part of the curriculum revision process. This process strengthens academics

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Yes, in improving the curriculum, teaching and other facilities

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

Yes, to bridge the gap between the industry and the academia

43. List the distinguished alumni of the department (maximum 10)

Sameer Hashmi Correspondent, BBC, Mumbai	Keerthi Killari Correspondent, BBC, London
Sneha Priya Pangal Nayak Vice President (National) AXIS Bank	Nitya Menon, Film Actress (Malayalam; Tamil; Kannada, Telugu) Chennai
Mausami Singh Senior Correspondent, IBN 7, New Delhi	Rajeev Reddy Film Director, Hyderabad
Michael Patrao Radio Jockey, INDIGO, Bangalore	G Vishnu Reporter, Tehelka, Delhi
Ramanathan Reporter, TIMES NOW, Chennai	Anadi Athley Film Maker, Mumbai

44. Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts

Article 19, Annual Communication Festival conducted by the Institute. This festival is visited by filmmakers, industry experts, academicians and others.

Year 2010**Important Visitors/Guest Lectures**

1. Prof U R Ananthamurthy interacted with the faculty and staff of SOC
2. Ms Pia Schreiber, Lecturer, Hochschule Bremen University, Germany, took several lecture of Global Communication
3. Prof Gopal Guru from Jawaharlal Nehru University addressed MS first semester students
4. Mr Karthik Harsha from Coimbatore took sessions for MS Communication and BAJC students for Sound Editing and Mixing
5. Mr Anirudha Bahal, Co-founder of Tehelka and founder of Cobra Post interacted with the students
6. Mr Pradeep Thomas, Professor of communication studies from University of Queensland, Australia took sessions for students
7. Mr Sadanand Menon, Columnist and faculty member of Asian College of Journalism conducted sessions for all students
8. Dr Uma Vangal, Associate Professor, L V Prasad Film Academy, Chennai and Mr Anand Subramanian, Film Maker, Bangalore conducted two-day guest sessions on 'Acting Techniques' for MS Communication final year students
9. Mr GV Krishnan: Lowe Lintas Head of Bangalore division interacted with the students
10. Mr Pablo Bartholomew, Photo Journalist conducted sessions for all students
11. Mr PremChawla, an Independent AD film maker interacted with all the students
12. Two-day guest sessions by Ms Susan M Alexander, Founder, Write Concept, Bangalore-based technical writing firm.
13. Dr Venkat Iyer, from University of Ulster, UK conducted two sessions for students on 'Media laws and responsible journalism' and 'Media laws and right to privacy' with specific reference to India and UK
14. Mr Peter Yorke, Bangalore conducted a two-day workshop for MS Communication, Corporate Communication students
15. Mr Pradeep Gogte, Vice President – HR of Adfactors PR Pvt Ltd, Mumbai conducted a two-day workshop for MS Communication final year and PGDCC students on 'Facing Interviews' in connection with campus hiring process for the students
16. Mr Govindan, GM Personal Banking and Operations, Union Bank of India, Mumbai interacted with the Communication Management students

Year 2011

1. Senior journalist from The Hindu P Sainath and documentary filmmaker P Stalin delivered talks as a part of the SOC communication festival in February.
2. Veteran journalists Vinod Mehta, Chandan Mitra and others participated in the national seminar on “Media conscience: Changes, Challenges and Chances” in March
3. Jnanapeeth awardee Prof U R Ananthamurthy, Prof Shiv Viswanathan, Prof Shamik Bandopadhyay and Prof Buroshiva Dasgupta were the speakers in Tagore festival in September
4. Senior television journalist T S Sudhir held sessions on ‘Advanced Reporting’
5. Senior film writer Bhawana Somaaya delivered a talk on film journalism
6. Two-day guest sessions by Ms Deepa Dhanraj, reputed documentary film-maker currently based in Bangalore, on 21-22 January, 2011
7. One-day guest sessions for the second year BAJC students on 27 February 2011 by Mr Vishwas Kamath, Mangalore (Breakfast show RJ with Radio Mirchi 98.3 FM Mangalore)
8. Two-day (2-3 March 2011) guest sessions by Ms Manasi K G and Mr Sudhir, who are running Live Mind Inc Consulting Services, Bangalore, for online presence management
9. Two-day guest sessions on 'Acting Techniques' for MS Communication final year students from 9-12 February 2011 as a part of 'Broadcast Media and Histrionics' paper. The resource persons Dr Uma Vangal, HOD Film Studies, L V Prasad Film Academy, Chennai and Mr Anand Subramanian, Film Maker, Bangalore.
10. A session on classical music by Ms Priya Purushothaman from Bangalore

2012

Important Visitors/Guest Lectures /Collaborations:

1. Mr. Anuchet, Assistant Commissioner of Police, Mangalore
2. Magsasay Awardee Dr. Shanta Sinha, chair-person of the National Commission of Child Rights Protection
3. Dr, Mrinal Chatterjee, Director, IIMC Orissa
4. Dr. Venkat Iyer, University of Ulster, UK
5. Dr. M D Nalpath, Director of dept. of Geopolitics and International Relations also holds the UNESCO Peace Chair
6. Prof. Beatrice Dernbach, Head of Department of Journalism at Hochschule Bremen, Germany.
7. Mr. Girish Kasarvalli, Film Director

8. Mr. K Hariharan, Director, LV Prasad Academy of Film, Chennai
9. Mr. Sudhish Kamath, Film Critic, The Hindu, Chennai
10. Dr. Robert Bacquist, Director EICAR Paris, France
11. Dr. Gulab Kothari , Chairman and Editor in Chief of Rajasthan Patrika group
12. Jnanapeeth awardee Dr. U R Anantha Murthy
13. Mr. Mahesh Bhat, Film Director
14. Mr. Nakkeran Gopalan, founder of Nakkeran Magazine, Tamil Nadu
15. Ms. Vidya Dinker & Mr. Natesh Ullal, Film makers, Mangalore
16. Mrs. Grace Pinto, President of Ryan International Schools
17. Mr. T S Sudhir, former Journalist with NDTV
18. Dr. Triveni Mathur, Visiting Professor, Symbiosis University, Pune
19. Ms. Shilo Shiv Suleman, Illustrator, story teller, Ipad book creator
20. Ms. Shabnam Virmani, documentary film maker and co-founder of Drishti Media Arts and Human Rights Collective
21. Ms. Kalpana Sharma, well known critic and writer
22. Mr. Srinivas Bhashyam, Film Maker
23. Mr. K V Akshara, Kannada Play Writer.
24. Mr. Ishammuddin Khan, Traditional Street Magician
25. Mr. Brikesh Singh & Mr. James North, Green Peace
26. Mr. Raj Lalwani, Senior Features Writer, Better Photographya
27. Prof. Sundar Sarukkai, Director, Dept. of Philosophy & Humanities

2013

Important Visitors/Guest Lectures /Collaborations:

1. Bashabi Fraser, Joint Director, Scottish Centre of Tagore Studies, School of creative Arts and Industries, Edinburgh, Napier University
2. Neil Fraser, School of creative Arts and Industries, Edinburgh, Napier University
3. Neehar Dabade, Music Composer & Producer / Sound Engineer / Logic Pro Trainer
4. Subhash Kamath, CEO & Managing Partner BBH India, India
5. Jayanth Kai Kini, Prominent writer & film Lyricist , India
6. Christian Kimm, Violin artist , United State
7. Usha Rajgopalan, writer
8. Col. Sanjiv Shukla, Commanding Officer
9. 4 Karnataka Engineers NCC Manipal , India
10. Shrimati S Mayya, Statatics Manipal University, India
11. Commander U T Shrista, Commanding Officer Udupi, India
12. Paromita Vohra, Independent Filmmaker, script-writer, writer & columnist, Mumbai India
13. Shiv Visvanathan, Jindal Global University, New Delhi
14. Dr. Ravindranath Shanbhag, Human Rights activists and RTI, India
15. Jan Ytrehorn, Volda University, Norway
16. Mathew Allen, Head of School - Communication and Creative Arts, Deakin University, Melbourne , Australia
17. K. Annamalai, Assistant Superintendent of Police, Karkala Sub-division
18. G. Vishnu, Journalist, Tehelka Magazine
19. K. Phaniraj, Faculty, MIT, India

20. Pavan Solanki , Sr Manager - Marketing & Business Development (India),
Australia
21. Soumya Suresh, National Corporate Lead , India
22. Prof. Hans Jansen, University of Applied Sciences , Hochschule, Bremen, Bremen
University, Germany
23. Egbert Baake, Professor Director of Mechanical Engineering, Director,
International Asia, Hannover Germany
24. Tarun Vijay, Rajya Sabha, MP New Delhi
25. Shefali Anand, Editor, Wall Street Journal, Mumbai
26. Mr. Dinesh Khanna, Photographer, New Delhi
27. Mr. Sanjay Kak, Documentary Film Maker
28. Mr. Javed Iqbal, Journalist
29. Mr. Amin Haa, Storyteller
30. Ms. Maya Sharma, Editor, Resident NDTV, Bangalore
31. Mr. Girish Malik, Producer of Jal Film
32. Mr. Purab Kohli, Hero of Jal Film
33. Ms. Kirti Kulhari, Heroine of Jal Film
34. Mr. Rajdeep Sardesai, Editor in Chief, CNN-IBN
35. Mr. Prasanna, Kannada Writer

2014

Important Visitors/Guest Lectures /Collaborations:

1. Bashabi Fraser, Joint Director , Scottish Centre of Tagore Studies, School of
creative Arts and Industries, Edinburgh, Napier University
2. Neil Fraser, School of creative Arts and Industries, Edinburgh, Napier University
3. Neehar Dabade ,Music Composer & Producer / Sound Engineer / Logic Pro
Trainer
4. Subhash Kamath, CEO & Managing Partner BBH India, India
5. Jayanth Kai Kini, Prominent writer & film Lyricist , India
6. Christian Kimm, Violin artist , United State
7. Usha Rajgopalan, writer
8. Col. Sanjiv Shukla, Commanding Officer 4 Karnataka Engineers NCC Manipal ,
India
9. Shrimati S Mayya, Statistics Manipal University, India ,Commander U T Shrista,
Commanding Officer Udupi, India
10. Paromita Vohra, Independent Filmmaker, script-writer, writer & columnist,
Mumbai India
11. Shiv Visvanathan, Jindal Global University, New Delhi
12. Dr. Ravindranath Shanbhag, Human Rights activists and RTI, India
13. Jan Ytrehorn, Volda University, Norway
14. Mathew Allen, Head of School - Cmmunication and Creative Arts , Deakin
University, Melbourne ,Australia
15. K. Annamalai, Assistant Superintendent of Police, Karkala Sub-division
16. G. Vishnu, Journalist, Tehelka Magazine, Tehelka
17. K. Phaniraj, Faculty, MIT, India

18. Pavan Solanki, Sr Manager - Marketing & Business Development (India), Australia
19. Soumya Suresh, National Corporate Lead ,India
20. Prof. Hans Jansen, University of Applied Sciences , Hochschule, Bremen, Bremen University, Germany
21. Egbert Baake, Professor Director of Mechanical Engineering, Director, International Asia, Hannover Germany
22. Tarun Vijay, Rajya Sabha, MP New Delhi
23. Shefali Anand, Editor, Wall Street Journal, Mumbai
24. Mr. Dinesh Khanna, Photographer, New Delhi
25. Mr. Sanjay Kak, Documentary Film Maker
26. Mr. Javed Iqbal, Journalist
27. Mr. Amin Haa, Storyteller
28. Ms. Maya Sharma, Editor, Resident NDTV, Bangalore
29. Mr. Girish Malik, Producer of Jal Film
30. Mr. Purab Kohli, Hero of Jal Film
31. Ms. Kirti Kulhari, Heroine of Jal Film
32. Mr. Rajdeep Sardesai, Editor in Chief, CNN-IBN
33. Mr. Prasanna, Kannada Writer

45. List the teaching methods adopted by the faculty for different programmes.

Lecture delivery

ICT (PowerPoint Presentations; Interactive Videos; Video Conferences; Pod Casting)

Field Visits (International Film Festival and Culture Courses)

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

With the help of Lessons Plans that are obtained from each of the faculty members before the commencement of the programmes as a part of ISO requirement

47. Highlight the participation of students and faculty members in extension activities.

- MFSC (Manipal Film Study Centre): An initiative of Manipal Institute of Communication, MU, Manipal. Film Study Centre attempts to promote and popularize film culture in Manipal. MFSC provides an excellent platform for students to explore and understand the cinematic language through weekly screenings, discussions and workshops conducted by experts.
- Network of Eco Explorers, Manipal (NEEM) is dedicated to spreading awareness about our environment and the problems it faces. Everybody has a right to live in a clean, beautiful world and as students of communication; we are convinced we can make a difference. Manipal is situated in Western Ghats, which is considered to be among the 10 biodiversity hotspots in the world. Thus, utilising the

opportunity we wish to explore and understand our surrounding in a much better way. NEEM has been organising lectures by environmentalists, discussions, cleaning campaigns, documentary film screenings and field trips over the last two years.

- **KALAMANCH:**

Kala Manch is a Theatre Club of SOC, In the monsoon of 2006, a seed was sown and Kala Manch was established.

With over an average of over 80 members, the club is committed to push the boundaries of the stage till it becomes an integral part of our lives.

- **Yell:** One of the first of its kind, YELL (Youth for Expression dialogue and Literature) provides the students of SOC, a platform for expressing themselves in their own unique ways. The club is a combination of a debating club and a media club.

Born in September 2006, YELL has successfully organised more than 20 events till date. The events included heated debates on national issues of social and economic importance, movie screenings and discussions, and other literary activities. The club conducts workshops, both at the institutional and University level. YELL also conducts the yearly Intra-College literary fests in SOC. The Club, whose membership is growing by the day, has also joined hands with social organizations and NGOs to have a social service outlook.

Dr. Padma Rani:

Unveiling the portraits of editors-freedom fighters was held on 1st October 2012, Prof.U.R.Anathamurthy was the chief guest .About 50 people from different colleges of Udupi attended the function. The students of MIC were also present.

Others:

- Blood Donation Drive, 3 march 2012, 170 units collected
- NammaAngadi Sale, 16-18 March, Over Rs. 4.5 lakh rupees sales
- Cinephilia a film festival, 23-25 March, screenings and workshops; Guests :Sri GirishKasarvalli, K Hariharan, SudhishKamath
- Special lecture by Magsasay Awardee Dr. ShanthaSinha, Chairperson of National Commission on Child Rights Protection, 14thMarch
- Orientation 2012, July 2012
- Hero MotoCorp television commercial for Jaydev Motors Udupi
- Video Amchi Project in association with International Dental Students Association and Manipal University
- Patient Awareness Video for Radiology Dept. KMC, Manipal
- Guided over 20 radio programs broadcasted from Manipal Radio by students of MS (Comm.) and MPH
- Scripted voice over narration for 4 MU videos for New Year Awards
- Proof reading Manipal University Handbook, June 2012

Maitreyee Mishra:

- Seminar on “The Role of Communication in Environmental Movements” featuring a talk by Chipko-Appiko Activist/Environmentalism Pandurang Hedge was organized by Maitreyee Mishra.
- Seminar on Environmental Problems in the region by activist Ms. Vidya Dinker was organized by Maitreyee Mishra; also organized were a workshop on film making on environmental issues by Natesh Ullal

Shruthi V Shetty:

- Alumni Event held on 9th November, 2012. Dr. Indira Bairy (Director, Student Affairs, Manipal University) and Dr. R.P. Pai (Professor, Fr. Muller Medical College, Mangalore) were the chief guests on the occasion. 70 alumni from various batches attended the event.

Anupa Lewis:

- Organized Kalamanch Theatre Production entitled ‘GOD’ by Woody Allen in MIT Library Auditorium on 4th November 2012: Attended by around 300 students & faculty members of Manipal University
- Organized a three day theatre based event , TIATR, from 13th–15th Sept 2012 in MIC: Attended by around 50 students of MIC, Manipal University, Manipal; Performances included street-play, mime, one-Act play, mimicry.

48. Give details of “beyond syllabus scholarly activities” of the department.

Organized National Seminar on the theme ‘Media Conscience – Changes, Challenges and Chances’ in March 2011

Organized Tagore Festival in October 2011

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details.

ISO 9001:2008; ISO 14001:2004

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

- Faculty members presenting research papers in international conferences
- Documentary film making by students/faculty
- Newspaper articles by faculty members and students

51. Future plans of the department

- To introduce new subjects relevant to communication
- To revise curriculum making it up-to-date
- Expanding Research Activities
- Increasing International Exchanges and collaborations
- Planning new Programmes
- Starting short term courses

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:

- Curriculum
- Placements and International Collaborations
- Infrastructure
- Faculty
- Importance to co-curricular activities

Weaknesses:

- Faculty members need a different mind-set to settle in Manipal because of its distance from metropolitan cities and big media centres.

Opportunities:

- Research
- Personal and Professional Growth

Challenges:

- To keep up-to-date with changing mediascape

1. **Name of the Department: Geopolitics and International Relations**
2. **Year of establishment: 2010**
3. **Is the Department part of a School/Faculty of the university?**
Part of School of Communication, MIT
4. **Names of Programmes/Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated PhD., etc.)**
PG, PhD
5. **Interdisciplinary courses and departments involved**
Yes
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.**
Governmental institutions – Courses offered to the scientific community / University of Warsaw
7. **Details of programmes/courses discontinued, if any, with reasons**
N/A
8. **Annual/Semester/Choice Based Credit System**
Semester
9. **Participation of the department in the courses offered by other departments**
Yes
10. **Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)**

	Sanctioned	Filled
Professor	1	1
Associate Professor	1	1
Assistant Professor	4	3

11. Faculty profile with name, qualification, designation and specialization (DSc./DLitt./ PhD/MPhil., etc.)

#	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of PhD students guided for the last 4 years
1	Dr. Arvind Kumar	M.Phil., Ph.D.	Professor	International Relations	22	3(Guiding)
2	Dr. Nanda Kishor M.S.	M.Phil., Ph.D.	Asst. Prof.	Political Science	04	1(Guiding)
3	Dr. Monish Tourangbam	M.Phil., Ph.D.	Asst. Prof.	International Relations	02	--
4	Dr. Praveen Kumar	M.Phil., Ph.D.	Assoc. Prof.	International Relations	01	--
5	Dr. Ravindranathan P.	M.Phil., Ph.D.	Asst. Prof.	International Relations	01	--

12. List of senior Visiting Fellows, faculty, adjunct faculty, emeritus professors –

International Faculty Pool

Manipal University has always been consistent in maintaining the world-class quality in terms of teaching standards. The Department of Geopolitics has drawn faculty members from well-known universities in the world. In addition to its core faculty members, the Department of Geopolitics has adjunct faculty members from Stanford University, George Washington University, University of Bristol, American University - Washington, Nanyang Technological University Singapore, University of Bordeaux France, Fudan University Shanghai, Tsinghua University China, Jawaharlal Nehru University New Delhi, Jamia Milia Islamia Central University, Pondicherry Central University and people from well-known defence issues think tanks like Institute for Defence Studies and Analyses, New Delhi.

List of Adjunct Visiting Professors

Dr Lawrence Prabhakar Madras Christian College, Chennai	Prof K P Vijayalakshmi School of International Studies Jawaharlal Nehru University, New Delhi
Dr DeepaOllapally Associate Director, Sigur Centre for Asian Studies, George Washington University	Dr AmitavAcharya Director, Governance Research Centre University of Bristol
Prof Daniel C. Bach University of Bordeaux, France	Prof DingliShen Centre for American Studies Fudan University, Shanghai, China
Prof Yan Xuotong Tsinghua University, China	Dr Ajay DarshanBehera JamiaMiliaIslamia University, New Delhi
Prof Hormese Tharakan Member, National Security Advisory Board	Prof S Gopal, Special Secretary (Retd.) Government of India

Prof M J Vinod Department of Political Science Bangalore University	Prof N K Jha Director, South Asia Program, Pondicherry Central University
Dr Bidanda Chengappa	Mr Bhaskar Roy Formerly Special Secretary, Cabinet Secretariat
Dr Veena Ravikumar Reader, Lady Shriram College	Dr Anil Kakodkar Homi Bhabha Professor Bhabha Atomic Research Centre, Mumbai
Prof Chintamani Mahapatra American Studies Division School of International Studies JNU, New Delhi	Dr Anupam Srivastava Centre for International Trade and Security University of Georgia USA
Dr Prasad Rao Formerly Chairman NTRO Government of India	Dr Seema Gahlaut Centre for International Trade and Security University of Georgia, USA
Dr V Siddhartha Distinguished Fellow Centre for Air Power Studies New Delhi	Dr K Santhanam Chairman Central Asia Foundation New Delhi
Prof Arabinda Acharya Nanyang Technological University, Singapore	Ms Cleo Paskal Chatham House, London
Mr Heblkar Formerly Special Secretary Cabinet Secretariat	Dean Louis Goodman School of International Service American University, Washington, DC
Mr Kamal Kumar Formerly Director National Police Academy	Prof P M Kamath Director, VPM Centre for International Studies, Mumbai

13. Percentage of classes taken by temporary faculty – programme-wise information

Special lectures only

14. Programme-wise Student Teacher Ratio

5:1

15. Number of academic support staff (technical) and administrative staff: sanctioned and filled

One Office Staff, One Librarian and one Assistant Librarian

16. Research thrust areas recognized by funding agencies

Nuclear Issues, Role of technology in India's National Security, Outer Space Security and Space Weaponisation, Terrorist Financing and Counter terrorism, Strategic capabilities of China and Pakistan

17. Number of faculty members with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise:

- a) **National:**2
 b) **International:** 3
 c) **Total Grants Received:**

International Seminar on Promoting Indo-Japan Strategic Dialogue	Japan Foundation	13,66,956
India's Policy Options on the Fissile Material Cut off Treaty (FMCT): Technical Assessment of Definition and Verification	BRNS: Board of Research in Nuclear Sciences, The Department of Atomic Energy (DAE), Government of India	8,92,950
International Seminar on India-Eastern Africa Dialogue	Indian Council of World Affairs, New Delhi and Ministry of External Affairs, Government of India	9,90,000
National Seminar on China's Strategic Rise and its Implications for India with a focus on North East Security	Maulana Abul Kalam Azad Institute of Asian Studies	4,00,000
Grant for Books on Japanese Studies	Japan Foundation	50,000
Total		36,99,906

18. Inter-institutional collaborative projects and grants received

- a) **All India collaboration** b) **International**

N/A

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received.

Department of Atomic Energy funded a Research Study

20. Research facility/centre with

- **state recognition**
- **national recognition**
- **international recognition** - N/A

21. Special research laboratories sponsored by/created by industry or corporate bodies

N/A

22. Research output in last three years

		2012	2013	2014
Completed funded research projects		-	-	-
Completed non-funded research projects		-	-	-
Completed PhD research projects		-	-	-
Completed PG research projects		-	-	-
Completed UG research projects		-	-	-
Publications	International	-	-	-
	National	10	1	6
Books		1	-	-
Chapters in books		2	0	4
Conference presentations	International	9	7	19
	National	14	2	16

Publications:

- * **Number of papers published in peer reviewed journals/magazines (national/international)**

2012

1. Arvind Kumar, "Growing Challenges to India's National Security - Factors of Stability", *Strategic Affairs* (Centre for Asian Strategic Studies, New Delhi), vol. 6, no. 8, April 15 2012, pp. 78-80
2. Arvind Kumar, "India's Ballistic Missile Capability: Boost Through Agni-V – Smoky Trajectory", *Strategic Affairs* (Centre for Asian Strategic Studies, New Delhi), vol. 6, no. 9, May 15 2012, pp. 78-79
3. Arvind Kumar, "Cruise Missile Proliferation in India's Neighborhood – Cruising Defence", *Strategic Affairs* (Centre for Asian Strategic Studies, New Delhi), vol. 6, no. 12, August 15 2012, pp. 34-35
4. Arvind Kumar, "Command and Control Systems in India: Challenges and Prospects – Vital Synergy", *Strategic Affairs* (Centre for Asian Strategic Studies, New Delhi), vol. 7, no. 1, 15 September 2012, pp. 26-27
5. Arvind Kumar, "Assessment of India's Air Power Capabilities: Reflections in the Twentyfirst Century", *Defence and Security Alert*, vol. 4, no. 1, October 2012, pp. 65-67
6. Arvind Kumar, "India's Supersonic Cruise Missile Capability – Cruising Speed", *Strategic Affairs* (Centre for Asian Strategic Studies, New Delhi), vol. 7, no. 2, October 15 2012, pp. 32-33
7. Pranav Kumar, "Bogey of Naxalism and India's Preparedness", *Defence and Security Alert*, vol. 39, no. 9, June 2012, pp. 62-66
8. Pranav Kumar, "Trends and Patterns of India's Internal Security Challenges", *Indian Journal of Strategic Studies*, vol. XXX, 2011, pp. 134-141 (published in Aug 2012)
9. Pranav Kumar, "Syria Sankat: Paschim Asia Ka Naya Akhara (Syria Crisis: The New Battleground of the West Asia)", *The Indian Era*, September 2012, pp. 30-31

10. Pranav Kumar, “*Tehran Gutnirpeksh Sammelan evam Andolan Ki Prasangikata* (Tehran Nonalignment Meeting and Relevance of the Movement)”, *The Indian Era*, October 2012, pp.36-37

2013

1. Monish Tourangbam, “Indo-US Relations and the Changing Global Order,” *World Focus*, vol. XXXIV, no. 12, December 2013, pp. 124-127.

2014

1. Arvind Kumar, “Challenges to the Indo-Pacific Security Architecture: Emerging Role for India,” *Indian Foreign Affairs Journal* (Debate on ‘Indo-Pacific’ An Emerging Geopolitical Construct: India’s Interests, Stakes and Challenges), vol. 9, no. 2, April–June 2014, pp. 131-135.
2. Nanda Kishor, Review of the book “Unfinished Business: Democracy in Namibia” by Bryan M. Sims and Monica Koep, *Africa Review*, vol.6, no.2, 2014, pp. 153-156.
3. Monish Tourangbam, “Indo-Pacific and the Practice of Strategic Autonomy,” *Indian Foreign Affairs Journal* (Debate on ‘Indo-Pacific’ An Emerging Geopolitical Construct: India’s Interests, Stakes and Challenges), vol. 9, no. 2, April–June 2014, pp.115-120.
4. Monish Tourangbam, “Indo-US Relations: From Policy Paralysis to New Dynamism?” (co-authored), *World Focus*, vol. XXXV, no. 12, December 2014, pp.115-120.
5. ‘India-Myanmar Relations: Assessing New Dynamics,’ (co-authored), *World Focus*, vol. XXXV, no. 09, September 2014, pp. 75-80.
6. Monish Tourangbam, “India’s Economic Growth: Assessing Geopolitical Implications,” (co-authored), *World Focus*, vol. XXXV, no. 08, August 2014, pp. 40-46.

* Book Reviews

1. Nanda Kishor, Review of the book “Unfinished Business: Democracy in Namibia” by Bryan M. Sims and Monica Koep, *Africa Review*, vol.6, no.2, 2014, pp. 153-156.

* Monographs

* Chapters in Books – 6

1. Arvind Kumar, “India and ASAT Capability”, in Ajay Lele (ed.), *Space Security: Need for Global Convergence* (Pentagon Press: New Delhi, 2012), pp. 138-152
2. Nanda Kishor, "Involuntary Urban Displacement and Vulnerability Risks: Voices of the displaced", in Nihar Ranjan Miahra and Kamal K Mishra, (eds.) *Displacement and Rehabilitation: Solutions for the future*, (Gyan Publishing House: New Delhi: 2012)
3. Arvind Kumar, “Role of Science and Technology in India’s National Security,” in Sekhar Adhikari and Sanjeev Bhaduarua (eds.) *India’s National Security in the 21st Century* (Pentagon Press: New Delhi 2014), pp. 421-447.

4. Arvind Kumar, "India's Policy Options in the Aftermath of the NATO Troop Withdrawal," in Shrikant Paranjpe and Rajendra Abhyankar (eds.) *Afghanistan after 2014* (Kalinga Publications: New Delhi 2014).
5. Monish Tourangbam, "Persian Gulf and the Arab Spring: Implications for India" in Anwar Alam (ed.) *Arab Spring—Reflections on Political Changes in the Arab World and its Future* (New Century Publications: New Delhi, 2014), pp. 375-399.
6. Monish Tourangbam, "An Evolving Partnership between India and the US: Opportunities, Convergences and Challenges," (co-authored) in Jakub Zajackowski, et.al (eds.) *India in the Contemporary World: Polity, Economy and International Relations* (Routledge: New Delhi, 2014), pp.360-386.

- **Edited Books/ Report -**
 - **Books with ISBN with details of publishers:**
 - **Conferences Details**
- International Seminars 2012, 2013 and 2014:**

Prof. Arvind Kumar

- b) Was a panelist for a session on "Peaceful Uses of Outer Space-Trends and Challenges: Time for Introspection" at the International Conference on Space Law and Contemporary Issues: A Focus on Asia-Pacific Region organised by NALSAR University of Law, Hyderabad on 24 June 2012
 - c) Presented a paper on "Politics of Water Sharing in Regional Security in South Asia: Bridging Differences among Nations" at the Seminar on River Water Sharing in South Asia: Identifying Common Concerns for Peace and Development organised by UNESCO Madanjeet Singh Institute of South Asia Regional Cooperation (UMISARC), Pondicherry University during 19-21 April 2012
 - d) Presented a paper on "Technological Challenges to India's Transition from Middle Power to Great Power" at the International Seminar on Power, Alliances and Frameworks in South and Southeast Asia organised by Maulana Abul Kalam Azad Institute of Asian Studies, Kolkata during 21-22 March 2012
 - e) Presented a paper on "Resurgent Russia: Growing Aspirations in the Twenty First Century" at the International Seminar organised by Centre for Eurasian Studies, University of Mumbai during 13-14 March 2012
 - f) Presented a paper on "Growing Challenges to India's National Security: Probable Solutions and Responses" at the International Conference on Imperatives of National Security and Foreign Policy: India, Pakistan and China organised by Department of Civics & Politics, Mumbai University during 13-14 February 2012
1. Presented a paper titled **Politics of Uranium in Africa Politics of Uranium in Africa: Sharing the Resources among Asian Powers** at an International Conference on *Emerging Asian Powers in Africa* organized by Centre for African Studies, University of Mumbai during 14-15 February 2013.

2. Presented a paper titled **Internal Transitions in Pakistan: Its Implications for South Asia** at an International Conference on *Internal transition in Southern Asia: Implications for India* organized by the Southern Asia Studies Programme, School of Social Sciences & International Studies, Pondicherry University during 11-13 March 2013.
3. Spoke on **Rising Power Debate: Emerging Strategic Competition between India and China** at the *Pan-European Conference* held at the University of Warsaw, Poland during 18-20 September 2013.
4. Was a discussant on the theme **Road to Nuclear Zero: Rhetoric or Reality** at an International Conference on *Promoting India-Japan Strategic Dialogue* organized by the Department of Geopolitics and International Relations, Manipal University in collaboration with Japan Foundation during 18-19 October 2013.
5. Presented a paper titled **Future of India-Russia Nuclear Relations** at an International Seminar on *Re-Emerging Indo-Russian Relations in the New World Order* jointly organized by the Centre for Central Eurasian Studies, University of Mumbai and Gulbarga University, Karnataka during 7-8 February 2014.
6. Chaired a session on **Politics and Foreign Policy** at an International Seminar on *Re-Emerging Indo-Russian Relations in the New World Order* jointly organized by the Centre for Central Eurasian Studies, University of Mumbai and Gulbarga University, Karnataka during 7-8 February 2014.
7. Addressed the students of *Business and Politics of India* at the *University of Warsaw* on the themes **India's Foreign Policy and Economy after Election** and **India's Perception of Ukraine Crises** on 19 May 2014.
8. Interacted researchers from *The Polish Institute of International Affairs (Polski Instytut Spraw Międzynarodowych, (PISM))* and from the *Institute of International Relations, University of Warsaw*. He also spoke at a seminar on the theme **Crises in Ukraine – Indian Perspectives** on 19 May 2014 in Warsaw, Poland.
9. Delivered a special lecture on the theme **India after election: new foreign policy and economy?** at the *University of Warsaw* on 20 May 2014. He also spoke at a roundtable discussion on the same theme on 23 May 2014.
10. Delivered a special lecture on the theme **India: Emerging Power and Emerged Power? – India: what kind of Power?** at the *University of Warsaw* on 20 May 2014.
11. Presented a paper titled **India's Membership in Multilateral Export Control Regimes: Impact on India's STC Policy** at an International Conference on *Strategic Trade Regulations and Practices for the Indian Hi-Tech Industry* during 20-21 February 2014 organised by Federation of Indian Chambers of Commerce & Industry (FICCI) in collaboration with Society of Indian Aerospace & Defence Technologies and Industries (SIATI) and Center for International Trade & Security (CITS), University of Georgia, USA
12. Presented a paper on the theme **Changes in Nuclear Arsenals and Evolution of Nuclear Doctrines** at an International Conference on *A Nuclear Weapon-Free World: From Conception to Reality* organised by Indian Pugwash Society and Institute for Defence Studies Analyses, New Delhi during 2-3 April 2014.
13. Presented a paper titled **India's Policy Options in the Aftermath of the NATO troops Withdrawal** at an International Seminar on *Post 2014 Afghanistan after US Draw-down: Re-thinking India's Policy* jointly organised by Yashwantrao Chavan National Centre for International

- Security and Defence Analysis (YCNISDA), University of Pune and Kunzru Centre for Defence Studies and Research, Pune during 4-5 August 2014.
14. Presented a paper titled **Challenges and Prospects for India in BRICS** at a two-day International Seminar on *BRICS and Beyond: Vision for 2025* during 17-18 September 2014 organized by the Centre for Central Asian and Eurasian Studies and Centre for African Studies, University of Mumbai.
 15. Chaired a session on **Economic Issues** at a two-day International Seminar on *BRICS and Beyond: Vision for 2025* during 17-18 September 2014 organized by the Centre for Central Asian and Eurasian Studies and Centre for African Studies, University of Mumbai.
 16. Presented a paper titled **National Security Challenges and India's Defence Preparedness** at an International Conference on *India's National Security: Key Concerns and Broad policies* organised by the Department of Civics and Politics University of Mumbai in collaboration with ICSSR, New Delhi and Yeshwantrao Chavan Prathisthan, Mumbai during 18-20 September 2014.
 17. Presented a paper titled **Educational Nuances on National Security Awareness** at an International Conference on *India's National Security: Key Concerns and Broad policies* organised by the Department of Civics and Politics University of Mumbai in collaboration with ICSSR, New Delhi and Yeshwantrao Chavan Prathisthan, Mumbai during 18-20 September 2014.
 18. Presented a paper titled at an International Seminar on *The Caucasus Region in the New Era of Globalisation: Challenges and Opportunities* organized by the Centre for Central Eurasian Studies, University of Mumbai during 19-20 November 2014.
 19. Chaired a session on..... at an International Seminar on *The Caucasus Region in the New Era of Globalisation: Challenges and Opportunities* organized by the Centre for Central Eurasian Studies, University of Mumbai during 19-20 November 2014.
 20. Presented a paper titled **Likely Trajectory of India-China Relations** at an International Seminar on *An Appraisal of India's Neighbourhood Policy: Way Forward* organized by Maulana Abul Kalam Azad Institute of Asian Studies, Kolkata during 6-7 November 2014.
 21. Chaired a session on **Sri Lanka and Maldives** at an International Seminar on *An Appraisal of India's Neighbourhood Policy: Way Forward* organized by Maulana Abul Kalam Azad Institute of Asian Studies, Kolkata during 6-7 November 2014.
 22. Presented a paper titled **Technological Dynamics of Asian Security** at an International Conference on *India's Asian Order: Culture, Economy and Security* organized by the Department of Civics and Politics, University of Mumbai during 8-10 December 2014.

Dr. Pranav Kumar

1. Presented a paper on "Securing Sea Lanes of Communication (SLOCs) in Asia- Pacific and India- Japan Cooperation" at the International Conference on India- Japan Relations: Transforming into Potential Partnership organised by Centre for Southeast Asian & Pacific Studies, Sri Venkateswara University, Tirupati during 7-9 December 2012

2. Presented a paper on “Resource Security in Indian Ocean Region and Prospects of Cooperation among India, China & Pakistan” at the International Seminar on Imperatives of Security & Foreign Policy: India, China and Pakistan organised by Department of Civics & Politics, Mumbai University during 13-14 February 2012

Dr. Nanda Kishor

1. Delivered a Lecture on Rising India and Expectations from the World at Hochschule Bremen, Germany on 28 November 2012
2. Delivered a Lecture on EU and its Response to Terrorism at International Graduate Centre, Hochschule Bremen, Germany on 21 November 2012
3. Invited as a resource person for the *Eleventh Annual Winter Course on Forced Migration* during 7-14 December 2013 organized by Calcutta Research Group in collaboration with Indian Council for Social Science Research (ICSSR) and Maulana Abul Kalam Azad Institute of Asian Studies (MAKAIAS), Kolkata and British Council.
4. Presented a paper on **The Geopolitics of South Asia: Overcoming Challenges and Building Opportunities** in a two day International Seminar on South Asia titled *Moving Towards Co-operation or conflict: South Asian Politics, Society and Economy* during 27-28 November 2013 organized by Post Graduate Department of Political Science, Panampilly Memorial Government College, Chalakudy, Kerala.
5. Presented a paper on the topic **China’s Growing Presence in East Africa and Its Implications for India** in a two day International Seminar on *India-Eastern Africa Dialogue: Exploring Opportunities for Cooperation* during 25-26 October 2013 organised by Manipal University in collaboration with the Indian Council of World Affairs, New Delhi.

Dr. Monish Tourangbam

23. Presented a paper titled **US Response to BRICS: Analyzing the American Debate** at a two-day International Seminar on *BRICS and Beyond: Vision for 2025* during 17-18 September 2014 organized by the Centre for Central Asian and Eurasian Studies and Centre for African Studies, University of Mumbai.

National Seminars 2012, 2013 and 2014:

Prof. Arvind Kumar

1. Delivered a lecture on “China’s Strategic Capabilities” at a National Seminar organised by Centre for Air Power Studies, New Delhi on the theme China’s India War 1962: A Looking Back to See the Future during 28-29 December 2012
2. Presented a paper on “China’s Rising Strategic Capabilities and India’s Concerns” at the Seminar on Future Trajectory of Sino-Indian Relations: Reflections from the Past Experiences since 1962 organised by Department of Geopolitics and International Relations on 15 November 2012

3. Delivered a series of lectures on Challenges to India's Foreign policy, Global Security Challenges, Sino-Indian Relations in the Emerging Geopolitical Reality, India's Nuclear Doctrine, China's Strategic Capabilities, The Role of Nuclear Weapons in International Relations and Indo-US Civil Nuclear Cooperation agreement and Its Implications for South Asia at Department of International Relations, JadHAVpur University, Kolkata during 5-12 November 2012
4. Presented a paper on "Contemporary World Scenario and Indo-US Relations" at Pune organised by The Alliance for Global Education, Pune on 22 October 2012
5. Chaired a session at the Seminar on "Would the end of the EURO really mean the end of Europe" organised by Manipal Centre for European Studies on 5 September 2012
6. Presented a paper on "US and South Asia" at the National Seminar on Emerging Security Scenario in South Asia organised by Department of Geopolitics and International Relations in collaboration with Association of Asian Scholars, New Delhi during 24-25 August 2012.
7. Was a panelist for a session on "Implications of Emerging Powers for the New World Order" at the Seminar on Emerging Powers in International Relations organised by Department of Geopolitics and International Relations on 14 August 2012
8. Presented a paper on "Role of Technology in India's Foreign Policy and its Implications for India's Rising Power Status" at the National Seminar on India as an Emerging Major Power: Foreign Policy Thrust Areas organised by VPM's Centre for International Studies during 27-28 January 2012
9. Presented a paper titled **Strategic Infrastructure, S&T Base and Technologies of China: Implications for India** at a roundtable conference on *Strategic Juxtaposition of India and China in 21st Century Global Order* organized by the Institute of Foreign Policy Studies (IFPS), University of Calcutta in collaboration with Centre for Studies in International Relations and Development (CSRID) on 18 March 2013.
10. Presented a paper titled **Technological Dynamics of Asian Security** at a National Seminar on Dynamics of Geopolitics and National Security in Asia organized by the Department of Civics and Politics, University of Mumbai during 3-4 February 2014.
11. Presented a paper titled **China's Strategic Rise and its Implications for India's Security** at a National Seminar on *Challenges to India's Peace and Security from its Neighbours* organised by the Department of Defence and Strategic Studies, University of Allahabad in collaboration with the Indian Council of Social Science Research, New Delhi during 8-9 October 2014.
12. Chaired a session on **Nepal and Bhutan** at a National Seminar on *Challenges to India's Peace and Security from its Neighbours* organised by the Department of Defence and Strategic Studies, University of Allahabad in collaboration with the Indian Council of Social Science Research, New Delhi during 8-9 October 2014.
13. Presented a paper titled **Emerging Economic Inequality and Poverty in the United States** at a National Seminar on *Poverty, Inequality and development in the Americas* organized by the Centre for Canadian, US and

Latin American Studies, School of International Studies, Jawaharlal Nehru University, New Delhi during 30-31 October 2014.

14. Presented a paper titled **India's Security Challenges and Strategic Choices in the New Global Order** at the SIS-ICWA Dialogue 2014 on India in the Emerging Global Order: Political, Strategic and Economic Dynamics during 10-12 November 2014.
15. Presented a paper titled **India's Strategic Challenges in the Maritime Domain: Probable Cooperation among Major Powers** at a three-day International Relations Conference on *Maritime Security: Unlocking India's Great Power Partnerships* during 8-10 December 2014 organized by the Association of Asia Scholars and Pondicherry University, supported by the Ministry of External Affairs, Government of India.
16. Delivered a special lecture on **Biological Weapons and Biological Terrorism** to the students of School of Life Sciences, Manipal University on 23 December.

Dr. Pranav Kumar

1. Presented a paper on "China's Growing Presence in Africa and Its Implications" at the Seminar on Future Trajectory of Sino-Indian Relations: Reflections from the Past Experiences since 1962 organised by Department of Geopolitics and International Relations on 15 November 2012
2. Presented a paper on "Contours of Complex Interdependence in the Era of Globalisation: the Case of South Asia" at the National Seminar on Emerging Security Scenario in South Asia organised by Department of Geopolitics and International Relations in collaboration with Association of Asia Scholars, New Delhi during 24-25 August 2012
3. Presented a paper entitled "China and India in Changing Power Paradigm: Africa as a case in Point" at the National Seminar on Twenty First Century as the Asian Century: Role of China and India organised by Centre for Asian Studies, Department of Geopolitics and IR during 26-27 May 2012

Dr. Nanda Kishor

1. Presented a paper on "South Asia and West Asia" at the National Seminar on the Emerging Security Scenario in South Asia organised by Department of Geopolitics and International Relations in collaboration with Association of Asia Scholars, New Delhi during 24-25 August 2012
2. Presented a paper on "The Evolving Dialectic between State-centric and Human-centric security: Case of Refugees and India" at the UGC-SAP Seminar on the theme India's Security Policy: Shifting Paradigms & Emerging Frontiers of Cooperation organised by Department of Politics & International Studies, Pondicherry University, Pondicherry during 26-27 March 2012
3. Presented a paper on "Nehruvian Framework of Indian Foreign Policy and its Contemporary Relevance" at the UGC Sponsored National Seminar on the theme Conflict and Peace in South Asia: Nehru and Beyond Organised by University of Kerala, Trivandrum, Kerala during 2-3 March 2012
4. Delivered a special lecture on **Recent Development in International Relations and Comparative Politics** at the two-day National Seminar on *State, Democracy and Governance: Landscaping National and*

- International Politics* during 05-06 February 2014 by Kerala Political Science Association, Kerala
5. Chaired a session on **Globalisation ICT and Governance** in a two-day National Seminar on *State, Democracy and Governance: Landscaping National and International Politics* during 05-06 February 2014 by Kerala Political Science Association, Kerala
 6. Presented a paper on the topic **The Postmodern State: Inevitability or Reality of The Day** in a National Seminar on *Contesting Territoriality in a Globalised World: Contemporary Debate on Nation State* during 31 January-1 February 2014 at, Rambhau Mhalgi Prabodhini's Knowledge Excellence Centre Uttan, Bhayander, Mumbai, Maharashtra, India.
 7. Presented a Paper on the topic **The USA's Asian Rebalancing: Emerging Scenario in South Asia** at a two-day National Seminar on *Asian Rebalancing and the Changing Dimensions of Indo-US Relations* during 9-10 January 2014 at Department of Political Science, University of Kerala, Kariavattom, Trivandrum, Kerala.
 8. Presented a Paper on the topic **Theoretical Aspects of India's National Security** at a two-day National Seminar on *The Changing Dimensions of Security: India's Security Policy Options* during 17-18 December 2013 at the V K Krishna Menon Study Centre for International Relations, Department of Political Science, University of Kerala., Kariavattom, Trivandrum, Kerala.

Dr. Monish Tourangbam

1. Presented a paper titled **Evolving Trends in Indo-US Maritime Cooperation** at a three-day International Relations Conference on *Maritime Security: Unlocking India's Great Power Partnerships* during 8-10 December 2014 organized by the Association of Asia Scholars and Pondicherry University, supported by the Ministry of External Affairs, Government of India.
2. Presented a paper titled **India and the United States: Reassessing Trends and Addressing Irritants** at the *Young Voices Policy Forum* organized by the Observer Research Foundation on 5 March 2014.

Dr. Praveen Kumar

1. Presented a paper titled **Non-Traditional Maritime Security Challenges in the Indian Ocean** at a three-day International Relations Conference on *Maritime Security: Unlocking India's Great Power Partnerships* during 8-10 December 2014 organized by the Association of Asia Scholars and Pondicherry University, supported by the Ministry of External Affairs, Government of India.
2. Delivered a special lecture on **Unity, Safety and Security as Sardar Vallabhai Patel Saw it** at the School of Nursing, Manipal University on 31 October 2014.

Dr. Ravindranathan P.

1. Presented a paper titled **Chiapas Uprising of 1994: Mexican Indigenous Movement and its Impact on Democratisation process** at the Indian History Congress (75th Anniversary Session) held at Jawaharlal Nehru University, New Delhi on 30 December 2014.

- **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) - Nil**
 - **Citation Index – range / average - Nil**
 - **SNIP - Nil**
 - **SJR - Nil**
 - **Impact Factor – range / average - Policy Research on national security issues get reflected in understanding the complexities. There is a dissemination of knowledge and information to the larger masses.**
 - **h-index - Nil**
- 23. Details of patents and income generated - N/A**
- 24. Areas of consultancy and income generated - N/A**
- 25. Faculty members selected nationally/internationally to visit other laboratories in India and abroad – N/A**
- 26. Faculty members serving in**
- a) **National committees – 1**
 - b) **International committees**
 - c) **Editorial Boards – 5**
 - d) **any other (please specify)**
- 27. Faculty members recharging strategies: Under Discussion**
- 28. Student projects**
- **percentage of students who have done in-house projects including inter-departmental projects –**
100 per cent. The students write a 25,000 word dissertation as part of mandatory requirement for completion of the masters in the department.

- **percentage of students doing projects in collaboration with other universities/industry/institute** – Internship with National Research Institutes / Think Tanks on Strategic Studies

29. Awards/recognitions received at the national and international level by

- **Faculty members**

1. Prof. Arvind Kumar, Head of the Department of Geopolitics and International Relations was appointed as Member of the Board of Studies at the Centre for Latin American Studies, Goa University.
2. Prof. Arvind Kumar, Head of the Department of Geopolitics and International Relations was appointed as Advisory Board Member for Journal for Air and Space Law (IJSAL) published by the NALSAR University of Law, Hyderabad.
3. Prof. Arvind Kumar was invited as a judge at the Manfred Lachs Space Law Moot Court Competition, India Funding Round during 25-27 April 2014 organised by the National Law School of India University, in association with the Indian Space Research Organisation (ISRO).
4. Dr. Nanda Kishor MS, Assistant Professor at the Department of Geopolitics and International Relations received Erasmus Mundus Fellowship from European Union to pursue Post-Doctoral Studies at Leiden Institute of Area Studies, Leiden University, The Netherlands.
5. Dr. Nanda Kishor, International Visitor Leadership Programme (IVLP) by the United States State Department.

- **Doctoral/post-doctoral fellows**

- Doctoral Fellows: Mr. Anand V, UGC Fellowship and Mr. Vignesh Ram, Manipal University Fellowship.
- Ms. Dhanasree Jayaram, Ph.D Scholar at the Department of Geopolitics and International Relations received Erasmus Mundus Fellowship from European Union to pursue Short term Doctoral Studies at Leiden Institute of Area Studies, Leiden University, The Netherlands.
- Mr. Anand V and Mr. Vignesh Ram, PhD. candidates of the Department won the first prize at the “World Quiz 2013”, a national level quiz competition on world affairs organized by the Public Diplomacy Division, Ministry of External Affairs, Government of India, Youth Forum on Foreign policy and Government law College, Mumbai during 13-14 October 2013.

30. Seminars, Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any.

Conferences/Seminars/ Symposia/Workshops Organized By The Department		
Name of the Conference/Seminar/ Symposia/ Workshop	International/National/Regional	Month and year
International Seminar on the theme Promoting Indo-Japanese Strategic Dialogue:	International	October 2013
International Seminar on the theme India-Eastern Africa Dialogue: Exploring Opportunities for Cooperation	International	October 2013
National Seminar on the theme 'China's Strategic Rise and its Implications for India with a Focus on Northeast Security'	National	March 2014

- The Department of Geopolitics and International Relations of Manipal University organized a two day International Seminar on the theme “*Promoting Indo-Japanese Strategic Dialogue*” during 18-19 October 2013 in collaboration with Japan Foundation, New Delhi. The objective of the seminar was to discuss and deliberate on pertinent important themes impacting India-Japan relations among the members of academic and strategic community of both India and Japan. Manipal University provided the platform to the academic and strategic community from both India and Japan to deliberate on a number of issues including political, economic, strategic, science and technology and defence areas in a free and frank manner. The International Conference was inaugurated by His Excellency Sri Bharat Vir Wanchoo, Honourable Governor of Goa. The participants deliberated on the challenges and prospects for India-Japan relations to build consensus on complex issues such as cooperation in the maritime domain, shared the concerns on the climate change and exploring the possibilities for high tech cooperation. A number of eminent members of strategic and scientific community including Dr. Anil Kakodkar, Ambassador Arundhati Ghose, Mr. Hormis Tharakan, Prof. Takenori Horimoto, Prof. Takahiro Sato, Prof. Heigo Sato participated during the conference.
- The Department of Geopolitics and International Relations of Manipal University organized a two day International Seminar on the theme “*India-Eastern Africa Dialogue: Exploring Opportunities for Cooperation*” during 25-26 October 2013 in collaboration with Indian Council of World Affairs, New Delhi. The objective of the seminar was to make an attempt in understanding and assessing the significance of Eastern Africa from India’s perspective and also explore the ways and mechanism to strengthen India-Eastern Africa partnership by providing mutual cooperation in every sphere. The conference was inaugurated by Prof. Ajay Dubey, Chairperson, Centre for African Studies, Jawaharlal Nehru University, New Delhi.

Several sub themes such as understanding emerging challenges and competition in Eastern Africa, resources in Eastern Africa and scope of resource sharing; foreign policy and diplomacy; economic relations with a focus on trade, commerce, aid and investment; analysis on strategic dimensions with special emphasis on maritime security; China's growing presence in the East Africa and its implications for India ; and challenges and prospects for synergy building in the 21st Century were discussed by academic, diplomatic and strategic community working on Africa.

- Ambassador of Republic of Poland to India Prof. Piotr Klodkowski visited the Department of Geopolitics and International Relations and inaugurated the Polish and Central European Studies Centre on 25 February 2013. A half day seminar on the theme '*Poland and India Higher Education Institutions as Soft Power instruments in shaping EU-India Relations*' was held along with University of Warsaw delegates. The faculty and students of the department of Geopolitics and International Relations participated during the discussion.
- The Manipal Centre for Asian Studies of Manipal University organized a two day National Seminar on the theme 'China's Strategic Rise and Its Implications for India with a focus on North-East Security' during 24-25 March 2014 in collaboration with the Maulana Abul Kalam Azad Institute of Asian Studies, Kolkata. The objective of the seminar was to assess and analyse the evolving contours of China's Strategic thinking and Culture, articulate growing geopolitical challenges in Southern Asia, China's Strategic Modernisation Programme and its ramifications. The role of land-based, air-based, sea-based and space-based technologies in China's context was assessed and analysed. The infrastructure development in China and the various organizations involved in the key decision making process also formed a major part of the debate during the National Seminar. The challenges to India's security with a focus on its Northeast region were also discussed during the Seminar. The participants were drawn from academic, strategic, scientific community and also people from the Services. Prof Roddam Narasimha, FRS, eminent scientist inaugurated the Seminar. The Chancellor Dr. Ramdas M. Pai, Pro Chancellor Dr. H.S. Ballal and Prof. M.D. Nalapat were also present during the inauguration. A number of eminent members of the strategic and academic community including Air Marshal Vinod Patney (Retd.), Prof. Chintamani Mahapatra, Prof. Rajaram Nagappa, Mr. Jayadeva Ranade and Prof. Srikanth Kondapalli also participated in the Seminar.
- Prof. Bruce Jacobs from Monash University, Australia visited the department on 21 December 2013 to interact with the faculty and the students on important pertinent themes related to the strategic rise of China and its implications for global peace and stability.
- Prof. Boguslaw W. Zaleski from the Institute of International Relations, University of Warsaw visited the department to deliver special lectures during 7-12 October 2013 revolving on themes such as Poland' Foreign Policy after 1989, Poland in the process of transformation of Central Europe, Poland-India, potential for partnership, Poland's Policy towards Asian States and Poland in NATO and EU.
- Prof. Karina Jedrzejowska from the Institute of International Relations, University of Warsaw visited the department to deliver special lectures during 23 April-02

May 2014 on '*Poland and Central Europe in International Relations*' that covered themes such as Role of the EU in Asian Economic Architecture, the World Economic Meltdown and its Implications for Central and Eastern Europe, Economic Transformation in Central and Eastern Europe and India-Comparative Prospects, Political Economy of Central and Eastern Europe, Challenges to India-EU Economic Relations, Challenges to the European Monetary Integration after the Sovereign Debt Crisis and Understanding the Evolving Contours of India-Poland Economic Relations.

- Prof. Marek Madej from the Institute of International Relations, University of Warsaw visited the department to deliver special lectures during 20-25 October 2014 on '*Poland and NATO*' that covered themes such as NATO: Genesis, History and Evolution, NATO and its External Engagements: An Assessment, Current and Future Challenges of NATO, Relevance of NATO: A Polish Perspective and Emerging Challenges to Polish Security Policy.
- Prof. Marcin Kaczmarek from the Institute of International Relations, University of Warsaw visited the department to deliver special lectures during 24-29 November 2014 on *Poland's Foreign Policy* that covered themes such as Poland in Transition since 1989, Evolving Contours of Poland's Foreign Policy, Emerging Poland and its Role in EU Economy, Poland's Strategic and Security Challenges and Poland-EU Relations: Future Trajectory.
- Amb. Rakesh Sood, Formerly India's Ambassador to Nepal and Afghanistan and Special Envoy of the Prime Minister of India on Non Proliferation and Disarmament delivered a special lecture on the theme '*Challenges to the Article VI of the NPT and Nuclear Disarmament*' on 19 March 2014.
- Shri Tarun Vijay, Member of Parliament, Rajya Sabha & Member, Consultative Committee of the Ministry of External Affairs, Government of India interacted with the faculty of the department on 23 June 2014 on the theme '*Sino-Indian Relations in Modi's Regime*'.
- Dr. Vinay Sahasrabudhe, Director General, Rambhau Mhalgi Prabodhini & In-Charge of BJP's National Good Governance Cell interacted with the faculty of the department on 21 July 2014 on the theme '*India and South Asia*'.
- Prof M D Nalapat, Honorary Director of the Department of Geopolitics and International Relations, Manipal University delivered a special lecture on theme on '*Emerging India: Geopolitical Challenges and Prospects*' on 13 August 2014.
- A One Day Workshop was organized on the theme '*Prime Minister Narendra Modi's Visit and India-US Relations*' on 13 October 2014. The Workshop included sharing of faculty's views on PM Modi's Speech at the United Nations General Assembly (UNGA), PM Modi's Address at Various Other Forums and its Significance for Rising India, India-US Joint Statement, Modi-Obama Washington Post Joint Editorial, Modi's letter to Wall Street Journal and Role of Media in India-US Relations. Students also actively participated in the discussions and with presentations on themes pertaining to the political, economic, strategic, security, nuclear/energy and diplomatic dimensions of India-US relationship.

31. Code of ethics for research followed by the departments:

Independent assessment conducted by the students and faculty in an objective manner. The literature used for the research are properly cited and the attempt has been to make the research distinct and relevant

32. Student profile course-wise:

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
MA in Geopolitics and International Relations (2013)	?	05	0	100%	
MA in Geopolitics and International Relations (2014)	?	04	10	Yet to Complete	

33. Diversity of students: From across the country

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
MA in Geopolitics and International Relations	10.5%	5.3%	84.2%	0

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise

- 2 JRF
- 08 NET (National Eligibility Test) conducted by UGC
- 1 CDS

35. Student progression

Student progression	Percentage against enrolled
UG to PG	--
PG to MPhil	7.9%
PG to PhD	9.5%
PhD to Post-Doctoral	--
Employed <ul style="list-style-type: none"> • Campus selection • Other than campus recruitment 	No placement commitment
Entrepreneurs	--

36. Diversity of staff

Percentage of faculty members who are graduates	
of the same university	--
from other universities within the State	--
from universities from other States	100
from universities outside the country	--

37. Number of faculty members who were awarded PhD., DSc. and DLitt during the assessment period : 1**38. Present details of infrastructural facilities with regard to**

a) **Library** – A Good Independent Library.

b) **Internet facilities for staff and students** – Yes

c) **Total number of class rooms** – Two

d) **Class rooms with ICT facility** – Two

e) **Students' laboratories** –N/A as the department belongs to Social Sciences

f) **Research laboratories** –N/A as the department belongs to Social Sciences

39. List of doctoral, post-doctoral students and Research Associates

a) **from the host university** – 4 doctoral Students: Anand V, Vignesh Ram, Dhanasree Jayaram and Alok Mohan

b) **from other universities** - Nil

40. Number of post graduate students getting financial assistance from the University

– Nil

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology

Review and Relevance was the basic criteria for developing the new programme. Board of Studies (BOS) was held and curriculum is being prepared for Masters in National Security Studies.

42. Does the department obtain feedback from**a. faculty members on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?**

The feedback is informal in nature and the teaching-learning on the basis of the curriculum is continuing. There is no specific feedback so far.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

The department collects the feedback from the students every semester for every paper taught and required measures are taken to evaluate the feedback objectively and address them based on requirement.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

N/A

43. List the distinguished alumni of the department (maximum 10) – Our alumni has been conducting their higher studies at JNU, South Asian University, Central University, Gujarat, University of Mumbai, Jamia Milia Islamia.**44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts-**

The programmes listed in response to question number 30 enable student enrichment and broadening their horizon.

45. List the teaching methods adopted by the faculty members for different programmes –

Interaction, Case study mode: The classes are made more interactive and discussion oriented with the help of case studies for illustration as Geopolitics and International Relations cannot be taught only at theoretical level. The students are also put into different simulation exercises to enhance knowledge of policy making process in a nation state.

The students are promoted to share their research findings by making presentations. They are also expected to be pro active in the class and take lead in the discussion.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

The department has several methods including term paper writing and presentations along with dissertation writing. These are evaluated by external experts from the same domain and the feedback from the experts helps in understanding the current status of the programme as it allows pragmatic critical comments to be incorporated and meet the objectives of the programme successfully. This can be achieved only through Constant Interaction with the experts from across the spectrum, which is challenging in nature.

47. Highlight the participation of students and faculty members in extension activities.

The students are given real time exposure in learning through National Seminars and interactions across the country with eminent scholars and policy makers in the domain. The students are sent as speakers in some of the prestigious national and international seminars.

48. Give details of “beyond syllabus scholarly activities” of the department.

Discussion on international and national security issues every Saturday. The purpose of the debate has been to involve students actively and give opportunities to them to opine on the pertinent themes identified for the discourse.

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details.

ISO 9001:2008 and ISO 14001:2004 Certified by TUV Rheinland

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied

The department has been conducting national and international seminars on pertinent themes and has brought out reports to disseminate the discussions and debates that have been reflected in such meetings. The department is also conducting policy research with the funding from concerned departments in the area of nuclear and atomic energy.

The generation of new knowledge is largely reflected in the analysis and perceptions built on a number of complex issues from a policy point of view.

51. Future plans of the department

To make a Centre for Excellence with all world class standards where the product of the department is seen as a very good strategic analyst.

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strength	Weakness
Only department of Geopolitics in the country and has new curriculum other than existing International Relations departments	Limited horizon of the faculty in some cases
Internship opportunities for the students in the best think tanks of the country after the completion of two semesters	Infrastructure needs to be built
Innovative teaching methods with case study analyses and interactive classroom	Location of Manipal is an issue for Geopolitics and International Relations
Interaction with key specialists in the area of strategic studies at regular intervals	Advertisement of the course across the country
Exposure given outside by sending the students to the conferences and seminars	
Opportunity	Challenges
Policy and academic research on international security issues	Teaching Geopolitics and International Relations remains a challenge in a campus largely known for engineering and health sciences
Expansion of the department is visible in the foreseeable future	Relocation for the faculty members becomes a challenging task. Getting good set of dedicated and passionate faculty is a daunting task
Joint research project in collaboration with the universities abroad	Department is in the evolving stage and would require some time to become self-sustaining institution
Evolution of School of Geopolitics and International Studies in due course from the existing department	Distance factor because of the location of Manipal and Manipal University is largely known for medical and engineering sciences.
Orient the young minds in becoming strategic analysts	

1. Name of the Department: Department of Philosophy and Humanities

2. Year of establishment: 2010

3. Is the Department part of a School/Faculty of the university?

Yes, School of Communication, Manipal

4. Names of Programmes/Courses offered (UG, PG, MPhil, PhD, Integrated Masters, Integrated PhD, etc.):

- a. MA in Humanities 2010-12
- b. MA in Philosophy, 2012 onwards
- c. MA in English, 2012 onwards
- d. MA in Sociology, 2013 onwards
- e. Integrated PhD, 2012 onwards
- f. Ph D, 2010 onwards

5. Interdisciplinary courses and departments involved:

- Three month (meeting on Saturdays) Research and Writing Workshop for MU faculty, supported by TAPMI, September-December 2010.
- Certificate Course on “Gandhian Philosophy and Social Transformation”, DPH, March 14, 2011 to April 19, 2011.
- Certificate Course on “Introduction to Ethics”, DPH, August 16, 2011 to October 19, 2011.
- MIT Course Nature and Technology.
- New conferences in collaborations with other reputed Institutions (Please see details in next section)
- Creation of Sutasoma PhD Fellowship Annual grant (to be disbursed from January 2015)
- Consultancy for online courses in Humanities with e-patashala and NPTEL
- Collaboration with SSHRC, Canada, Application for grant (grant approved)

6. Courses in collaboration with other universities, industries, foreign institutions, etc.

Ninasam, Heggodu
Sree Narayana Mandira Samiti
Sutasoma Trust
Social Science & Humanities Research Council, Canada : Partnership with Dalhousie University, Jawaharlal Nehru University, National University of Singapore, University of Alberta, University of King's college(Halifax), York University for Grant
Groningen University
Bergen University

7. Details of programmes/courses discontinued, if any, with reasons:

Not Applicable

8. Annual/Semester/Choice Based Credit System:

Semester. Choice based electives for semesters 1 & 2 introduced from 2015 August

9. Participation of the Department in the courses offered by other Departments:

DPH faculty members are resource people for the programmes offered by different Departments of University:

- Certificate Course on “Perspectives on Disability”, DPH, 4, 11, 18, 25th February 2012, in association with SOAHS.
- Teaching Modules for MMMC, KMC, TAPMI, FOA and MIT on logic, ethics, medical humanities, humanities for engineering and architecture etc.
- Research Methodology courses at TAPMI
- Study Abroad Programme in every semester till 2014.

10. Number of teaching posts sanctioned and filled (Professors / Associate Professors / Assistant Professors)

	Sanctioned	Filled
Professor	1	1
Associate Professors	1	1
Assistant Professors	9	5
Senior Fellow	1	1
Fellow	2	2

11. Faculty profile with name, qualification, designation and specialization (DSc/DLitt/PhD/MPhil, etc.)

#	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of PhD students guided for the last 4 years
1	Sundar Sarukkai	Ph D, Purdue University, USA	Director	1.Philosophy of Science 2. Philosophy of Mathematics 3. Philosophy of Social Science 4. Philosophy of Language 5. Philosophy of Art	25	6
2	George Varghese	Ph D, University of Melbourne, Australia	Assoc. Prof.	1.Anthropology of Gold in Kerala 2.Theory Objects and Gilles Deleuzi's Philosophy 3.Temple and State Formation in Kerala 4.Gothic Architecture in Europe	18	1
3	Meera Baindur	Ph D, National Institute of Advanced Studies, Bangalore	Asst. Prof.	1.Conceptualization of Nature, Environmental Humanities 2. Cultural Geography and Sacred Landscapes 3. Indian Philosophical Thought 4. Philosophy of Conservation and Sustainability 5. Gender and Ecofeminism	10	3, 1 co-guide
4	Nikhil Govind	Ph D, University of California at Berkeley	Asst. Prof.	Modern Indian Literature, Political Philosophy in India	9	1 (Co-guide)
5	Gayathri Prabhu	Ph D, University of Nebraska, Lincoln, USA	Asst. Prof.	Creative Writing, 20 th century Literature	10	0

6.	Apaar Kumar	PhD, Emory University, Atlanta, USA	Asst. Prof.	Kant, Ethical and Political Philosophy, 19th and 20th Century German Philosophy	7	
7.	Michael Dusche	PhD, Frankfurt University, Germany	Senior Fellow	Social and political Theory; Parallel Legal Regimes in India and the Ethopoiesis of Indian Lifeworlds	7	
8.	Kaveri Ishwar Haritas	PhD , Graduate Institute of Internation al and Developme nt Studies, Geneva	Assistant Professor	Gender, urban sociology, poverty, social movements, violence studies (children & women), caste and religion based movements.	4	
9.	Nirmalya Guha	PhD, Lancaster University, UK	Assistant Professor	Indian philosophy	6	
10.	Anindita Majumdar	PhD, Departmen t of Humanities and Social Sciences, Indian Institute of Technolog y-Delhi	Fellow	Medical anthropology, family and kinship, gender studies, science, technology and society studies	10	
11.	Mrinal Kaul	PhD, Concordia University, Montreal, Canada	Fellow	Indology, Sanskrit, Indian philosophy, pre-modern literary traditions, trantric studies	5	

12. List of senior visiting fellows, faculty, adjunct faculty, emeritus professors:

- Prof U R Ananthmurthy, eminent writer, Jnanapeeth award winner. (till 2013)
- Prof Gordon McOuat, University of King's College
- Dr Judy Guernsey, Dalhousie University, Canada
- Prof Raghu ram raju, University of Hyderabad
- Prof. Gopal Guru, JNU, Delhi

13. Percentage of classes taken by temporary faculty – programme-wise information:

Only language classes in Sanskrit for all MA students (till 2013)

From 2013 onwards permanent faculty

14. Programme-wise Student Teacher Ratio: 2011-2013

- MA Philosophy **13:5**
- MA Literature **10:5**
- MA Sociology **7:5**

15. Number of academic support staff (technical) and administrative staff sanctioned and filled:

	Sanctioned	Filled
Associate (Admin)	1	1
GD Worker	2	2
Head Librarian(Humanities library)	NA	NA
Library Assistants	1	1

16. Research thrust areas recognized by funding agencies:

- Science studies
- Social sciences
- Philosophy

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise.:

Name of the approving agency	Total Grants under various heads of expenditure (in Rupees)	Period of grant	Instalment amount expected to be released during the year
International Sutasoma Trust			
	a)Library(1000 pounds) 393179	2012-2013	received
	b) Fellowship for Sutasoma PhD Scholar (3000 pounds per annum)255784	July 2012-2013	received
	c) Fellowship for Sutasoma PhD Scholar (3000 pounds per annum)3,56,738	July 2013-2014	received
	d) Fellowship for Sutasoma PhD Scholar (3000 pounds per annum)	July 2014-2015	

18. Inter-institutional collaborative projects and grants received

a) All India collaboration b) International

Collaborative partners

National:

Tata Institute of Social Sciences, Mumbai
 The Great Britain Philosophy of Education Group
 TAPMI, Manipal
 Indian Council of Philosophical Research (ICPR)
 Association for Logic in India
 Attakkalari Centre for Movement Arts, Bangalore
 Ninasam, Heggodu
 Sree Narayana mandira Samiti, Mumbai

International

Princeton University, USA
 Social Sciences and Humanities Research Council of Canada (SSHRC)
 Situating Science Strategic Knowledge Cluster, Canada comprising of major Canadian Universities
 Sutasoma Trust, UK

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received.

Funds Raised from External Sources

Summer Schools, Conferences, Workshops: around **26 lacs**
 Grant from Sutasoma Trust, London: **15000 Pounds** (5000 pounds for library and the remaining for research)

Fifth Summer School	ICCSR	July 1-14, 2010	Rs. 3,00,000
Sixth Summer School	Indian Council of Philosophical Research	2011	Rs. 3,00,000
International Conference on Logic	ALI	Jaunary 2012	-
International Workshop on Sciences and	Indian Council of Philosophical Research	December 2011	Rs. 2,00,000

Narratives of Nature: East and West	Social Sciences and Humanities Research Council of Canada	December 2011	Rs. 14,82,762
Naryana Guru Research Fellowship	Sree Narayana mandira Samiti	August 2013	Rs. 2, 00,000
Workshop on Science & Religion	Sree Narayana mandira Samiti	November 2013	Rs, 2, 35,700

20. Research facility/centre with

- State recognition
- National recognition
- International recognition

Has been recognised as partner for Univesitet I Bergen, Sutasoma Trust, European Unin project

- Occupation of New premises and inauguration of Gangubai Hanagal Auditorium, State of the art performance space.

21. Special research laboratories sponsored by/created by industry or corporate bodies:

Not applicable

22. Research Output in last 3 years

		2010	2011	2012
Completed funded research projects		1	2	Ongoing 1
Completed non-funded research projects		-	-	1
Completed PhD research projects		-	-	-
Completed PG research projects		-	-	-
Completed UG research projects		-	-	-
Publications	International	1	2	7
	National	1	3	1

Books	-	-	2	
Chapters in books	-	-	3	
Conference presentations	International	1	1	2
	National	3	10	

JOURNAL PUBLICATIONS									
Name of the principle author	Co-authors	Title	Journal / Publisher	Volume	Pages	Year	National OR International	Indexed OR Non Indexed?	Impact factor?
Sundar Sarukkai		EDITORIAL “Many Faces: Reimagining the Moon” Editorial	Leonardo MIT Press, USA	Vol 43 (3)		2010	International		
		BOOK CHAPTER “On Quiet Conversation: Ethics and the Art of Self-Conversation”	<i>In Grounding Morality J</i> Sharma and Raghuramraju (Eds). Routledge			2010			
		JRN ARTICLE “Possible Ideas of Necessity in Indian Logic ”	<i>Journal of Philosophical Logic</i>	40		2011	International		
		JRN ARTICLE “Complexity & Randomness in Mathematics: Philosophical Reflections on the Relevance for Economic Modelling”	<i>The Journal of Economic Surveys</i>	25(3)		2011	International		
		BOOK REVIEW “The Dialogue of Civilizations in the Birth of Modern Science” by Arun Bala	<i>Philosophy East & West</i>	61		2011	International		

		JRN ARTICLE “Incest, the Child and the Despotic Father”	Current Anthropology	53(2)		2012	International		
		JRN ARTICLE “Mathematics in Economics: Reducibility and/or Applicability?”	New Mathematics and Natural Computation	8(1)		2012	International		
		JRN ARTICLE “Rituals, Knowledge and Method: The Curious Case of Epistemological Sanskritization”	Eds. Axel Michaels & C. Wulf, Routledge. In <i>Emotions in Rituals and Performances</i>			2012	International		
		“Vitalism and Material Agency”	In <i>The Vibrancy Effect E-book</i> . Ed. Christopher Salter, Rotterdam: V2_/NAi			2012			
		“JRD Tata and the Idea of Trusteeship”	In <i>Zoroastrianism: From Antiquity to the Modern Period</i> . Ed. Murzban Jal, PHISPC			2012			
George Varghese		Rediscovering Kerala’s Forgotten Golden Legacy	<i>Economic Times</i> , New Delhi			2011			
		“Gold’s Own Land: Nuances in Kerala’s Golden Legacy”	<i>International Business Times</i> , New York						
		JRN ARTICLE “Alain Badiou: The Philosopher of Subtractive	www.malayalanatu.com (e-journal)	Vol.9		2011	national		

		Ontology”.							
		JRN ARTICLE “Rethinking Social Sciences and Humanities in the Contemporary World”	<i>Economic and Political Weekly</i>	Vol. XLVI No.31	pp. 91-98	2011, July 30-August 5	national		
		JRN ARTICLE “On Science of History and History of Science”	<i>Journal of Polity and Society</i>	Vol.3 .No.1	pg. 54-74	2011	national	Indexed	
		JRN ARTICLE “Rethinking Occident and the Knowledge Question”	IJPAIR	Volume 4 No.1 &2	35-49	Jan-Dec 2011 (Published in 2012)	International	Indexed	
Nikhil Govind		JRN ARTICLE ‘Some Ethical Trade offs in Mental Health Legislation and Practice’	Indian Journal of Medical Ethics			Jul-Sep 2012	International Journal	Indexed	
		JRN ARTICLE “Theorizing Translation at the level of discourse rather than Word”	Annual of Urdu Studies, forthcoming			2012	International Journal	Indexed	
		JRN ARTICLE “Here and Hereafter”	<i>In Pratilipi</i>			December 2012	International Journal	Non Indexed	
		Book chapter “What is Modernism in Hindi Literature?” edited by Vasudha Dalmia	<i>In Hindi Modernism; Rethinking Agyeya And His Times,</i> by Center for South Asia Press, Berkeley			2012			
Meera Baidur	Sundar Sarukkai	JRN ARTICLE “The	<i>Indian Journal of Ecocriticism.</i>	Vol.3		2010	National	Indexed	

		Possibility of Conservation: Some Philosophical Questions”							
		JRN ARTICLE “Humanizing the Earth: Reversing the 'Reverence to Resource' in the Indian Con- text,”	<i>Man In India</i> , Special Issue: Globalism, Transnational, Gender and Ecological Engagements, Guest Editor: Purushotama Bilimoria	90, no.1-2	56 7-58 7	2010			
	Sundar Sarukkai,	Book chapter “Naturschutz – Philosophische Fragen,” (The Possibility of Conservation: Some Philosophical Questions)	In the book “ <i>Über Lebenskunst. Utopien nach der Krise</i> ” (German), Berlin, Suhrkamp Verlag		74-94	2011	Intern ational		
	Durgalaksh mi V,	JRN ARTICLE “Bhakti in Upanishads: A Detailed Perspective on Svetasvatara Upanishad”	<i>Reconsideration Classical Indian Thoughts</i> , published by Centre for Positive Philosophy and Interdisciplinary Studies (CPPIS)	July	43 – 56	2012	Natio nal		
Meera Baidur	“Living in Virtual Lands: Some Reflectio ns on Virtual Geograp hy”	Sarai Reader	2013						
Gayathri Prabhu	Writing a Life Between Gender Lines: Conversa	Writers in Conversation	2014						

	<p>tions with A. Revathi about her Autobiography. The Truth About Me: A Hijra Life Story</p>								
Gayathri Prabhu	<p>all dressed up and everywhere to go: fashion and clothing in the modernist novels passing by nella Larsen and Jean Rhys's voyage in the dark</p>	<p>Ecloga: Modernist Studies Special Issue</p>	2014						
Meera Baidur	<p>The Bangalore Lake Story: Reflections on the Spirit of a Place</p>	<p>Journal of Cultural Geography</p>	2014						
Apaar Kumar	<p>Kant's Definition of Sensation</p>	<p><i>Kant Studies Online</i></p>	2014						

Publications:**Publications of the Department 2010-2013**

Books: 4 (+ 3 volumes submitted for review)

Journals articles: 20

Conference Presentations: 25

Conference/Workshop/Outreach programmes conducted: 9

BOOKS									
Name of the principle author	Co-author s	Title	Book/ Publisher	Volume	Page nos.	Year	Nation al OR Interna tional	Index- ed OR Non Index- ed?	Impa -ct facto r?
Sundar Sarukkai		BOOK: <i>What is Science?</i>	National Book Trust			2012			
Sundar Sarukkai	Gopal Guru	BOOK: <i>The Cracked Mirror: An Indian Debate on Experience and Theory</i>	Oxford University Press			2012			
Nikhil Govind		BOOK: <i>Between Love and Freedom: The Revolutionary in the Hindi Novel</i>	Routledge			2014			
Meera Baidur		BOOK: Nature in Indian Philosophy and Cultural Traditions	Springer			2015			

23. Details of patents and income generated: Not Applicable**24. Areas of consultancy and income generated:** Not Applicable**25. Faculty selected nationally/internationally to visit other laboratories in India and abroad: :**

#	Faculty	Visits to other Universities
1	Sundar Sarukkai	International theater festival, Thrissur
		Azim Premji University, Bangalore
		National University of Singapore
		Central University, Kasaragod

		Dalhousie University, Canada
		University of New South Wales, Australia
		Attakalari, Bangalore
		SNDT University, Mumbai
		National Annual Shibhira, Ninasam
		National conference, Kottayan
		Manipal University, Jaipur
		MG University, Kottayan
		Ninasam, Heggodu
		Karnataka Knowledge Commission, Bangalore
		Shrishti School of Arts and Design, Bangalore
2	George Varghese	Kerala Council for Historical Research, Trivandrum
3	Meera Baindur	Mount Carmel College, Bangalore
		Azim Premji University
		Ninasam, Heggodu
		Christ College, Bangalore
		UGC Staff Training College, Kerala
		CCRT, Ministry of Culture, Government of India, Hyderabad
4	Nikhil Govind	SNDT University
		Ninasam, Heggodu
		Jamia Millia University, Delhi
5	Gayathri Prabhu	Ninasam, Heggodu
6	Apaar Kumar	Symbiosis University, Pune
7	Anindita Majumdar	Asia Research Institute, National University of Singapore, Singapore National Commission for Women, Government of India, Delhi

26. Faculty serving in

- a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Dr Sundar Sarukkai

- Guest Editor, Special Section on the Moon, Leonardo Journal, MIT Press, 2008 – 2011.

- Initial Judge, Digital Media and Learning Competition, HASTAC & MacArthur, USA, 2009 & 2010.
- Editorial Board Member, Leonardo Book Series, MIT Press, USA, 2007 – date.
- Member of the Council, Indian Council for Philosophical Research, 2009-2012.
- Member, Karnataka Knowledge Commission, Government of Karnataka, 2012 – 2013.
- Convener, Working Group on Humanities, Social Sciences, Law and Management, Karnataka Knowledge Commission, Government of Karnataka, 2008 – 2011.
- Honorary Associate, Algorithmic Social Science Research Unit (ASSRU), Department of Economics, Trento University, Italy, 2010.
- Adjunct Professor, IISER, Mohali, 2011-2013.
- Executive Committee Member, Association for Logic in India, 2010 onwards.
- Member, Curriculum Committee, Indian Institute of Science Education and Research (IISER), Mohali, 2008-2011.
- Member, International Committee on Cultural Utilization of Space (ITACCUS), Committee of the International Astronautical Federation (IAF), 2008 onwards.
- Member, Advisory Board, International Society for the Arts, Sciences and Technology, USA. August 2003 – date.
- **Dr Meera Baindur:** Peer-reviewer, *SOPHIA* journal
- **Dr Anindita Majumdar:** Peer-reviewer, *Indian Journal of Medical Ethics*

27. Faculty recharging strategies:

- Regular seminars, workshops and discussions.
- Saturday research seminars with presentation and peer feedback.
- International collaborations in fields of expertise.

28. Student projects:

- percentage of students who have done in-house projects including inter-departmental projects – 100%

29. Awards/recognitions received at the national and international level by

No Rewards were received

- Faculty
- Doctoral/post-doctoral fellows
- Students

30. Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any.

Programmes organized:

- PoESG (Philosophy of Education Study Group) Workshop organized in collaboration with School of Education, Tata Institute of Social Sciences, Mumbai and the Great Britain Philosophy of Education Group, February 21-25, 2010, Udaipur. (For graduate students and faculty from around the country.)
- Fifth Summer School on “Philosophy for the Social Sciences and Humanities”, DPH, July 1-14, 2010. (For graduate students and young faculty from around the country (including four foreign students), sponsored by Indian Council of Philosophical Research).
- Sixth Summer School on “Philosophy for the Social Sciences and Humanities”, DPH, July 4-15, 2011. (For graduate students and young faculty from around the country (including ten foreign students), sponsored by Indian Council of Philosophical Research).
- International Workshop on Sciences and Narratives of Nature: East and West, DPH, December 12-14, 2011. Supported by Social Sciences and Humanities Research Council of Canada (SSHRC), Manipal University, Manipal, India, Situating Science Strategic Knowledge Cluster, Institute of Southeast Asian Studies (ISEAS), University of New South Wales (UNSW) and Indian Council of Philosophical Research (ICPR).

- ISLA-2012: An International Workshop on Logic and Applications, Organized in association with Association for Logic in India and Manipal Institute of Technology (MIT), January 9-20, 2012, Manipal University, Manipal.
- International meeting on Collaborative Anthropology. Supported by Princeton University, USA, October 28-31, 2012.
- National Undergraduate Research Conference on January 25-26, 2014 organized by Manipal Centre for Philosophy and Humanities, Manipal University
- International conference on 'Dhvani: Conversations and performances, on women, freedom and writing' held from 1-3 November 2014.
- National workshop on 'Caste, Experience and the Poverty of Education: Perspectives from South India' from December 8-9, 2014, co-organized with German Historical Institute, London and Transnational Research Group.
- International conference on 'Rethinking Svaraj' organized with assistance from the Indian Philosophical Research Council from January 15-17, 2015.
- 'Dharma and the Past: Engaging with Professor Romila Thapar' held on January 19-20, 2015.
- The Second National Undergraduate Research Conference held on January 23-24, 2015.
- International conference on 'Deleuze Studies in Asia' held on June 5-7, 2015.
- Summer School on Indian Philosophy, July 13-17, 2015.
- International Summer School on 'Scientific Objects and Digital Cosmopolitanisms' on 20-24 July 2015 in association with University of King's College, Halifax, Canada.

31. Code of ethics for research followed by the Department:

The department has a strict ethical code with regard to plagiarism:

Plagiarism in Research

Plagiarism in research includes:

- presenting somebody else's work as one's own

- using data from another person or group and presenting it as one's own without citation and acknowledgement
- using phrases, sentences and larger extracts from another person's work (published, unpublished or from the internet) without mentioning the source or following the standard practices of citation
- using another person's idea or contribution without acknowledgement or giving authorship to that person
- deliberate falsification of and cooking up data in experimental and theoretical work
- not following the processes (such as the rules of ethics committee) after having committed to following them and then falsely claiming to have followed them
- claiming authorship without the requisite input into the research work

Researchers found guilty (after due process) of deliberate plagiarism either in their work and/published papers or of plagiarism in research will have to face disciplinary action from a disciplinary committee.

32. Student profile course-wise:

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
MA Humanities 2010-2012	6	5	1	100%	100%
MA Humanities 2011-2013	12	7	1	85.71%	100%
MA Philosophy 2012-2014	6	2	4	100%	100%
MA Literature 2012-2014	11	5	5	100%	100%
MA Literature 2013-2015	6	1	5	100%	100%
MA Philosophy 2013-2015	4	2	2	100%	100%
MA Sociology 2013-2015	3	0	3	100%	100%

33. Diversity of students

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
MA Philosophy (2012 Batch)	0	66%	17%	17%
MA Literature (2012 Batch)	0	60%	40%	0%
MA Philosophy (2013 Batch)		50%		
MA Literature (2013 Batch)				
MA Sociology (2013 Batch)				

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.
NA

35. Student progression:

Student progression	Percentage against enrolled
UG to PG	NA
PG to MPhil	15.38%
PG to PhD	38.46%
PhD to Post-Doctoral	NA
Employed	
• Campus selection	
• Other than campus recruitment	23.07%
Entrepreneurs	7.69%

36. Diversity of staff

Percentage of faculty who are graduates	
of the same University	NA
from other universities within the State	33%
from universities from other States	NA
from universities outside the country	67%

37. Number of faculty who were awarded PhD, DSc and DLitt during the assessment period: 3 (all faculty of MCPH are already with PhD degree)

38. Present details of infrastructural facilities with regard to:

- a) **Library:** The Manipal Humanities Library is housed within the centre. Other than an excellent collection of books, the library also has a digital component with access to online journals and packages.
MCPH Library, total number of books ~3760
Journals: 15, 8 (Printed only) +7 (print and online)
Online database - 1
- b) **Internet facilities for staff and students:** Students can access internet in the computer labs and designated access points through the Manipal Intranet. Wireless access.
- c) **Total number of classrooms:** 6
- d) **Class rooms with ICT facility:** 3
- e) **Students' laboratories:** NA
- f) **Research laboratories:** NA

39. List of doctoral, post-doctoral students and Research Associates

a) from the host University:

Aivinor Sonnie AMS, Asim Siddiqui, Manoj N Y, Varun S Bhatta, Tapaswi H M, Sonia Ghalian

b) from other universities:

Jobin Mathew, Madhava C, Kalpita Bhar Paul

40. Number of postgraduate students getting financial assistance from the University.

2

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Yes, Consultation with Board of Studies followed by brainstorming sessions with faculty and subject experts.

42. Does the department obtain feedback from

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes. During faculty meeting, courses and syllabi are peer reviewed both by written and oral discussions. The BOS passes the final curriculum and teaching- learning evaluation.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Yes. Students receive the standard questionnaire for evaluation of course and course faculty in the last week of the semester, Students hand in hard and softcopy of the evaluations anonymously, Evaluation are filed confidentially in the office till the grades are handed in by the course faculty, Feedback by the students is received by the director after the completion of final grading for the semester, Faculty meetings are called to discuss feedback on course and suggestion for improvement, Individual meetings with faculty are held by the Director to discuss feedback on teaching and course instruction, The feedback suggestions are appropriately adopted into the course and teaching methods. Remedial training is recommended for the course by the faculty if needed.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

Not applicable

43. List the distinguished alumni of the department (maximum 10): Not applicable

44. Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts.

1. A special lecture on “The Uses and Abuses of the Body in Modern Medicine” by Prof Alistair Campbell Chen Su Lan Centennial Professor of Medical Ethics and the Director, the Centre for Biomedical Ethics in the Yong Loo Lin School of Medicine of the National University of Singapore on 30th November 2012.
2. A special lecture on “William Blake” by Prof UR Ananthamurthy on 9th November 2012.
3. A special lecture by Prof John Borneman, Department of Anthropology, Princeton University on “Belonging and Group Identification in the Maternal Register: The Case of Syria among the Arab Revolts” on 31st October 2012.
4. A special lecture by Prof Carolyn Rouse, Department of Anthropology, Princeton University on “President Obama: Post-colonialism and the Pragmatic Turn” on 29th October 2012.
5. A special lecture by Carolyn Rouse, Princeton University on “Objects of Inquiry and Curiosity Discussion” on 29th October 2012.
6. A special lecture by John Borneman Theory, Princeton University on “Theory and Ethics” on 29th October 2012.

7. A special lecture by Carol Greenhouse, Princeton University on “Engagement and Collaboration” on 30th October 2012.
8. A special lecture by Gordon McOuat, University of King's College, Halifax, Canada on “Can logic have a social history? The hidden radical origins of the modern revolution in logic” on 17th September, 2012.
9. A special lecture by Gordon McOuat, University of King's College, Halifax, Canada on “History and Philosophy of Evolution” on October 15, 16 and 17, 2012.
10. A special lecture by Prof. John Borneman, Department of Anthropology, Princeton University on “Belonging and Group Identification in the Maternal Register: The Case of Syria” on 31st October, 2012.
11. A special lecture by Prof Sharath Ananthamurthy, Department of Physics, Bangalore University on “Laboratory Life: The pedagogy and practice of Science in a State University” on 22nd October, 2012.
12. A special lecture by Prof Carolyn Rouse, Department of Anthropology, Princeton University on “President Obama: Post-colonialism and the Pragmatic Turn” on 29th October, 2012.
13. A special lecture by Gopal Guru, Centre for Political Science, JNU, Delhi on "Casteism is Dead: Long Live Caste" on 13th August, 2012.
14. A special lecture by Prof Milind Wakankar on “Towards a Theory of the Will: Studies in the History of Political Thought” on 12th October, 2012.
15. A special lecture by Milind Wakankar on “Towards a Theory of the Will: Studies in the History of Political Thought” on 12th October, 2012.
16. A special lecture by Prof Judith Read Guernsey, Dalhousie University, Canada on “The Banyan Villages Initiative: An Intervention Strategy to Support Women’s Health Enhancement in Global Textile Supplier Communities” on 14th December, 2010.

Guest Lectures 2011

William Sax, South Asia Institute, Heidelberg University, Germany & **Prof Annette Hornbacher**, Institute for Ethnology, Heidelberg University, Germany
 Special Lecture Session: Ritual and Theater in India, Brief, Introduction to Balinese Dance and Drama as Ritual Performance, March 4, 2011

Isaac Mar Philoxenos Episcopa, (Bishop, Mar Thoma Syrian Church of Malabar)
 Special Lecture: Vaiśnavism, April 9, 2011

Sameer Banerjee, Bangalore

Lecture: Gandhian Philosophy and Social Transformation
 Certificate course on Gandhi, March 14– April 19, 2011

Nikhil Govind, University of California, Berkeley

Special Lecture: Bhagat Singh and Gandhi: Competing Moralities Regarding the Question of Revolutionary Sacrifice, May 16, 2011

Gopal Guru, JNU, Delhi

Lectures: Conceptual Understanding of Evil; Social Production of Evil; Confronting Evil
Sixth Summer School, July 4-6, 2011

K. M. George, OTS, Kottayam

Lecture: Evil and Theology
Sixth Summer School, July 5, 2011

Meera Baidur, Dept. Of Philosophy and Humanities, Manipal University

Lecture: Evil in Indian Thought
Sixth Summer School, July 7, 2011

Nikhil Govind, Dept. Of Philosophy and Humanities, Manipal University

Lectures: Competing Ideas of Evil: Gandhi and Bhagat Singh; The Banality of Martyrdom
Sixth Summer School, July 7-8, 2011

George Varghese, Dept. Of Philosophy and Humanities, Manipal University

Lecture: Anti-Humanism: Foucault; Anti-Humanism: Deleuze
Sixth Summer School, July 7-8, 2011

M. K. Unnikrishnan, MCOPS, Manipal University

Lecture: Corporates and the Drug Industry
Sixth Summer School, July 8, 2011

Vibhuti Patel, SNTD, Mumbai

Lectures: New Reproductive Technologies and Pre-Birth Elimination of Girls;
Globalization and Subjugation of Women
Sixth Summer School, July 8-9, 2011

Shiv Visvanathan, DA-IICT, Ahmedabad

Lectures: Imagining the Holocaust; the Career of Violence in India; Thinking about Evil
Sixth Summer School, July 11-12, 2011

V. Sanil, IIT, Delhi

Lectures: Nature is Satan's Church; Evil and Karma: Towards a Thin Description
Sixth Summer School, July 11-12, 2011

K. V. Akshara, Ninasam, Heggodu

Lecture: Art, Evil and Banality
Sixth Summer School, July 11, 2011

Kumkum Garg, MIT, Manipal University

Lecture: The Woman in Higher Education: Why Not She?
Sixth Summer School, July 12, 2011

Deepa Dhanraj, Bangalore

Lecture: Bearing Witness, Being Present 2–5
Sixth Summer School, July 12, 2011

A Raghuram Raju, University of Hyderabad

Lectures: Reading Rajas and Tamas in Gandhi: Relation between Father and Son; The
Relation between Evil and Revolution
Sixth Summer School, July 13-14, 2011

Jyotirmaya Sharma, University of Hyderabad

Lectures: Democratizing Evil: Of Asuras, Daityas and Rakshasas; Practical Vedanta and
the Question of Evil
Sixth Summer School, July 13-14, 2011

Renee Borges, IISc, Bangalore

Lecture: Evolutionary Ethics: Patterns and Processes; The Idea of Punishment in Human
and Other Animal Cultures
Sixth Summer School, July 13-14, 2011

Udaya Kumar, Delhi University

Lectures: Banality, the Novel and Considerations of Evil – I, II
Sixth Summer School, July 13-14, 2011

Soloman Benjamin, MSAP, Manipal University

Lecture: Fear in the City
Sixth Summer School, July 15, 2011

Daryn Lehoux, Queen's University

Lecture: Expectations versus Outcomes in Ancient Theories of Generation
Sciences and Narratives of Nature: East and West, December 12, 2011

George Gheverghese Joseph, Manchester University

Lecture: Eastern Mathematics, Western Mathematics: Never the Twain Shall Meet?
Sciences and Narratives of Nature: East and West, December 12, 2011

Lesley Cormack, University of Alberta

Lecture: Role of Map-making and Mathematical Practice in Early Modern Culture
Contacts and the 'Scientific Revolution'
Sciences and Narratives of Nature: East and West, December 12, 2011

Arun Bala, Institute of Southeast Asian Studies

Lecture: Why did Exchange of Knowledge across Eurasia Generate a Scientific
Revolution in the West?
Sciences and Narratives of Nature: East and West, December 12, 2011

Bernard Lightman, York University

Lecture: Nineteenth Century Science and Western Materialism
Sciences and Narratives of Nature: East and West, December 12, 2011

Mandyam D. Srinivas, Centre for Policy Studies

Lecture: Nature of Mathematics and Mathematics of Nature in Indian Tradition
Sciences and Narratives of Nature: East and West, December 12, 2011

Kathleen Okruhlik, University of Western Ontario

Lecture: Feminism, Science, and Values
Sciences and Narratives of Nature: East and West, December 13, 2011

Meera Baidur, Manipal University

Lecture: Nature, Woman and Body
Sciences and Narratives of Nature: East and West, December 13, 2011

Stephen Bocking, Trent University

Lecture: Placing and Moving Knowledge: East and West, North and South
Sciences and Narratives of Nature: East and West, December 13, 2011

Stephen Healy, University of New South Wales

Lecture: Post-Humanist Narratives of (non-) Nature' and the Sciences
Sciences and Narratives of Nature: East and West, December 13, 2011

Yiftach Fehige, University of Toronto

Lecture: God in the Laboratory of the Mind

Sciences and Narratives of Nature: East and West, December 13, 2011

Sujatha Venkatesh, Jawaharlal Nehru University

Lecture: Is Food Natural or Cultural? Body, Society and Nature in Indian Medical Traditions

Sciences and Narratives of Nature: East and West, December 13, 2011

Gordon McOuat, University of King's College

Lecture: Orientalism in Science Studies? Should We Worry?

Sciences and Narratives of Nature: East and West, December 13, 2011

Letitia Meynell, Dalhousie University

Lecture: Scientific Images

Sciences and Narratives of Nature: East and West, December 13, 2011

Dhruv Raina, Jawaharlal Nehru University

Lecture: Knowledge Engrafted, Concepts Entangled: Reflections on Radical Break and Discontinuity in 19th Century South Asia

Sciences and Narratives of Nature: East and West, December 14, 2011

Sergio Sismondo, Queen's University

Lecture: On Political Economies of Scientific Knowledge

Sciences and Narratives of Nature: East and West, December 14, 2011

Shiv Visvanathan, DA-IICT, Ahmedabad

Lecture: The Nature of Nature and Nature of Narratives

Sciences and Narratives of Nature: East and West, December 14, 2011

Somaditya Banerjee, University of British Columbia

Lecture: Bhadrakok Physics and Indian Science: The Case of Satyendranath Bose

Sciences and Narratives of Nature: East and West, December 14, 2011

David Philip Miller, University of New South Wales

Lecture: Discovery, Invention and Narratives of Nature in Legal Disputes over Intellectual Property

Sciences and Narratives of Nature: East and West, December 14, 2011

Guest lectures 2010

Raghuram Raju, Department of Philosophy, University of Hyderabad

Lectures: Plato & Aristotle I; Plato & Aristotle II; Predecessors to Rawls; Feminism and Rawls

Fifth Summer School, July 2nd – July 6th 2010

Gopal Guru, JNU, Delhi

Lectures: Experience, Space and Justice; Social Justice and Nationalist Thought in India; State and Social Justice; Institutions and Social Justice

Fifth Summer School, July 2nd – July 7th 2010

S. Subramannian, Madras Institute of Development Studies

Lectures: Inequality & Welfare Economics I; Inequality & Welfare Economics II; Sen's Idea of Justice

Fifth Summer School, July 5th - July 7th 2010

K. V. Akshara, Ninasam, Heggodu

Lectures: Art and Justice, Taala Madda (In English by Prabhakar Joshi and M. L. Samaga)

Fifth Summer School, July 7th 2010

V. Sanil, IIT, Delhi

Lectures: Politics, Power and Violence; The Work of Violence; Revenge, Hate and Justice

Fifth Summer School, July 8th – July 10th 2010

Godavarish Mishra, ICPR, Delhi

Lectures: Justice: Perspectives from Indian Philosophy I; Justice: Perspectives from Indian Philosophy II; Justice: Perspectives from Indian Philosophy III

Fifth Summer School, July 9th – July 10th 2010

Anita Gurumurthy, ITFC, Bangalore

Lectures: Fat-free Ice-cream, Alcohol-free Beer and Feminism Without women

Fifth Summer School, July 9th 2010

Parminder, ITfC, Bangalore

Lectures: Political Action in the Brave New Digital World

Fifth Summer School, July 9th 2010

Sameer Banerjee, Bangalore

Lectures: Gandhi's Idea of Justice

Fifth Summer School, July 13th 2010

Kulkarni, Department of Philosophy, University of Hyderabad

Lectures: Philosophy of science

September 27th 2010

Arun Murthy, National Institute of Advanced Studies, Bangalore

Lectures: Metaphysics of laws

September 28th 2010

Anu Joy, National Institute of Advanced Studies, Bangalore

Lectures: Understanding Concepts.

October 18th 2010

Jayendra Soni, Philipps-Universitaet Marburg, Germany.

Lectures: Jainism, “How we know what we know according to Jaina philosophy?”

(Classical Humanities Seminar Series)

September 29th - 30th 2010

Judy Guensey, Dalhousie University, Canada

Lectures: The Banyan Villages Initiative - An Intervention Strategy to Support Women’s Health Enhancement in Global Textile Supplier Communities. (Special Lecture)

December 14th 2010

45. List the teaching methods adopted by the faculty for different programmes.

Given the importance of the pre-reading, often the classic lectures merge into discussions. While lectures still remain a serious priority, supplementary multimedia activities like movie/documentary screenings relevant to the context are facilitated. Student presentations also serve to as an effective strategy to increase classroom autonomy. In this context giving the student space itself serves a radical pedagogic function by attempting to temporarily blur the student teacher hierarchy.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- a. Regular review of objectives based on evaluation criteria.
- b. Feedback and self-regulatory methods for improvements and achieving outcomes.
- c. Peer review and feedback from leading academics and scholars.
- d. Student, alumni feedback and placement in higher education and jobs.
- e. Compliance with best practices and quality policy, monitority.

47. Highlight the participation of students and faculty in extension activities.

Students: Participated in Sports, Intra University competitions

Outreach Programmes:

- a. Poetry Competition: DPH Poetry Award, Theme: Coming of Age in Manipal
- b. Essay Competition: ESSAY CONTEST, Theme: Importance of Arts and Humanities in Higher Education in India
- c. Creativity Writing: One day workshop
- d. Talks and sessions such as Faculty development programs
- e. Talk it out and other student workshops
- f. Outreach to colleges in region: Sharada College, MGM college etc

48. Give details of “beyond syllabus scholarly activities” of the department.

The beyond scholarly activities of the center are often closely associated with the work done in the center. The thrust for humanities is evident in an array of activities that we host/engage in. The recently concluded Yakshagana classes in which the students and teachers participated for over a period of two months is a testimony to performing, enjoying and understanding the dance form. The center also recently co-organised a fascinating seminar/conversation as part of the *Attakkalari Biennial 2013*. On a more casual note, the students and faculty often engage in group games like ultimate frisbee from time to time.

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details. ISO 9001:2008 & 14001:2004 certified

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

The faculty members have been actively publishing intellectual articles while also engaging in public debates and contributing opinion pieces to newspapers. The summer school and internship programmes of the center along with the various other public workshops serve to raise awareness and unleash the intellectual potentialities of a large group of people. Knowledge generated in the sense of these activities is of a dynamic kind and not readily presentable in an empirical fashion.

51. Future plans of the Department.

- Starting of MA (Performance Arts)
- Stabilize Medical Humanities courses at KMC and MMMC

- Hire four to six faculty at the least over the next one to three years
- Have a stream of Post-doctoral Fellows staying for one to two years
- Student Residency for doctoral students from around the country to finish writing their thesis – 2 to 3 month residencies
- Artist Residencies where artists spend two or three months – they will donate one or more of their artworks when they leave
- Take 5-8 PhD students every year
- More international collaborations
- Online course in the humanities
- Starting of Center for Performing Arts

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the Department.

Strengths:

- a. Excellence in research and teaching
- b. Interdisciplinary courses
- c. Peer learning and co-operation
- d. Theme based courses
- e. Research Facilities

Weaknesses:

- a. Small department
- b. Less number of faculty and staff
- c. Placement services
- d. Emphasis on English as primary language for the MA.
- e. Adequate Access to local community

Opportunities:

- a. Research
- b. Innovative pedagogy
- c. Collaboration with other departments
- d. International Recognition
- e. New courses and more elective choice based credit system.

Challenges:

- a. Pedagogy
- b. Varying back grounds of students
- c. Diversity of faculty and staff.
- d. Recruitment of research faculty
- e. International standards

1. Name of the Department: Department of European Studies

2. Year of establishment: 2009

3. Is the department part of a School/Faculty of the University?

Yes. It is a part of the School of Communication, Manipal University Manipal

4. Names of Programmes/Courses offered (UG, PG, MPhil, PhD, Integrated Masters Integrated PhD etc.)

a) PhD

b) MA European Studies

c) Certificate Course in Spanish Language

d) Certificate Course in German Language

5. Interdisciplinary courses and departments involved

NIL

6. Courses in collaboration with other universities, industries, foreign institutions, etc.

a) MA European Studies Masters Programme in European Studies and with the following as partner universities

- Hochschule Bremen University of Applied Sciences, Germany
- European School of Business, Reutlingen University, Germany
- University of Provence Aix Marseille I, France
- University of Latvia, Riga, Latvia
- Metropolitan University Prague, Czech Republic

7. Details of programmes/courses discontinued, if any, with reasons

One program Masters in European Studies and Management (MESM) offered in association with TAPMI was discontinued.

Two programmes offered earlier by the Centre have been transferred to other departments.

a) Postgraduate Diploma in Gandhian and Peace Studies transferred to the Department of Geopolitics and International Relations

b) Certificate Courses in Public Health and Global Health transferred to the Department of Public Health

8. Annual/ Semester/Choice Based Credit System

Semester system

9. Participation of the department in the courses offered by other departments

Nil

10. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Assistant Professors)

Faculty positions	Faculty positions sanctioned	Faculty positions filled
Professor	1	1
Associate Professors	—	—
Assistant Professors	3	3
Assistant Lecturer	1	1

11. Faculty profile with name, qualification, designation and specialization (DSc/DLitt/ PhD/MPhil etc.)

Name	Qualification	Designation	Specialization	No. of years of Experience	No. of PhD students guided for the last 4 years
Neeta Inamdar	PhD	Professor	European identity studies	12	Currently guiding one
Srinivasa Kumar N Acharya	MA (Vidvat Uttama)in Navyanyaya MA (Vidvat Uttama) in Alankarashastra MA in Sanskrit	Associate Professors	Navyanyaya, Dvaitavedanta and Alankarashastra	5	—
Stefano Greco	MA European Studies	Associate Professors	EU Politics and international relations	2	—
Rahul Putty	MA Euroculture	Associate Professors	European Culture and Society	1	—
Gabriele Pichler	Bachelors in language and education	Assistant Lecturer	German language for foreigners	1	—

12. List of senior visiting fellows, faculty members, adjunct faculty, Emeritus professors

- Prof Friedrich Lehmann, Director – Masters in European Studies, Hochschule Bremen University of Applied Sciences, Germany
- Dr Shazia Wulbers, University of Hamburg, Germany
- Prof Andreas Knorr, Speyer University of Administrative Sciences, Germany
- Dr Monika Blaschke – Hochschule Bremen University of Applied Sciences, Germany
- Dr Philippe Mioche and Dr Olivier Lambert, University of Aix-en-provence, France
- Dr Tatjana Muravska – University of Latvia, Latvia
- Dr Djiem Liem (Head of EFSA's Scientific Committee and Advisory Forum) and Ms Elena Giroli (PRO), European Food Safety Authority (EFSA), Italy
- Ms Bjanka Badrov, International Relations Officer – School of Economics and Business Sarajevo (SEBS), Bosnia and Herzegovina

13. Percentage of classes taken by temporary/visiting faculty – programme-wise information

MA European Studies - 28.5 per cent

Certificate Course in Spanish Language – nil

Certificate Course in German Language – 50 per cent

14. Programme-wise Student Teacher Ratio

MA European Studies – 19:6

Certificate Course in Spanish – 60:1

Certificate Course in German – 140:4

15. Number of academic support staff (technical) and administrative staff: sanctioned and filled

Sanctioned – 5, Filled – 5

16. Research thrust areas recognized by funding agencies

Jean Monnet Module – European Cultural Analysis and European Identity, Philosophy Summer School, Ecology and Sustainable Development,

17. Number of faculty members with on-going projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise.

Dr Neeta Inamdar was instrumental in receiving the following international grants.

- A funding of € 299,000 (Rs 1,94,35,000) was received from the Delegation of European Union towards establishment of the Centre for European Studies in December 2009.
- €16128 (Rs 11,28,960) Jean Monnet module – Cultural Analysis European Identity, funded by the European Commission
- Rs 3,00,000 financial support from Indian Council of Philosophical Research (ICPR) towards organising Philosophy Summer School
- DAAD travel grant of € 4530 (Rs 31,7100) towards three-week visits of two faculty members of Manipal University
- Rs 1,75,225 (Erasmus Mundus grant towards travel and accommodation etc. of the Steering Committee member from MU)
- A conference participation (travel and others) grant of € 1266 (Rs 88,620) from Universite de Provence Aix Marseille I (Jean Monnet grants)
- Manipal University is a member of the Consortium that has received the prestigious Erasmus Mundus grant. This Erasmus Mundus application for a project titled Interdisciplinary Bridges in Indo-European Studies (IBIES) has been selected for a grant of € 3,10,500 (Rs 2,17,35,000). This was submitted by a Consortium of 12 universities in India and six universities in Europe for mobility of students and faculty members.

18. Inter-institutional collaborative projects and grants received

a) All India collaboration b) International

Manipal Multidisciplinary Developmental Research Centre, which is a part of the Department of for European Studies, funded five inter-institutional collaborative research projects in Ecology and Sustainable Development out of the funding it received from the Delegation of European Union to India. These were all interdisciplinary in nature and involved different departments and institutions on the Manipal University campus. Following are the details of the projects.

Project Title	Principal Investigator & Dept	Total cost of the project in Rs
Assessment of Photosynthetic Efficiency in Orchids to Manage Greenhouse Effects	Dr. VidhuSankarBabu, Biotechnology, SOLS, Manipal	9,50,000
Fundamental study of the use of water and environmentally sustainable water based lubricants in multiple axial groove journal bearings	Prof. Raghuvir.B. Pai, Mechanical and Manufacturing Engg., MIT, Manipal.	8,00,000
Development of bio-	KiniVijaya M, Mechanical	8,00,000

degradable natural fibre composites from locally available materials	and Manufacturing Engg., MIT	
A Study on factors influencing incidence of cancers in udupidistrict through population based cancer Registry	Dr. RamachandraKamath, Department of Public Health, MU	6,87,750
Spatial and Temporal Variability Of The Water Chemistry and Microflora of Swarna River And Its Estuary	Dr K Balakrishna, Department of Civil Engineering,MIT	9,48,100

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received.

- Rs 3,00,000 financial support from Indian Council of Philosophical Research (ICPR) towards organising two-week international Summer School – The Word and The World: a philosophical inquiry from July 13-25, 2015

20. Research facility / centre with: Nil

- state recognition
- national recognition
- international recognition

21. Special research laboratories sponsored /created by industry or corporate bodies

Nil

22. Research Output in last 3 years

		2010	2011	2012	2013	2014
Completed funded research projects		-	5	-		1
Completed non-funded research projects		-	-	-	-	-
Completed PhD research projects		-	-	-	-	-
Completed PG research projects		-	4	4		
Completed UG research projects		-	-	-	-	-
Publications	International	1	-	-	2	1
	National	-	1	1	1	

Books	-	1	1	1	2	
Chapters in books	2	1	1			
Conference presentations	International	3	2	2	4	5
	National	-	-	1	1	-

Publications:

Number of papers published in peer reviewed journals (national / international): 3

- 1) Neeta Inamdar, Creating a collective European identity and European public sphere: EU communication policy and strategy in reflection, Mar 01, 2013, Foreign Policy Research Centre Journal,
- 2) Neeta Inamdar, Media framing: An evaluation of Australian and Indian newspaper coverage of the Haneef issue, Dec 01, 2009, IMS Manthan - The Journal of Innovations.
- 3) Neeta Inamdar, Corporatisation of entertainment industry: Impact of marketing strategies on commercial success of movies, Jul 01, 2009, Special Issue, Annamalai Journal of Management
- 4) Neeta Inamdar, Impact of sociolinguistics on integrated communication management enhancing enterprise competitiveness, Jan 01, 2007, Marketing, People, IT and Entrepreneurship, Allied Publishers .
- 5) Anantha KR Rao; Shivananda K Bhat; and Mahabaleshwara B Rao, Microsite: A campus networked library resource search: A study of Manipal University Health Sciences Library, Manipal, International Journal of Library and Information Science, 2(4): pp. 65-71; May 2010 (ISSN: 2231-4911)
- 6) Rathnakara, Rajeshwari Shastry, Unnikrishnan B, Ananth Rao, Sudhakar Pemminati, Shivaprakash, Ashok K Shenoy, Udupa A L, The utilization of library services by students in a medical college. Journal of Clinical and Diagnostic Research, Journal of Clinical and Diagnostic Research, 5(4): 818-821; 2011 August. (ISSN - 0973-709X).
- 7) Khaisar Muneebulla Khan, Pooja R, Anantha K R Rao, Bibliometric analysis of Indian journal of dental research (2002-2004), Indian Journal of Library and Information Science, 6(3): 95-101; Sept-Dec 2012

Monographs - Nil

❖ **Chapters in Books – 4**

Title of the chapter	Title of the book	Author	Co-author	Publisher	ISBN
DvaitavedanteSa kshi	Modern Perspectives in Vedanta	Srinivasa Kumar N Acharya	Shrinivasa Varakhedi	D K Printworld, Delhi	81-24606390
Impact of sociolinguistics on integrated communication management	Enhancing Enterprise Competitiveness (Marketing, people, IT and Entrepreneurship)	Neeta Inamdar	-	Allied Publishers, New Delhi	81-8424-154-2
Risk Communication: A Case Study of Mumbai Deluge of 26 July 2005	Environmental Management (II edition)	Neeta Inamdar	K BalaKrishn amoorthy	Prentice-Hall, New Delhi	81-203-2675-X
Old is Gold! Old Unfold Opportunities for Insurance Sector, A Case Study of Live-Life Insurance Company	Case Book Publication	Neeta Inamdar and Shweta Dixit	K BalaKrishn amoorthy	Annamalai University	

- * **Edited Books** - Nil
- * **Books with ISBN with details of publishers** – 2 books published by the Dvaita Philosophy Resource Centre of the Department of European Studies published by the Manipal University Press
 - a) The Path of Proofs – Pramanapaddhati of Sri Jayatirtha – ISBN 978-81-922759-0-1
 - b) A Modern Introduction to Madhva Philosophy – ISBN 978-81-922759-1-8
 - c) The Ramayana of Valmiki (a condensed version of Valmiki's epic)
 - d) The Language of Logic – Navyanyaya Perspectives
 - e) Valmiki Ramayana – Critical Essays
- * **Number listed in International Database** (For e.g., Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)

Conference Presentations

1. Srinivasa Kumar N Acharya and Shrinivasa Varakhedi., Dvaitavedante Sakshi., 20th International Congress of Vedanta, University of Dartmouth, USA and JNU, Dec 2012
2. Neeta Inamdar and Balaji., FTA and the future of India-EU Educational Connect: A Comparative Study of the Philosophy and Economics of Education of the two regions., Conference on the Implications of the Indo-EU Free Trade Agreement, P Jain Institute of Management and Research and ESB Reutlingen University, Germany, November 26-27, 2010.
3. Neeta Inamdar, Developing Global Mindset – Developing cultural intelligence., National Conference on Developing Global Mindset, SDM College of Business Management, Postgraduate Centre for Management Studies and Research, Mangalore, February 6, 2012
4. Neeta Inamdar and Praveen Shetty, Multiculturalism, integration and identity: Experiences of European Union and India. International Conference on India and the European Union in a Changing World: Perceptions and Perspectives, JNU, Delhi, March 1-2, 2012.
5. Neeta Inamdar and Praveen Shetty, European identity through multicultural and multinational prism: Questions of Perceptions and Perspectives. Jean Monnet International Conference on the Worlds of European Studies, Universite de Provence Aix Marseille I, France. 2011
6. AnanthaRao KR., Creation of Library Front Page Platform Using H.T.M.L International, Conference on E-Resources in Higher Education: Issues, Developments, Opportunities and Challenges, Bharathidasan University, Tiruchirappalli on 19th & 20th Feb 2010.
7. AnanthaRao KR, Research contributions in Indian Journal of Dental Research: A Bibliometric Study., International conference on ‘Information Management: Envisioning the Future Libraries’, Rev. Jacob Memorial Christian College, Santhipuram, Ambilikkai, Dindigul, Tamilnadu, on October 7-8, 2010
8. AnanthaRao KR, Information Literacy on Library Front Page Platform., International CALIBER 2011, INFLIBNET and Goa University, Panjim on March 2-4, 2011.

23. Details of patents and income generated

Nil

24. Areas of consultancy and income generated

Nil

25. Faculty members selected nationally/ internationally to visit other laboratories in India and abroad

Following five faculty members from different departments and institutions of Manipal University were supported by grants received by the Department of

European Studies from the Delegation of European Union to India and DAAD. It may please be noted that Prof Aravind Kumar, Dr Balakrishna, Dr VijayaKini and Dr Nanda Kishor do not belong to the Department of European Studies. However, their travels were supported by grants received by the Department of European Studies.

- a) Dr Neeta Inamdar's visit to partner universities in Germany, The Netherlands, Belgium along with her students
- b) Dr Neeta Inamdar's visit to Germany with DAAD funding
- c) Mr Praveen Shetty's visit to HSB Bremen with Erasmus Mundus scholarship
- d) Prof Arvind Kumar's (of the Department of Geopolitics and International Relations) visit to Hochschule Bremen, Germany
- e) Dr K Balakrishna's (Department of Civil Engineering, MIT) visit to Stuttgart University, Germany (he was the Principal Investigator of one of the MMDRC projects)
- f) Dr Vijaya Kini's (Department of Mechanical and Manufacturing Engineering, MIT) visit to Hochschule Bremen, Germany (he was the Principal Investigator of one of the MMDRC projects) with DAAD funding
- g) Dr Nanda Kishor (Department of Geopolitics and International Relations) visit to Hochschule Bremen, Germany with DAAD funding
- h) Dr Nanda Kishor (Department of Geopolitics and International Relations) visit to Leiden University with Erasmus Mundus scholarship

26. Faculty members serving in

- a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Dr Neeta Inamdar – Member – Editorial Review Board – Annamalai International Journal of Business Studies and Research

Dr Neeta Inamdar - Member – Interdisciplinary Bridges in Indo-European Studies (IBIES) Consortium

27. Faculty recharging strategies

- a) Participation of faculty members in international faculty exchange programs
- b) Participation of faculty members in national and international conferences, symposia and workshops
- c) Participation of faculty members in Faculty Development Programmes and refresher courses organized by other Universities, UGC and others

28. Student projects

- percentage of students who have done in-house projects including inter-departmental projects

Nil

- percentage of students doing projects in collaboration with other universities/industry/institute

100 per cent

29. Awards/recognitions received at the national and international level by

- Faculty
 - Doctoral / post-doctoral fellows
 - Students
- 1) Srinivasa Kumar N Acharya - Faculty member – awarded – Sacchastravidvan by PoornaprajnaVidyapeetha, Bangalore

30. Seminars/Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.

International Conference – 2

- International Conference on Unveiling New Chapters of Contemporary India-EU Studies organized in association with India EU Study Centres Programme, October 21-22 – Several international scholars in the area of European Studies participated in the program.
 - International Conference on Internationalization of Higher Education: Understanding and Responding to Bologna Process, August 25-26, 2011. Many eminent scholars and officials of EU including the Deputy Head of the Delegation of European Union participated in the program.
 - Outstanding participants
- 1) Mr Pavel Svitil, Deputy Head of the delegation of European Union, New Delhi
 - 2) Mr Ulrich Podewils, Team Leader, India-EU Study Centres Programme (IESCP), New Delhi
 - 3) Prof Iekje Smit, Hanze University of Applied Sciences, Groningen, Netherlands
 - 4) Dr, Hamburg University, Germany
 - 5) Dr Anke Brugman, University of Marburg, Germany
 - 6) Ms Teresa Ann Saracino, University of Milan, Italy

- 7) Prof Beatrice Dernbach, Hochschule Bremen University of Applied Sciences, Bremen, Germany
- 8) Ms Dorothea Riecker and team, IESCP, New Delhi
- 9) Dr Rashmi Jain, Department of European Studies, University of Rajasthan, Jaipur
- 10) Dr Asha Pande, Director of Department of European Studies, University of Rajasthan, Jaipur
- 11) Dr Neeti Badve, European Studies, Symbiosis International University, Pune
- 12) Prof Gulshan Sachadeva, JNU, Delhi
- 13) Prof Jayaraj Amin, Mangalore University, Mangalore
- 14) Dr Sudarshan Padmanabhan, IIT-Madras, Chennai
- 15) Dr B Krishnamurthy, Pondicherry University, Pondicherry
- 16) Dr S Manickam, M S University
- 17) Dr Pavanmathi Vembulu, M S University
- 18) Dr Jakub Zajackoksky, Institute of International Relations, University of Warsaw, Poland
- 19) Dr Uwe Skoda, Contemporary India Studies Centre at Aarhus, Aarhus University, Denmark
- 20) Dr Kurt Hubner – Director, Chair of German and European Studies, Institute for European Studies, The University of British Columbia, Canada
- 21) Prof Hartmut Elsenhans, Leipzig University, Germany
- 22) Prof M D Nalapat, UNESCO Peace Chair
- 23) Mr Hormis Tharakan, Member, National Security Advisory Board, Government of India
- 24) Prof Balveer Arora, JNU, Delhi

International Summer Schools – 3

- Two-week summer school on The Living Philosophies and Cultures of India from July 24 to August 7, 2015 jointly organised with Chinmaya International Foundation Shodha Sansthan in Kerala
- 10-day summer school on Explore India - A cultural encounter organised for Lancaster University students from September 10-18, 2014
- Two-week summer school on The Word and The World - a philosophical inquiry from July 13-25, 2015 jointly organised with Chinmaya International Foundation in Kerala

National seminars – 1

- One-day Seminar on Dvaita Philosophy in the Contemporary World, March 22, 2010. It was attended by senior scholars like PadmashriBannanjeGovindacharya, ProfV R Panchamukhi (veteran economist and Indologist), Prof Shrinivasa Varakhedi (Dean and Director – Karnataka Sanskrit University), Prof SundarSarukkai (Director, Manipal Centre for Philosophy and Humanities)

Workshops 6

1. One-week workshop on Innovations in BoP along with Manipal BoP – October 25-30, 2010
2. One-day workshop on Emerging Areas in Ecological Research and Sustainability on May 16, 2011 Monday
3. Two-day workshop on Ganakasamskrtam, July 14-15, 2012; a workshop to train traditional Sanskrit students in the fundamentals of computer applications and Indological applications was organized by Dvaita Philosophy Resource Centre (DPRC). It also introduced them to the resources of DPRC like books, e-books and online databases. This increased the visibility of DPRC among traditional scholars.
4. Workshop on maintenance and administration of India-EU Study Centres Programme (IESCP) web-portal was organized with IESCP New Delhi, August 27, 2011
5. Two-day workshop on Project Management by Mr S Bhaskaran October, 2011
6. One week workshop on Entrepreneurship conducted by Prof Anuradha, August 2010

31. Code of ethics for research followed by the departments

As per University norms

32. Student profile course-wise:

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
PhD	1	1			
MA European Studies	18	2	4	Program started in 2013	Program started in 2013
Certificate Course in Spanish	97	51	46	65	80
Certificate Course in German	32	20	12	75	50

33. Diversity of students

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
MA European Studies	15	20	40	5
Certificate Course in Spanish	90	10	Nil	Nil
Certificate Course in German	90	10	Nil	Nil

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Nil

35. Student progression

Student progression	Percentage against enrolled
UG to PG	Nil
PG to MPhil	Nil
PG to PhD	5
PhD to Post-Doctoral	Nil
Employed	80
<ul style="list-style-type: none"> • Campus selection • Other than campus recruitment 	5 70
Entrepreneurs	10

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	Nil
from other universities within the State	66.6 per cent
from universities from other States	Nil
from universities outside the country	33.33 per cent

37. Number of faculty who were awarded PhD, DSc and DLit during the assessment period

Nil

38. Present details of infrastructural facilities with regard to

a) Library

Total number of books – 4536

DES – 3379

DPRC -1157

Total number of journals subscribed for the year 2012-13 – 15

Access to JSTOR – online database

b) Internet facilities for staff and students: Yes

c) Total number of classrooms: 2

d) Classrooms with ICT facility: 2

e) Students' laboratories: 2

f) Research/special laboratories:

Extended teaching facility of Centre for European Studies Audio-visual Resources (CESAR)

39. List of doctoral, post-doctoral students and research associates

a) from the host university

Mr Praveen Shetty

b) From other universities

Doctoral student – Nil

40. Number of postgraduate students getting financial assistance from the University - 03

1) ShravanShenoy, MESM

2) Shravana Kumar, MESM

3) PrathyushaJosyula, MESM

41. Was any need assessment exercise undertaken before the development of newprogramme(s)? If so, highlight the methodology.

Yes

A survey was conducted among select European companies to find out the relevance of offering a program like MESM. It was conducted at two levels: one at the level of entry-level employees and one at the level of HR managers.

42. Does the department obtain feedback from

a. Faculty members on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes. They are discussed in Master Programme Academic Committee (MPAC) and their suggestions are taken into account in the nextBoSmeeting.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Yes, based on the feedback, faculty members are asked to make changes in their course structure, style of delivering lectures, and also content presentation.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

No

43. List the alumni of the department (maximum 10)

1. Mr P Ashwath – pursuing research in University of Warsaw, Poland
2. Ms Prathyusha Josyula – Manager at Fraunhofer India, Bangalore
3. Dr Pawan Bhati – Manager at Novartis, Hyderabad
4. Ms Fenella Andrade- Recruitment Manager – Agility Logistics, Abu Dhabi
5. Mr Vinay Darbi – Marketing Manager – GE Electricals
6. Mr Nitin Mangesh – pursuing dual-degree programme at Hochschule Bremen, Germany
7. Mr Nitin Kumar – pursuing dual-degree programme at Hochschule Bremen, Germany
8. Mr Chaitanya Nara- pursuing higher studies at Group T International University, Leuven, Belgium
9. Mr Shravana Kumar – selected for Erasmus Mundus Scholarships for a three-year PhD programme at Hochschule Bremen, Germany

44. Give details of student enrichment programmes (special lectures/seminar) involving external experts.

List of guest speakers

- 1) Prof Andreas Knorr, Chair of Economics, Economic and Transport Policy, German University of Administrative Sciences GERMANY
- 2) Prof Beatrice Dernbach, HSB University of Applied Sciences, Bremen, Germany
- 3) Prof Friedrich Lehmann, HSB University of Applied Sciences, Bremen, Germany

- 4) Prof Hans Jansen, HSB University of Applied Sciences, Bremen, Germany
- 5) Prof Hartmut Elsenhans, Leipzig University, Germany
- 6) Prof Iekje Smit, Hanze University of Applied Sciences, Groningen, Netherlands
- 7) Prof Philippe Mioche, Universite de Provence Aix-Marseille, France
- 8) Prof Robert Newton, Associate Dean, Aberdeen Business School, Robert Gordon University, Scotland
- 9) Prof Soren Ehlers, National Centre for Competence Development, Aarhus University, Denmark
- 10) Dr Anja Krumeich, Faculty of Health, Medicine and Life Sciences, Maastricht University, The Netherlands
- 11) Dr Anke Brugman, University of Marburg, Germany
- 12) Dr Beate Zimpelmann, Vice Dean, Faculty of Social Sciences, Hochschule Bremen University of Applied Sciences, Bremen, Germany
- 13) Dr Christian Montes, Vice President International Relations, Universite Lumiere Lyon 2, France
- 14) Dr Dirk Wassermann – HSB University of Applied Sciences, Bremen, Germany
- 15) Dr Hong X Rost, Director of International Education, STOUT, University of Wisconsin, USA
- 16) Dr Jakub Zajackoksky, Institute of International Relations, University of Warsaw, Poland
- 17) Dr Kurt Hubner – Director, Chair of German and European Studies, Institute for European Studies, The University of British Columbia, Canada
- 18) Dr Malgorzata Bonikowska, President of India-EU Council, Poland
- 19) Dr Olivier Lambert, Universite de Provence Aix-Marseille, France
- 20) Dr Peter Schlosser, STOUT, University of Wisconsin, USA
- 21) Dr Shazia Wulbers, Hamburg University, Germany
- 22) Dr Uwe Skoda, Contemporary India Studies Centre at Aarhus, Aarhus University, Denmark
- 23) Mr Aitor Africano Escoda Aroca, Spanish language teacher, UCLM, Spain
- 24) Mr George Mathew, Economic Specialist, American Consulate General, Chennai
- 25) Mr Gonzalo Penasco Hector Gallego, Spanish language teacher, UCLM, Spain

- 26) Mr Hormis Tharakan, Member, National Security Advisory Board, Government of India
- 27) Mr Javier Mendoza Jimenez, University of Latvia, Riga, Latvia
- 28) Mr Maxwell Hamilton, Political and Economic Officer, US Consulate, Chennai
- 29) Mr Miguel Nombela, Spanish language teacher, UCLM, Spain
- 30) Mr Nino Ciccarone, Director, Alliance Francaise Bangalore
- 31) Mr Pavel Svitil, Deputy Head of the delegation of European Union, New Delhi
- 32) Mr Philippe Gasparini, Director of the Alliance Française de Bangalore
- 33) Mr Philippe Martinet, Counsellor for Culture and Cooperation, Embassy of France in India
- 34) Mr Stefano Greco, University of Latvia, Riga, Latvia
- 35) Mr Thierry Boisseaux, Attachè for Science and Technology, French Embassy in India
- 36) Mr Ulrich Podewils, Team Leader, India-EU Study Centres Programme (IESCP), New Delhi
- 37) Ms Cleo Paskal, Author of the book 'Global Warrings', Associate Fellow at Chatham House (Royal Institute of International Affairs)
- 38) Ms Dorothea Riecker, IESCP, New Delhi
- 39) Ms Kirsten Rautenberg, HSB University of Applied Sciences, Bremen, Germany
- 40) Ms Krista Knopper, Strategic Advisor India, Maastricht University, The Netherlands
- 41) Ms Mary Alejandra Moreno Ramirez, University of Tolima, Colombia
- 42) Ms Michele Luxon, International Office, Lancaster University, UK
- 43) Ms Julia Devaux, International Office, Lancaster University, UK
- 44) Ms Pia Schriber, HSB University of Applied Sciences, Bremen, Germany
- 45) Ms Tagirem Gallego Garzia, Spanish language teacher, UCLM, Spain
- 46) Ms Teresa Ann Saracino, University of Milan, Italy
- 47) Ms Theresa Beilschmidt, University of Kassel, Germany
- 48) Ms Yanira Bresó Gonzalez, Spanish language teacher, UCLM, Spain
- 49) Prof Balveer Arora, JNU, Delhi

- 50) Prof Choodamani, Dean, Faculty of Humanities and Social Sciences, Jain University, Bangalore
- 51) Prof Gulshan Sachadeva, JNU, Delhi
- 52) Prof Jayaraj Amin, Mangalore University, Mangalore
- 53) Prof M D Nalapat, UNESCO Peace Chair
- 54) Prof R K Jain, Centre for European Studies, JNU, Delhi
- 55) Prof Shiva Kumar, Delft University, The Netherlands
- 56) Prof Shrinivasa Varakhedi, Acting Vice Chancellor, Professor and Dean of Faculty of Shastras and Director of PG Studies and Research, Karnataka Sanskrit University, Bangalore
- 57) Prof Sundar Sarukkai, Director, Dept of Philosophy and Humanities
- 58) Prof V R Panchamukhi, former Chairman, Indian Council of Social Science Research (ICSSR), former Chancellor of RSVP (Deemed University), Tirupati and Chancellor of SGVSVP, Mantralaya
- 59) Dr Asha Pande, Director of Department of European Studies, University of Rajasthan, Jaipur
- 60) Dr B Krishnamurthy, Pondicherry University, Pondicherry
- 61) Dr Naik Dharavath, STOUT, University of Wisconsin, USA
- 62) Dr Neeti Badve, European Studies, Symbiosis International University, Pune
- 63) Dr Pavanmathi Vembulu, M S University
- 64) Dr Rashmi Jain, Department of European Studies, University of Rajasthan, Jaipur
- 65) Dr S Manickam, M S University
- 66) Dr Sudarshan Padmanabhan, IIT-Madras, Chennai
- 67) Mr Bhaskaran, Senior Director, Philips Innovation Centre, Bangalore
- 68) Mr Ravi Haldipur, Entrepreneur, Mangalore
- 69) Mr Rushi Bakshi, Senior Policy Officer, Science and Technology Department, Embassy of The Netherlands, New Delhi
- 70) Mr Suresh Prabhu, Former Union Cabinet Minister for Energy, Environment and Forests
- 71) Ms Ratna Mukherjee, Cultural Affairs Advisor, Office of Public Affairs, US Consulate General, Chennai
- 72) Ms Vidya Suresh, Education Adviser, Campus France, Bangalore

45. List the teaching methods adopted by the faculty for different programmes.

Case studies, readings shared in advance with students, audio-visual aids for language courses, lectures, tutorials, workshops, seminars, group projects, term papers, group presentations, live projects

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

Continuous evaluation by Masters Program Academic Committee that meets regularly

47. Highlight the participation of students and faculty in extension activities.

CESAR – Establishment of Centre for European Studies Audio-Visual Resources

FIESTA – Festivities of Indian and European Synergies in Tradition and Arts

Bulletin Board – Daily update with news and important information

EUROBUZZ – Weekly newsletter brought out by students

EUROBIZ – A blog maintained by students of European Studies with information on Business in European Union

EUBUZZ – SMS sharing regarding news on EU

48. Give details of “beyond syllabus scholarly activities” of the department.

1) Summer Schools

a) Manipal University and Chinmaya International Foundation had organised The Word and The World – A Philosophical Inquiry, a two-week international Summer School from July 13-25, 2015 at Chinmaya International Foundation, Kerala. This Summer School had hosted 36 participants from different parts of the country and the world, which was led by Prof Ashok Aklujkar and Prof Shrinivasa Varakhedi as the Course Directors; and this has been selected for the financial support extended by Indian Council of Philosophical Research (ICPR), New Delhi. This School hosted 40 participants out of them 10 were from countries like USA, UK, Italy, Poland, Austria, Greece.

b) This was the second consecutive summer school jointly organised by both the institutions. In 2014, The Living Philosophies and Cultures of India a two-week international Summer School, had attracted 25 participants, who were from the universities of Harvard and Rutgers (US), Krakau (Poland), Tokyo (Japan), Delhi, JNU, Jadavpur, Pune, IIT Delhi and other institutions, which was led by Prof Arindam Chakrabarti and Prof Shrinivasa Varakhedi as Course Directors.

c) A ten-day Summer School Explore India – A Cultural Encounter was organized from September 10-19, 2014 here in Manipal. A total of 20 students of Lancaster University along with a staff coordinator participated in this 10-day program. These young students, some graduate and some in the process of it, belonged to different disciplines like law, psychology, history, management, natural sciences, religious studies, medicine and others.

2) MMDRC – Manipal Multidisciplinary Developmental Research Centre through its focused research in the area of Ecology and Sustainable Development contributed significantly to the scholarly activities. Details of the project are provided below.

1. Assessment of Photosynthetic Efficiency in Orchids to manage Greenhouse Effects – Rs 9,50,000 – Principal Investigator (PI) – Dr VidhuSankarBabu School of Life Sciences, MU

2. Fundamental study of the use of water and environmentally sustainable water based lubricants in multiple axial groove journal bearings – Rs 8,00,000 – PI – Prof Raghuvir Pai, MIT

3. Development of bio-degradable natural fibre composites from locally available materials – Rs 8,00,000 – Prof M VijayaKini, MIT

4. A study on factors influencing incidence of cancer in Udupi district through population based cancer registry – Rs 6, 87,750 - PI – Dr Ramachandra Kamath, Department of Public Health, MU

5. Spatial and Temporal Variability of the water chemistry and microflora of Svarna river and its estuary – Rs 9, 48, 100 – PI – Dr K Balakrishna, MIT

49. State whether the programme/ department is accredited/graded by other agencies? If yes, give details.

Yes

ISO 9001:2008 and ISO 14001:2004 – TUV certified

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

Erasmus Mundus, DAAD and other scholarships for the students, researchers and faculty members to study, research and teach in Europe

Jean Monnet Module of the MA European Studies program

International Summer Schools for students from the different part of the country and the world

51. Future plans of the department.

- Implementation of the Erasmus Mundus grants that University is receiving being part of the Consortium selected for funding
- Developing an application for further funding from the European Union under FP7 and others
- Developing international linkages, particularly with European universities that can be extended to other faculties of the University as well
- Publication of Dvaita texts, original as well as translations of major works from Sanskrit to English
- E-content generation with XML tagging and editing of select Dvaita texts for the students of Dvaita philosophy

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths

1. Internationality
2. Uniqueness/novelty
3. Cost-effectiveness
4. Providing ground for international collaborations
5. Multidisciplinary

Weaknesses

1. Novelty -difficulty of acceptance among public
2. Difficulty in acceptance of students of this program by the industry

Opportunities

1. Provides ample opportunities for international collaborations
2. Provides opportunities for international, particularly European funding for research and mobility
3. Venturing into areas that University had not done before (like Dvaita philosophy)
4. Linkages with business establishment working with and from Europe
5. Cultural learning

Challenges

1. Deteriorating European economic situation
2. Market changes

1. **Name of the Department:** School of Information Sciences

2. **Year of establishment:** 1998

3. **Is the Department part of a School/Faculty of the university?**

Part of Manipal Institute of Technology

4. **Names of Programmes//Courses offered (UG, PG, MPhil, PhD, Integrated Masters; Integrated PhD, etc.)**

#	Programme Name	Duration in Years
1	M.Sc. Tech (Medical Software)	3*/2**
2	M.Sc. Tech (VLSI Design)	3*/2**
3	M.Sc. Tech (Embedded Systems)	3*/2**
4	M.Sc. Tech (VLSI System Design and Verification)	3*/2**
5	M.Sc. Tech (Embedded and Wireless Technology)	3*/2**
6	M.Sc. Tech (IT Management) (no students admitted)	3*/2**
7	M.Sc. Tech (Computing Technologies and Virtualization)	3*/2**
8	M.Sc. Tech (High Performance Computing) (no students admitted)	3*/2**
9	M.Sc. (Information Science)	2
10	M.Sc. (Digital Design and Embedded Systems) (no students admitted)	2
11	PhD (Part-Time)	4
12	PhD (Full-Time)	3
13	Study Abroad Programme with ESIGELEC, France ➤ M. Sc. Tech (Embedded Systems and Instrumentation)	3*/2**
14	Study Abroad Programme with Lancaster University, UK ➤ All M.Sc. Tech programmes	3*/2**
15	Study Abroad Programme with Edinburgh Napier University, UK ➤ All M.Sc. Tech Programmes	3*/2**
16	Study Abroad Programme with GroupT University, Belgium ➤ All M.Sc. Tech Programmes	3*/2**

Note: Data as on 2014

* For B.Sc. / BCA candidates – duration 3 years

** For BE/ B. Tech candidates – duration 2 years (through lateral entry - to second year)

5. **Interdisciplinary courses**

The courses offered in School of Information Science are interdisciplinary in nature covering different specialisation of engineering such as Electronics, Computer Science and Biomedical. The course IT Management is a combination of Information Technology & management.

6. Courses in collaboration with other universities, industries, foreign institutions, etc.

Collaboration with foreign institutions

Programs	Foreign Universities
M.Sc. Tech (Embedded Systems & Instrumentation)	ESIGELEC (France)
All M.Sc. Tech Programs of SOIS	Lancaster University(LU), UK
All M.Sc. Tech Programs of SOIS	Edinburgh Napier University(ENU), UK
All M.Sc. Tech Programs of SOIS	Group T University, Belgium
Study Abroad Program (SAP)	EFREI, France

Collaboration with Industries

Courses	Collaboration with Industries
M.Sc. Tech (Medical Software) /M.Sc. Tech (Embedded Systems) / M.Sc. Tech(Embedded and Wireless Technology)	Applied cognition Systems, Bengaluru
M.Sc. Tech (VLSI System Design and Verification) /M.Sc. Tech (VLSI Design)	Whizchip Technologies Pvt Ltd., Bengaluru (formerly known as Axiom Design Automation)
All M.Sc. Tech programs	Manipal Dot Net, Manipal
All M.Sc. Tech Programs	VOLMO Pvt. Ltd., Bhopal, Madhya Pradesh

7. **Details of programmes//courses discontinued, if any, with reasons:** Nil.

8. **Annual/Semester/Choice Based Credit System:** Credit Based Semester System.

9. Participation of the department in the courses offered by other departments

a. School of Life Sciences

- BSc Bio Technology – Computers and Bio Informatics
- MSc Bio Informatics – Computer OS Basics and Core Programming
- MSc Bio Informatics – Java and Digital Image Processing
- Certificate Course in Bio-Informatics

b. School of Allied Health Sciences

- MSc Health Care IT Management – Internet Technology
- MSc Health Care IT Management – Dot Net Technologies

10. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Assistant Professors)

Designation	Sanctioned	Filled
Professor	3	3
Associate Professors	2	2
Assistant Professors	19	19

11. Faculty members profile with name, qualification, designation and specialisation (DSc/DLitt/PhD/MPhil etc.)

#	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of PhD students guided for the last 4 years
1	Dr. Harishchandra Hebbar N	PhD. MTech (IISc. Bangalore)	Director	Medical Image Retrieval	32	-
2	Prof C S Ramashesha	M Tech (Mangalore University)	Project Coordinator	Computer Science	30	-
3	Mr Prashanth Kumar Shetty	ME	Assoc. Prof. - Senior Scale	Computer Science	24	-
4	Dr. Dinesh Rao B	Ph D. MTech (IIT)	Professor	Fractal & Image Compression	24	-
5	Dr Keerthana I	PhD MTech	Assoc. Prof.	Image Processing	12	Guide: 1 Co-guide: 2
6	Mr Arockiaraj S	MSc, PGDCA, MPhil	Asst. Prof.- Selection Grade	Computer Science	22	-
7	Mr Shridhar Nayak	MS	Asst. Prof.- Selection Grade	VLSI-CAD	Teaching:12 Industry: 7	-
8	Mr Deepak Rao	MS	Asst. Prof.- Selection Grade	E-Commerce	Teaching:12 Industry: 05	-
9	Mr Sathyendranath Malli	MS	Asst. Prof.- Selection Grade	E-Commerce	Teaching:12 Industry: 05	-
10	Mr Sundaresan C	MS	Asst. Prof.- Selection Grade	VLSI-CAD	Teaching:12 Industry: 02	-
11	Mr Mohan Kumar	MS	Asst. Prof. Selection Grade	VLSI-CAD	Teaching:12 Industry: 02	-

#	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of PhD students guided for the last 4 years
12	Mr BV Ravindra	BE, MS	Asst. Prof.– Selection Grade	Software Engineering	Teaching:06 Industry: 15	-
13	Mr Sudhakara Upadya	M Tech	Asst. Prof.– Senior Scale	Computer Science	Teaching:10 Industry: 10	-
14	Ms Ravikala Kamath	M Tech	Asst. Prof.– Senior Scale	Computer Cognition & Technology	08	-
15	Ms Keerthana B	MSc	Asst. Prof.- Senior Scale	Computer Science	08	-
16	Mr Raghavendra Prabhu	MSc	Asst. Prof.- Senior Scale	Digital Design and Embedded Systems	07	-
17	Mr Balaji B	MS	Asst. Prof.- Senior Scale	Medical Software	06	-
18	Mr Darryl Jeethesh D'souza	MSc	Asst. Prof.	Digital Design and Embedded systems	06	-
19	Mr Madhushankaram	BE, MS	Asst. Prof.- Senior Scale	VLSI-CAD	06	-
20	Mr Vishnu Satya Chaitanya	MS	Asst. Prof.	VLSI-CAD	04	-
21	Mr Nandish S	MS	Asst. Prof.	Medical Software	04	-
22	Mr Samarendranath Bhattacharya	MSc	Asst. Prof.	Digital Design and Embedded Systems	04	-
23	Mr Satyanarayan Shenoy	MSc	Asst. Prof.	Digital Design and Embedded Systems	04	-
24	Mr Shreepathy H V	MS	Asst. Prof.	Embedded Systems	03	-

12. List of senior Visiting Fellows, faculty members, adjunct faculty members, emeritus professors

Visiting Fellows

- Mr Tam Sridhar from Monash University, Melbourne, Australia – 7th May 2013.
- Dr Sanjeev Kumar, Chair, Professor and Distinguished Teacher, Department of Civil and Environmental Engineering, Southern Illinois University, Carbondale – 25th June 2014.
- Prof. Giri Narasimhan, Professor and Associate Dean for Research and Graduate studies, College of Engineering and Computing, Florida International University – 4th August 2014.

- Prof. Kalai Mathee, Assistant Dean and Professor, Office of Student Affairs, Herbert Wertheim College of Medicine, Florida International University – 4th August 2014.
- Ms Amritha Chandramouli, Indian Relations Manager, EFREI, France, Dr. Christiane Michel and Dr. Nicolas Sicard - 27th October 2014.
- Prof. Idris Ahmada Rai - Vice Chancellor, Dr. Salum Seif Salum - Lecturer School of Medicine and Dr. Goloker, High Commission representatives, State University of Zanzibar (SUZA) – 8th July 2014.
- Dr Phani Nandan Kidambi, Director of Wright State International Gateway and Ms Swapna Nair, Director - CECS International Collaborations and Graduate Programs – WRIGHT STATE UNIVERSITY – 3rd June 2014.
- Mrs Caroline Guény, Attachée for University Cooperation of the Embassy of France – 13th March 2014.
- Ms Vidya Suresh and Mr Cyril Marteaux from ESIGELEC France – 13th March 2014.
- Prof. John Bell, Head of school for mechanical engineering, physics and chemistry -_Queensland University of Technology, Australia – 27th February 2014
- Prof. Steven Bottle, Prof. Science and Engineering Faculty - Queensland University of Technology, Australia – 27th February 2014
- Prof. Sheel Nuna, Director South Asia, Queensland University of Technology, Australia – 27th February 2014.
- Delegates from University of Cincinnati, Ohio, USA - 25th February 2014
 - Raj Mehta (Vice Provost for International Affairs)
 - Robert Probst (Dean, College of Design, Architecture, Arts, and Planning)
 - Brigid Okane (School Director for the School of Design)
 - Vivek Choudhary (Associate Dean, Lindner College of Business)
 - Marianne Lewis (Associate Dean, Lindner College of Business)
 - Debashish Pal (Professor, Lindner College of Business)
 - Paul Orkwis (Department Head, Department of Aeronautical Engineering)

Adjunct Faculty members

- Dr P S Ramkumar, CEO, Applied Cognition Systems, Bengaluru
- Mr Ravi Shankar, CEO, Whizchip Technologies Ltd, Bengaluru
- Mr. Ashok Sharma, Senior Manager, TechMahindra, Hyderabad
- Dr Manjunatha Ramachandra, Philips Research, Bengaluru
- Dr A Narendranth Udupa, Philips Research, Bengaluru
- Mr. Aravinda Sharma T, Delphi Automotive Systems, Bengaluru
- Dr Shyam Vasudevarao, Forus Healthcare, Bengaluru

- Mr. Ganesh Raj Urs. K.S, Project Manager, NMSPECT, Philips Healthcare, Bengaluru

Emeritus Professors

Nil

13. Percentage of classes taken by temporary faculty member, programme-wise information

Programme Name	Subject Handling	Faculty members	Percentage of classes taken
MSc Tech Embedded Systems	Data Structures & Algorithms	Ms Jyothsna Vasanthraj Shetty	8.3%
MSc Information Science	Operating Systems	Mr. Sandeep Patil H G	6.6%

14. Programme-wise Student Teacher Ratio

Name of the Programme	No. of Student	No. of Teacher	Students Teachers Ratio
M.Sc. Tech (Medical Software)	14 + 12*	26	14:1
M.Sc. Tech (VLSI Design)	40 + 30*		
M.Sc. Tech (Embedded Systems)	81 + 92*		
M.Sc. Tech Dual Degree Program (ESIGELEC, France)	25 + 20*		
M.Sc. Tech (Embedded and Wireless Technology)	11 + 13*		
M. Sc. Tech (IT Management)	0 + 3*		
M.Sc. Tech Computing Technologies & Virtualization	8 + 0		
M.Sc. Tech High Performance Computing	0 + 0		
M. Sc. Tech (VLSI System Design and Verification)	4 + 6*		
MSc (Digital Design and Embedded Systems)	0 + 0		
MSc (Information Science)	7 + 0		

Note: * Second year students doing internship – data as on 2014

15. Number of academic support staff (technical) and administrative staff: sanctioned and filled

1. Number of Administrative Staff	4
2. Number of Technical Staff	3

16. Research thrust areas recognized by funding agencies

- VLSI – Softjin Technologies, Bengaluru
- Health Radar System- Nokia (through BoP, Manipal)
- Mobility Sanjeevini Project (BoP, Manipal)e-RMCWH Project
- Supply Chain Management – Medical Supplies – State owned PHCs

17. Number of faculty members with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise.

Sl. #	Project Name	Funding Agency	Grants Received
a) National Funding Agencies:			
1	Trade License Survey Project	Udupi Municipality	2 lakhs
2	Survey of Differently Abled Citizens	Udupi Municipality	1,25,000
3	Effect of Buffer Insertion on Area at Different Process Technology Nodes	SoftJin Technologies	Rs. 60000/- (not yet received)

18. Inter-institutional collaborative projects and grants received

- All India collaboration

Centre for Software Development (CSD), is an in house industry standard software solutions under SOIS, MU developed the following:

Sl. No.	Project Title	Client	Status Deployed / On going	Cost in lakhs
1	Patient Management System (PMS) - Production support and enhancement	MCODS Mangalore	Deployed in August 2013	2.5
2	Occupational Health Survey Tool	Department of Public Health, KMC Manipal	Deployed in Dec-2013	0.4
3	Finance Accounting Software	Finance Department - MU	Deployed in April 2014	12.0
4	PMS – Orthodontics	MCODS Mangalore	Deployed in October 2014	1.5

- International: Nil

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received.

Nil

20. Research facility//centre with

- **State recognition:** Nil
- **National recognition**

BoP lab is a national recognized laboratory catering to the needs of researchers with multi-disciplinary capabilities. It has facilities for computing, simulating and networking.

Medical Imaging Research Suite (MIRS) - Activities involving investigation of new protocol in the area of Musculoskeletal Imaging. Facilitates student and faculty to carry out research to bring out publications, patents and products. Seeks Industry support for collaborative research.

- **International recognition:** Nil

21. Special research laboratories sponsored by/created by industry or corporate bodies

- NXP Lab - A laboratory facility supported by NXP Semiconductors Pvt Ltd, Bangalore
- Whizchip Lab - A laboratory facility supported by Whizchip Technologies, Bangalore
- Applied Cognition Lab - A laboratory facility supported by Applied Cognition Systems, Bangalore

22. Research Output in last 3 years

Details		2014	2013	2012
Completed funded research projects		Nil	Nil	Nil
Completed non-funded research projects		Nil	Nil	Nil
Completed PhD research projects		2	Nil	1
Completed PG research projects		Nil	Nil	Nil
Completed UG research projects		Nil	Nil	Nil
Publications	International	16	7	8
	National	0	0	0
Books		0	0	0
Chapters in books		0	0	0
Conference presentations	International	6	4	4
	National	8	0	0

Publications

Number of papers published in peer reviewed journals
(national/international): 31

2014 - Papers

1. Trivedi, H and Kumar, Rohit and Tank, Ronak and Sundaresan, C and Madhushankara, M (2014) Implementation of USB 3.0 SuperSpeed physical layer using Verilog HDL. International Journal of Computer Applications, 95 (24). pp. 1-5. ISSN 0975 – 8887.
2. Kumar, Naveen and Nayak, Satheesha B and Prasad, Keerthana and Kudva, Ranjini (2014) Surgical implications of asymmetric distribution of dermal collagen and elastic fibres in two orientations of skin samples from extremities. Plastic Surgery International, 2014. pp. 1-7.
3. Vinay P, Nandish S, (2014) Segmentation of Lung Cancer Using Image Enhancement Techniques and Region Growing Algorithms, International Journal of Engineering Research and Technology, 3(2), February. ISSN: 2278-0181
4. Vinay P, Nandish S, (2014) A Segmented Morphological Approach to Detect Tumor in Brain Images, International Journal of Advanced Research in Computer Science and Software Engineering, 4(1), January 2014. ISSN: 2277-128X
5. Sundaresan C, Chaitanya CVS, Mohan Kumar J, Pr Venkateswaran, Somashekara Bhat, (2014) Novel 16-Bit and 32-Bit Group High Speed BCD Adders, International Journal of Computer Applications, 107(12), pp. 36-38, December.
6. Prem Kumar Lohani, Ranjani K, Ravishankar, Sundaresan C, Chaitanya CVS, (2014) Interfacing of Systemverilog and Systemc Using Transaction Level Modeling, International journal of computers & distributed systems, 4(2), pp. 51-63, June.
7. Mohan Kumar J, Manas Jyoti Sarmah, P.R. Venketeswaran, Gopalakrishna N. Kini, Sundaresan C, Chaitanya C V S, (2014) Intelligent Localization Algorithm for Temperature Monitoring using Wireless Sensor Networks, International Journal of Computer Applications, 94(14), May.
8. Mohan Kumar J, Sandhesh Gowda, Rahul Devi Reddy, Harishchandra Hebbur, Sundaresan C, Chaitanya C V S, (2014) Remote Control based Audio-Video Content Filter Application for Philips 2K10 TV with JointSPACE Architecture, International Journal of Computer Applications Technology and Research, 3(5), pp. 299 – 303.
9. Mohan Kumar J, Leo K Yohan, Sanketh S Shetty, Soumya Mercy Varghese, Sundaresan C, Chaitanya C.V.S, (2014) A synchronized Scheduler/Reminder Application for Philips 2KTV with Joint SPACE platform, International Journal of Scientific Engineering and Technology, 3(5), pp. 579-582, May.
10. C. Sundaresan, CVS Chaitanya, PR Venkateswaran, Somashekara Bhat, J Mohan Kumar, (2014) Design and Development of Vedic Mathematics based BCD Adder, International Journal of Applied Information Systems, Foundation of Computer Science FCS, 9, March.
11. Mohan Kumar. J, Gaurav Sinha, Abhishek Sinha, Linda Varghese and Sundaresan. C, (2014) Android Application for Content Query from Fedena based

- School Management Server, International Journal of Applied Information Systems, 7(1), pp. 20-24, April. ISSN 2249-0868
12. Prabhu V, Rao SBS, Fernandes EM, Rao ACK, Prasad K, et al., (2014) Objective Assessment of Endogenous Collagen In Vivo during Tissue Repair by Laser Induced Fluorescence. PLoS ONE 9(5): e98609.
 13. Naveen K, Pramod K, Keerthana P, Satheesha NB, Ranjini K, Raghuvver CV, (2014) Histomorphometric Analysis of Dermal Collagen and Elastic Fibres in Skin Tissues Taken Perpendicular to Each Other From Head and Neck Region, Journal of Surgical Academia, 4(1) pp 30-36.
 14. Harishchandra Hebbar, Sumanth Mushigeri, Niranjana U C, (2014) “Medical Image Retrieval – Performance Comparison using Texture Features”, International Journal of Engineering Research and Development, 9(9), PP. 30-34, January. ISSN: 2278-067
 15. Deepak Rao B, Dr. Nagesh H R, Dr. H G Joshi (2014) “Sustaining Soil Fertility Using ICT in Indian Agricultural Fields” International Journal of Engineering Research (ISSN:2319-6890)(online),2347-5013(print)Volume No.3, Issue No.1, pp : 18-20, 01 Jan. 2014IJER@2014 Page 18.
 16. Sathyendranath Malli, Dr. Nagesh H R, 3Dr. H G Joshi “A Study on Rural Health care Data sets using Clustering Algorithms” International Journal of Engineering Research ISSN:2319-6890(online),2347-5013(print)Volume No.3, Issue No.8, pp : 517-520 01 Aug 2014 IJER@2014 Page 546

2013 - Papers

17. Rao, Dinesh B and Nayak, Shridhar and Malli, Sathyendranath (2013) Fractals with Variable Scaling Factors using IFS. International Journal of Computer Applications, 81 (17). pp. 1-4. ISSN 0975 – 8887
18. Rao, Dinesh B and Rao, Deepak B and Niranjana, U C (2013) Difference based Non-Linear Fractals using IFS. International Journal of Computer Applications, 80 (13). pp. 38-42. ISSN 0975 – 8887
19. Rao, Dinesh B and Hebbar, Harishchandra H and Upadya, Sudhakara P (2013) Union and Difference of Difference based Fractals using IFS. International Journal of Computer Applications. 81(17): pp. 12-15. ISSN 0975 – 8887
20. Harishchandra Hebbar, Niranjana U C, Sumanth Mushigeri (2013) Content Based Image Retrieval based on Cumulative Distribution Function – A performance evaluation, International Journal of Computer Applications, 81(18), pp. 16 – 22, November. ISSN 0975 – 8887
21. Harishchandra Hebbar, Niranjana U C, Sumanth Mushigeri (2013) Content based medical image retrieval – performance comparison of various methods, International Journal of Computational Engineering Research, 3(11), pp. 47 – 57, November. ISSN 225—3005
22. Vinay Parameshwarappa, Shubha V Patel, Shreya B Nellisara, S Nandish, Kishan Ashok Bhagwat, Ritesh Varma (2013) Remote access of radiological images using android, International Journal of Health System and Disaster Management, 1(4), October.

23. Vinay P, Nandish S, (2013) Edge Detection of Angiogram Images using Image Enhancement Techniques and High Pass Filtering, CiiT International Journal of Digital Image Processing, 5(12), December. ISSN 0974 – 9691

2012 - Papers

24. S.Sreenathkashyap, Chaitanya C.V.S, "Multiple circuit topologies of VCO's for Multi-Standard applications", Volume 2, Issue 7 (August 2012), PP. 07-18, International Journal of Engineering Research and Development.
25. Dinesh Rao B, Ganesh Kamath and Niranjana U C. Article: Randomized Algorithm for Scaling Factors in Fractal Image Compression. International Journal of Computer Applications 41(7):19-22, March 2012. Published by Foundation of Computer Science, New York, USA
26. Dinesh Rao B., Ganesh Kamath and Arpitha K J. Article: Difference based Non-linear Fractal Image Compression. International Journal of Computer Applications 38(1):41-44, January 2012. Published by Foundation of Computer Science, New York, USA. BibTeX
27. Madhushankara M, Chaitanya CVS, "Digital Clock Frequency Multiplier using Floating Point Arithmetic", International Journal of Engineering Research and Development, e-ISSN:2278-067X, p-ISSN:2278-800X, Volume 2, Issue 10, Page no: 01-04, Aug 2012.
28. S.Sreenathkashyap, Chaitanya C.V.S, "Multiple circuit topologies of VCO's for Multi-Standard applications", Volume 2, Issue 7 (August 2012), PP. 07-18, International Journal of Engineering Research and Development.
29. Dinesh Rao B, Ganesh Kamath and Niranjana U C. Article: Randomized Algorithm for Scaling Factors in Fractal Image Compression. International Journal of Computer Applications 41(7):19-22, March 2012. Published by Foundation of Computer Science, New York, USA
30. Dinesh Rao B., Ganesh Kamath and Arpitha K J. Article: Difference based Non-linear Fractal Image Compression. International Journal of Computer Applications 38(1):41-44, January 2012. Published by Foundation of Computer Science, New York, USA. BibTeX
31. Madhushankara M, Chaitanya CVS, "Digital Clock Frequency Multiplier using Floating Point Arithmetic", International Journal of Engineering Research and Development, e-ISSN:2278-067X, p-ISSN:2278-800X, Volume 2, Issue 10, Page no: 01-04, Aug 2012.

*** Monographs**

Nil

*** Chapters in Books**

Nil

*** Edited Books**

Self-Learning Material (SLM) peer reviewed for B.Sc. (IT) – Sikkim Manipal University –Distance Education (SMU- DE)

B.Sc. (Information technology) – Revised Aug 2009 – Curriculum			
S. No.	Subject Code	Subject Title	Faculty Initial
First Semester			
1.	BT0062	Fundamentals of IT	Mr. Sundaresan C
2.	BT0064	Logic Design	Mr. Shridhar Nayak
3.	BT0065	C Programming and Data Structures	Mr. Deepak Rao
4.	BT0066	Database Management Systems	Mr. Sathyendranath Malli
Second Semester			
5.	BT0068	Computer Organization and Architecture	Mr. Shridhar Nayak
6.	BT0070	Operating Systems	Ms. Keerthana Prasad
7.	BT0072	Computer Networks	Ms. Ravikala Kamath
Third Semester			
8.	BT0074	OOPS with Java	Mr. Prashanth Kumar Shetty
9.	BT0075	RDBMS and MySQL	Mr. Balaji B
10.	BT0076	TCP/IP	Mr. Arockiaraj S
11.	BT0077	Multimedia Systems	Ms. Ravikala Kamath
12.	BT0078	Website Design	Mr. Darryl Jeethesh
Fourth Semester			
13.	BT0080	Fundamentals of Algorithms	Mr. B. Dinesh Rao
14.	BT0081	Software Engineering	Mr. Ravindra B V
15.	BT0082	Visual Basic	Ms. Keerthana S
16.	BT0083	Server Side Programming – Theory	Mr. Raghavendra Prabhu
Fifth Semester			
17.	BT0086	Mobile Computing	Mr. Arockiaraj S
18.	BT0087	WML and WAP Programming – Theory	Mr. Ravindra B V
19.	BT0088	Cryptography and Network Security	Mr. Balaji B
Elective 1			
20.	BT8901	Object Oriented Systems	Mr. Prashanth Kumar Shetty
21.	BT8902	E-Commerce	Ms. Keerthana S
22.	BT8903	C# Programming	Mr. Darryl Jeethesh
Elective 2			
23.	BT9001	Data Mining	Mr. Sathyendranath Malli
24.	BT9002	Grid Computing	Mr. Sundaresan C
25.	BT9003	Data Storage Management	Mr. Mohan Kumar J
Sixth Semester			

26.	BT0092	Software Project Management	Mr. Sudhakar U
Elective 3			
27.	BT9301	Computer Graphics	Ms. Keerthana S
28.	BT9302	Human Computer Interface	Mr. Sundaresan C
29.	BT9303	Design Patterns	Mr. Sudhakar U
Elective 4			
30.	BT9401	Pattern Recognition	Ms. Keerthana Prasad
31.	BT9402	Artificial Intelligence	Mr. Mohan Kumar J
32.	BT9403	Virtual Reality	Mr. B. Dinesh Rao

* **Books with ISBN with details of publishers**

NIL

* **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) –** **11 Nos**

- | | |
|--|-----------------|
| * Citation Index – range/average– | 0 to 2 |
| * SNIP- | NA |
| * SJR – | 0 to 0.3 |
| * Impact Factor – range/average – | 0 to 2.5 |
| * h-index - | 0 to 9 |

23. Details of patents and income generated

Patent Submitted:

1. Submitted patent application to Indian Patent Office on method for analysis of reverse dot blot assay, 2011.
2. Submitted patent application to Indian Patent Office on a system and method to transmit line graphs over a telecommunication channel, 2014.
3. Submitted patent application to Indian Patent Office on a system to acquire and analyze images of specimen under a microscope, 2014

Income Generated: NIL

24. Areas of consultancy and income generated

NIL

25. Faculty members selected nationally/internationally to visit other laboratories in India and abroad

S No	Faculty members Name	University/ Laboratories Visited
1	Dr. Harishchandra Hebbar	ESIGELIC, France
2	Mr. Prashanth Kumar Shetty	ESIGELIC, France
3	Mr. Sundaresan C	Lancaster, UK
4	Mr. Mohan Kumar J	GroupT, Belgium

26. Faculty members serving in

a) International committees

Dr. Harishchandra Hebbar: APIN (Asia Pacific Incubators Network)

b) Editorial Boards

Dr. Harishchandra Hebbar: Distance Education, Sikkim Manipal University

27. Faculty member recharging strategies

- We recognize 'Faculty members' as our strength. An effective teaching is the result of faculty members' updation, faculty members' up-gradation and faculty members' awareness of new and changed challenges in the world. Keeping in view of the above, following are encouraged in SOIS
 - Attending workshops, seminars, conferences.
 - Conduction of seminars and conferences.
 - Conduction of faculty development programmes.
- Through informal gathering faculty members are made to realize the socialization effect.
- Two Faculty development Programmes were conducted focusing on
 - Research Methodology
 - Role of statistics in research
- As it is semester system, Adequate vacation is declared (60 days in a year) for the faculty members.

28. Student projects

- The students are selected by industries in IV semester for their internship in V and VI Semester of their respective MSc Tech programmes
- The students are selected by industries in III semester for their internship in IV Semester of their respective MSc programmes

- Percentage of students who have done in-house projects including inter-departmental projects: 10-20%
- Percentage of students doing projects in collaboration with other universities//industry//institute : 80 – 90%

29. Awards/ recognitions received at the national and international level by

* Faculty members

1. CAMTech Innovation Award of US\$50000 for a project on development of a novel approach for cervical cancer screening in resource poor settings.
2. Microsoft Rural Innovation Fund Award of US\$15000 for the BMD Scan project proposal, 2007.
3. Best Paper Award in the International Conference on Biomedical Signal Processing held during March 13-14, 2009
4. IDF Innovation Award of \$500 for the idea submission on Automation of Malaria parasites detection using image analysis by Intellectual Ventures, 2011.

* Doctoral//post-doctoral fellows : NIL

* Students

- IESA (India Electronics & Semiconductor Association), organized a Super Project Contest. SOIS Students Gayathri N. R and Vatsal Patel of M.Sc Tech Embedded Systems, submitted their project titled “Tracking Controller for the Parabolic Reflector with Static Focus”. Our students bagged the 2nd prize and a cash award of INR 50000. The award Ceremony was held at BMS College of Engineering. The prize was given by Mr. Kumaran Venkatesh, Strategy and Operations, IESA, and Mr. Nagarajan, Director, Ekasya Solutions. The project has been carried out at World Renewal Spiritual Trust, Bangalore. This tracking system is currently being used by the NGO World Renewal Spiritual Trust India, at their Mount Abu Solar Plant. ”
- Ms. Anjana Joshi, Ms. Ankitha K. A. and Ms. Manasa B. N of M.Sc. Tech (Embedded Systems) awarded Second Prize (Prize money INR 40,000) for their paper on Intelligent Vehicle using Electric IMP from Infineon.
- Ms. Dhanya Hegde and Mr. Pradeep V of M.Sc. Tech (VLSI) awarded Third Prize (Prize money INR 30,000) for their paper on Low Power consumption concept from Infineon.
- Shilpa Goyal has been awarded Best Intern in Infineon for the year 2013-2014 in Chip Card and Security Division
- Mayank Kumar Dhananiwala of M.Sc. Tech (VLSI CAD) got Qualstar Hall of Fame award from QUALCOMM

30. Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any.

Seminar

- “**Introduction to Version control and SVN tool**” by Mr. N.V. Ramakrishna (Student Intern, SOIS) on 28.01.13
- Guest Lecture –“**Design by Philips**” by Mr. Abhimanyu Kulkarni, Director, Philips Design India on 20.04.13
- TWO days’ workshop on “**Medical Image Processing Application Development Using ITK and VTK**” on 25th & 26th October, 2013
- FOUR days’ ‘**Grant writing and research workshop**’ was conducted during 24-06-2013 to 27-06-2013.
- Guest Lecture “**Embedded System and Next Generation Microcontrollers**” by Mr. Aravinda Sharma (Staff Engineering Manager - Delphi Automotive Systems Pvt Ltd, Bangalore), on 28.09.13
- TWO days’ workshop on “**Python**” was conducted 17-18, August 2013.
- Certificate Program on “**ANDROID - PHASE – I**” was conducted 12 – 31, August 2013
- Talk on ‘**Role of statistics in research**’ by Dr. Sreekumaran Nair, HOD, Department of Statistics on 13th May 2014
- Seminar on ‘**Writing a review paper**’ conducted on 20th March 2014.
- Seminar on “**Research Methodology**” by Dr. Ajith Kumar, TAPMI was conducted on 25-1-2014.
- THREE days Beginner Level workshop on “**Android Application Development**” was conducted during 21- 23, February 2014.
- ONE day workshop on “**Latex**” was conducted on 15th March 2014.
- ONE day Workshop on “**Medical Image Processing Using ITK and VTK**” - 6th SEPTEMBER, 2014.
- ONE day workshop on “**VLSI Design using Cadence Design Suite**” – 6th September 2014.
- TWO days’ workshop on “**PyBerry – Application development on Raspberry Pi using Python**” on 5th and 6th September, 2014

Conference

National Conference on Information Science – 2014

The fifth National conference on Information Sciences (NCIS-2014) was held on Sept 26-27, 2014 at School of Information Science (SOIS), Manipal, Karnataka, India. Theme of the Conference is to provide the forum to researchers, engineers and academia to exchange the current and future trends in Healthcare IT, Electronics systems design and information sciences. NCIS topic is HealthCare IT, Computers science, Electronics System, VLSI, Embedded, Wireless Technology.

The chief guest for the NCIS-2014 was Dr Gopal Krishna Prabhu, Registrar, Manipal

University. Dr. U.C. Niranjan from Manipal Dot Net delivered talk on “Digital Signal Processing on Embedded Systems”, Dr. Somashekar Bhat delivered a talk on “My Teaching Experience in Analog Design” and Dr. Keerthana Prasad, Associate Professor, SOIS delivered talk on “Medical Image Processing- an interdisciplinary approach”

Overall we have received 20 papers of which 16 articles selected and they were registered. Altogether 12 papers from Embedded Systems, 3 papers from Healthcare and 1 paper from VLSI were presented.

Source of funding:

Registration Fees, Sponsorship and Pre-conference workshops

Workshop

#	Expert Name	Topic	No of Days	Year	Institution//industry
1	Mr. Abhimanyu Kulkarni	Design by Philips	1	2013	Director, Philips Design India, Bengaluru
2	Mr. Aravinda Sharma	Embedded System and Next Generation Microcontrollers	1	2013	(Staff Engineering Manager - Delphi Automotive Systems Pvt Ltd, Bangalore)
3	Mr. N.V. Ramakrishna	Introduction to Version control and SVN tool	1	2013	SOIS
4	Krace Kumar Haris Ibrahim Siva Subramanian	Python	2	2013	HasGeek Media LLP, Bengaluru
5	Keerthana S Mohan Kumar J	Certificate Program on Android Phase - II	2	2013	SOIS
6	Dr. Raghuvir Pai Dr. Raviraja Adhikari Dr. C S Adiga	Grant Writing and research workshop	4	2013	MU, Manipal
7	Mr. Nandish S	Medical Image Processing Application Development Using ITK and VTK	2	2013	SOIS

8	Mr. Mohammed Yunus Tonse	Beginner Level hands on workshop on Android Application Development	3	2014	Tonse Technologies
9	Dr. Sreekumaran Nair,	Role of statistics in research'	1	2014	HOD, Department of Statistics, Manipal University
10	Mr. Mayank Malde Ms. Anwitha Shetty	Workshop on "LATEX"	1	2014	SOIS
11	Mr. Sundaresan C Mr. Chaitanya C V S	VLSI Design using Cadence Design Suite	1	2014	Asst. Prof. – Selection Grade Asst. Prof. SOIS
12	Mr. Mohan Kumar J Mr. Samarendranath Bhattacharya	Pyberry – Application Development on Raspberry Pi using Python	2	2014	Asst. Prof. – Selection Grade Asst. Prof. SOIS

31. Code of ethics for research followed by the departments

SOIS has a systematic approach to support research activities. It encourages faculty members and students to pursue their research interest in the area of IT, Embedded, Wireless, VLSI, and IT Management. The research activities are initiated by a committee known as DAC (Doctoral Advisory Committee) headed by Chairman (HoI) and members. The members are selected from the area of research. When a candidate approaches DAC with a write-up of research proposal, the members will be informed of the area of research and during the presentation, members try to understand the originality of the proposal. DAC takes enough caution to admit research scholars who can contribute original knowledge.

32. Student profile course-wise

Centralized admission

Name of the Course	Applications received	Selected		Pass percentage	
		Male	Female	Male/Female	
M.Sc. Tech IT Management	29	1	3	1 (100%)	3 (100%)
M.Sc. Tech Embedded Systems	4080	78	19	72 (92.3%)	18 (95%)
M.Sc. Tech ES & I (ESIGELEC) - Dual Degree		17	1	13 (76.4%)	1 (100%)

Name of the Course	Applications received	Selected		Pass percentage	
		Male	Female	Male/Female	Male/Female
M.Sc. Medical Software		12	10	11 (91.7%)	10 (100%)
MS Computing Technology & Virtualization		6	5	5 (83.3%)	4 (80%)
M.Sc. Tech VLSI Design		49	11	47 (96%)	11 (100%)
M.Sc. Tech VLSI System Design & Verification (Whizchip)		4	1	4 (100%)	1 (100%)
M.Sc. Tech Embedded and Wireless Technology		6	0	6 (100%)	0

Note: Final Project Viva Voce examinations will be held at different slots depending on the completion of the project by students. Hence the pass percentage varies. The above mentioned data is pertaining to the students admitted in August 2012 Batch and the result is as on August 2014.

33. Diversity of students

Name of the Course (refer to question no. 4)	Percentage of students from the same University	Percentage of students from other universities within the State	Percentage of students from universities outside the State	Percentage of students from other countries
M.Sc. Tech Medical Software	2 (14.3%)	5 (35.7%)	7 (50%)	0
MSc Tech VLSI Design	0	28 (70%)	12 (30%)	
MSc Tech Embedded Systems	0	54 (78.3%)	15 (21.7%)	
MSc Tech VLSI System Design and Verification	0	3 (75%)	1 (25%)	
MSc Tech Embedded Systems and Instrumentation – Dual degree program, ESIGELEC France	1 (4%)	19 (76%)	5 (20%)	
MSc Tech Embedded and Wireless Technology	0	9 (82%)	2 (18%)	
MSc Tech Computing Technologies & Virtualization	0	5 (62.5%)	3 (37.5%)	
MSc Information Science	0	6 (86%)	1 (14%)	

Note: Data are of 2014 Admission.

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Nil

35. Student progression

Student progression	Total number
UG to PG	-
PG to MPhil	-
PG to PhD	4
PhD to Post-doctoral	-
Employed	(2014 Internship)
• Campus selection	82.6%
• Other than campus recruitment	11.4%
Entrepreneurs	1

36. Diversity of staff

Percentage of faculty members who are graduates	
of the same university	4% (1/24)
from other universities within the State	71% (17/24)
from universities from other States	25% (6/24)
from universities outside the country	Nil

37. Number of faculty members who were awarded PhD, DSc and DLitt during the assessment period

PhD – THREE

DSc – Nil

DLitt – Nil

38. Present details of infrastructural facilities with regard to

a. Library

Centralized with MIT Library

b. Internet facilities for staff and students

For Faculty Members

All the faculty members are provided laptop with internet connection.

For Students

All the computers in the laboratory are provided with the internet facility.

c. Total number of class rooms

Eight (Air Conditioned class rooms)

d. Class rooms with ICT facility

Eight

e. Students' laboratories

1. Applied Cognition Systems Lab
2. Manipal-Whizchip Lab
3. NXP Semiconductors Lab
4. Imaging Lab
5. Microcontroller Lab
6. Centre for Software Development Lab
7. VLSI Lab
8. Wireless Lab

f. Research laboratories

- All the above mentioned labs are available for the research purpose, even though we focus mainly on training students to the industry.
- All our labs are open for students 24 x 7.

39. List of doctoral, post-doctoral students and Research Associates

a. From the host University

Doctoral Students

- Mr. Prashanth Kumar Shetty
- Mr. Ravindra BV
- Mr. Sundaresan C
- Mr. Mohan Kumar J
- Mr Deepak Rao B
- Mr Sathyendranath Malli
- Mr Raghavendra Prabhu
- Mr Darryl Jeetesh D'souza
- Mr Satish Kumar
- Ms Sulakshna Nayak
- Ms.Moni Kokilam
- Mr.Madhusankara
- Mr.Nandish S
- Mr. Chaitanya CVS

Post-doctoral Nil

Research Associates Nil

b) From other universities

- **Doctoral Students**
- Ms. Vidya Kudva
- Mr. Sandeep Patil H G

Post-doctoral Nil

Research Associates Nil

40. Number of postgraduate students getting financial assistance from the university.

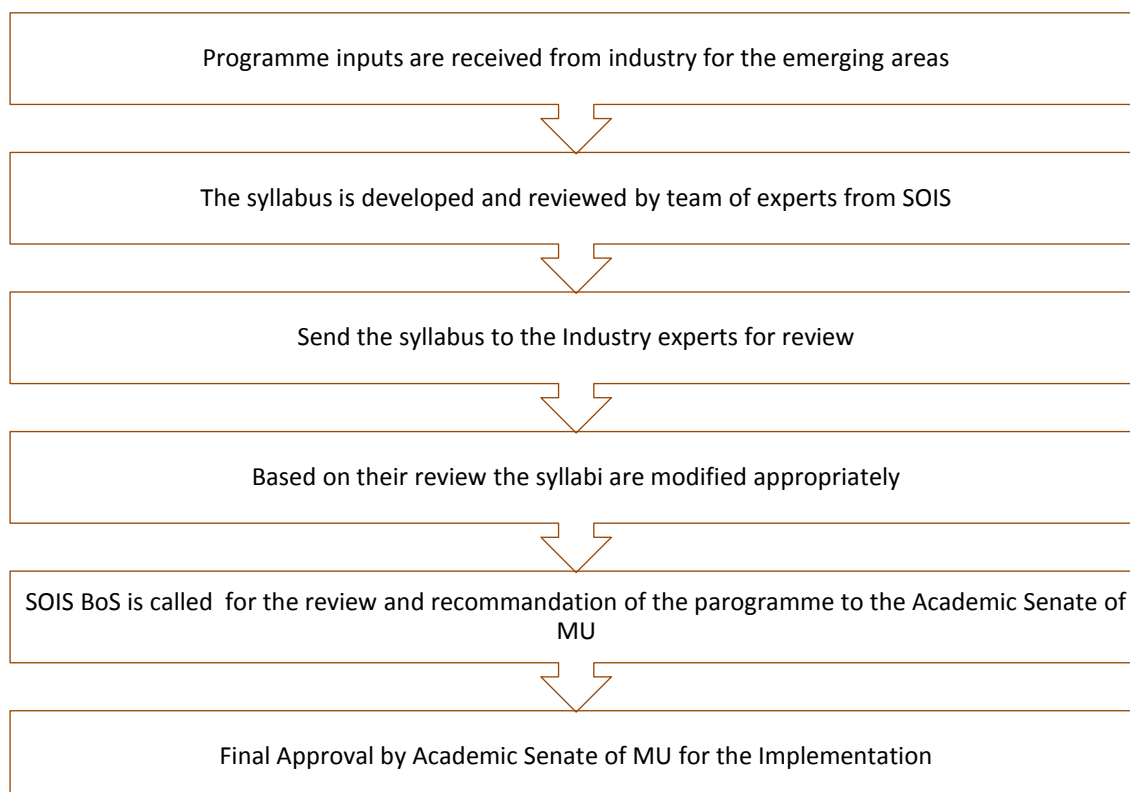
SINo	Year	No of scholarship
1	August 2014	57
2	August 2013	49
3	August 2012	67

Note: The number of scholarships includes: MUOET Ranking students, Konkani Scholarship, Scholarship for Academy of General Education (AGE) Students.

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Yes

Methodology:



42. Does the department obtain feedback from

- a. Faculty members on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Feedback from faculty members on curriculum

- Yes, the team of experts in School of Information Sciences (SOIS) as well as team of experts from industries are called for syllabus review to provide the feedback.
- Yes, BoS members provide the feedback

Feedback from faculty members on teaching- learning –evaluation:

Yes, it is a component of the self-appraisal feedback

- b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

- Yes, online feedback is taken from students on faculty, curriculum and teaching-learning-evaluation process.
- This feedback format contains 5-pointclicker scale.
- This feedback is analysed and necessary steps are taken on the critical areas of the feedback.

- c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

Alumni:

- Yes, there is alumni meet once in a year. The feedback about the institution will be collected during the meet.
- This helps to upgrade the curriculum.
- They also support the students in Internship and placement activities.

Employer:

- Yes. Feedback about the student performance is collected from the industry/institute guide.
- The feedback is used as one of the components of quality measure of the programme.

43. List the distinguished alumni of the department (maximum 10)

- Annaji Rao Garimella: VLSI CAD, AMD Scholar, USA
- Gopal Karemore: Medical Software, Scholarship from Barcelona Spain.
- Sunil H R: Medical Software, Co-founder, Smart Yantra Technologies, Bengaluru

- Ravi Bharadwaj: Medical Software, Sr. Project Manager, GE Medical Systems, Bengaluru
- Rajendra Kurady: Medical Software, Philips Healthcare, Bengaluru
- Yogish Mallya: Medical Software, Philips Research, Bengaluru
- Satish Kumar M: VLSI CAD, Synopsis, Hyderabad.
- Satish Kumar R: VLSI CAD, Intel India, Bengaluru
- Ananth: Medical Software, GE Medical Systems, Bengaluru
- Sandeep Patil HG: Applied Cognition Systems, Bengaluru
- Mohammed Yunus Tonse – Tonse Technologies

44. Give details of student enrichment programmes (special lectures//workshops//seminar) involving external experts.

Special Lectures

- Dr Shridhar Aithal, Professor, TAPMI delivered lecture on “Criticality of Information in healthcare and technology’s role in it”
- Mr Ramesh Kumar, Director, SAP delivered lecture on “Practice of Innovation“
- Dr Somashekara Bhat, Professor, MIT delivered lecture on “Analog Design”
- Mr Santosh D Araballi, Project Manager, NXP Semiconductor delivered lecture on “Introduction to Smart Cards and the Smart Card Reader software”
- Mr Neeraj Palliwal, CEO, NXP Semiconductor delivered lecture on “High Performance Mixed Signal – Making life better not just faster”
- Dr NS Murthy, Managing Director – New initiatives, NXP Semiconductors delivered lecture on “Embedded systems – Enabling pervasive low cost health care for all”
- Dr Hari Kumar, Professor and Head of Department of ECE, BAIT delivered lecture on “Bio Signal processing – Research Issues”
- Dr Prashanth Bhat, CTO, Manipal Dot Net delivered lecture on “IT and Challenges “.
- Dr Narshimha Bhat, CEO ,Manipal Dot Net delivered lecture on “Entrepreneurial Experience”
- Mr Bhaskaran Sr. Manager, Philips Healthcare, Bangalore delivered a lecture on “Creativity and Innovation”.
- Mr Alexius Collette, CEO, Philips Innovation Campus, Bangalore delivered a talk on “Customer Centric Innovation”

Workshop:

#	Expert Name	Topic	No of Days	Year	Institution//industry
1	Mr. Abhimanyu Kulkarni	Design by Philips	1	2013	Director, Philips Design India, Bengaluru
2	Mr. Aravinda Sharma	Embedded System and Next Generation Microcontrollers	1	2013	(Staff Engineering Manager - Delphi Automotive Systems Pvt Ltd, Bangalore)
3	Mr. N.V. Ramakrishna	Introduction to Version control and SVN tool	1	2013	SOIS
4	Krace Kumar Haris Ibrahim Siva Subramanian	Python	2	2013	HasGeek Media LLP, Bengaluru
5	Keerthana S Mohan Kumar J	Certificate Program on Android Phase - II	2	2013	SOIS
6	Dr. Raghuvir Pai Dr. Raviraja Adhikari Dr. C S Adiga	Grant Writing and research workshop	4	2013	MU, Manipal
7	Mr. Nandish S	Medical Image Processing Application Development Using ITK and VTK	2	2013	SOIS
8	Mr. Mohammed Yunus Tonse	Beginner Level hands on workshop on Android Application Development	3	2014	Tonse Technologies
9	Dr. Sreekumaran Nair	Role of statistics in research'	1	2014	HOD, Department of Statistics, Manipal University
10	Mr. Mayank Malde Ms. Anwitha Shetty	Workshop on "LATEX"	1	2014	SOIS

11	Mr. Sundaresan C Mr. Chaitanya C V S	VLSI Design using Cadence Design Suite	1	2014	Asst. Prof. – Selection Grade Asst. Prof. SOIS
12	Mr. Mohan Kumar J Mr. Samarendranath Bhattacharya	Pyberry – Application Development on Raspberry Pi using Python	2	2014	Asst. Prof. – Selection Grade Asst. Prof. SOIS

45. List the teaching methods adopted by the faculty members for different programmes.

- Normal classroom teaching
- ICT enabled teaching
- Online sessions
- Live demonstrations
- Simulation

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- Conducting sessional, Examinations and Assignments
- Evaluating mini-projects
- Evaluating- seminars
- Internship placement
- Alumni/industry Feedback

47. Highlight the participation of students and faculty in extension activities.

- Mithra Association: Mithra Association is established to financially support the under privileged kids.

48. Give details of “beyond syllabus scholarly activities” of the department.

- Industry defined Projects:

An industry defines the project to the students and guides them remotely. On successful completion of the project, the industry will interview the project students and absorb them as their interns...

- Paper presentation:

Institute encourages the students to present their work in the education forum likes conferences and provides the financial assistance to the students.

➤ Sublime:

It is an initiative from idea to proof of concept. This is facilitated jointly by Applied Cognition System & School of Information Sciences.

- Exposure and training on industry standard tools and boards
- Base of the Pyramid (BoP) initiatives

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details.

- ISO 9001 : 2008 certified
- ISO 14001 : 2004 certified

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

- All faculty members are encouraged and financially supported to participate in the national and international conferences, workshops, short-term courses and publish their work in the leading journals.
- Study Leave
- Sabbatical Leave
- Special Casual Leave
- Faculty exchange programme resulted in SAP in the area of ESI, AES and others.

51. Future plans of the department

- International research grants
- Increase research enrolments
- Addition of industry partners in addition to the existing ones.
- Starting of new master's program in the latest area of technology.
- Expansion of Medical Imaging Research Suite (MIRS), a collaborative initiative with Dept. of Radio diagnosis, KMC, Manipal
- Strengthening student exchange programs
- Support student mobility with partner Universities
- Conduction of International conference and Workshops.
- Conduction of National workshops every year.
- Patents submissions.
- Addition of new foreign collaborations.

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strength

- Industry oriented programs
- Good Industry interaction
- Good alumni support
- Inter – disciplinary Curriculum
- Emphasis for Project based learning
- Industry exposure through Internship in industry
- Faculty with Industry experience
- In house Centre for Software Development.

Weakness

- Not able to attract best students
- Research Competency
- Not enough funded projects from government / Industry

Opportunity

- Flexibility in curriculum design & delivery
- Alumni support in curriculum design, delivery & Internship support
- Relatively young institute
- Moderate faculty strength
- Good student to faculty ratio
- Very cooperative faculty (as per the student feedback)
- Study Abroad / International Programs with foreign universities.

Challenges

- New nomenclature, needs time to establish
- Providing industry Internships to all students
- Short period to train students to industry requirements
- Coping with industry changes / requirements
- Meeting industry expectations

1. Name of the Department

Welcomgroup Graduate School of Hotel Administration, Manipal

2. Year of establishment: 1986**3. Is the Department part of a School/Faculty of the university?**

Yes, A Constituent College of Manipal University

4. Names of Programmes/Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)**1. Graduate programs:**

1. Bachelor of Hotel Management
2. BA in Culinary arts
3. Bachelor of Hotel Management, Travel and Tourism

2. Masters/Postgraduate programs:

1. MSc in Dietetics and Applied Nutrition
2. MSc in Hospitality and Tourism Management
3. MSc in Tourism & Hospitality Management (UCB)
4. Post Graduate Diploma in Culinary arts

3. Certificate programs:

1. Cookery for Homemakers
2. Food Service and Waiting in Restaurants
3. Cookery for Commercial Cooks
4. Bakery for Commercial Bakers

5. Interdisciplinary courses and departments involved**Graduate Programs:**

For the Department of Culinary Arts, the services of a subject expert from Faculty of Architecture, Planning and Design of Manipal University are obtained for teaching.

The faculty from the Department of Commerce of School of Management, Manipal University are involved in class room teaching of students of Bachelor of Hotel Management, Travel and Tourism (BHMTT).

Masters/Postgraduate programs:

The services of the subject experts in the Departments of Biochemistry and Physiology of Kasturba Medical College, Manipal are availed for teaching theory and practical aspects of food science for the students of MSc Dietetics & Applied Nutrition conducted at the Department of Allied Hospitality Studies, WGSHA, Manipal.

The services of subject expert from the Department of Civil Engineering, Manipal Institute of Technology, Manipal, a constituent college of Manipal University, are made available for the students of MSc Hospitality and Tourism Management being conducted by Department of Allied Hospitality Studies of WGSHA, Manipal

6. Courses in collaboration with other universities, industries, foreign institutions, etc.**o George Brown College (GBC), Toronto, Canada**

Welcomgroup Graduate School of Hotel Administration (WGSHA), Manipal has partnered with George Brown College, Toronto for student and faculty exchanges. Under the partnership, both the Universities will offer postsecondary programs in culinary arts and provide students an opportunity for dual qualification – a diploma (Diploma in Culinary Management) from GBC and a three year degree (BA Culinary Arts) from Manipal University. Under the program the students will undergo two years of their study at Manipal and one year at GBC.

o University of Waikato (UoW), New Zealand

WGSHA, Manipal has collaborated with University of Waikato for tourism program. Under this scheme, the students are able to gain both a University of Waikato Bachelor of Tourism (Tourism & Hospitality Management) and a Manipal University Certificate in tourism Management. For this three years program, the students will pursue 18 months at Manipal and the remaining 18 months at New Zealand.

In a new collaborative development with Manipal University, students can study the first half of their program for the University of Waikato's Bachelor of Tourism in India and gain a Manipal University Certificate in Tourism Management before travelling to New Zealand to complete the degree and gain first-hand experience of the tourism and hospitality industry in an international setting.

- **International Sommelier Guild**

WGSHA, Manipal is the first hotel management college in India to collaborate with International Sommelier Guild to offer certification programs in Wine Fundamental Level 1 and Level 2 for the students of BHM and BA Culinary Arts. Under this scheme, the students undergo training and certification, as a part of the curriculum, while they are pursuing their first year program. Eligible students will be awarded the certifications by ISG.

- **University College of Birmingham (UCB), UK**

The postgraduate course in MSc Tourism & Hospitality Management is a dual degree program conducted at Manipal University in association with UCB. Under this arrangement the students will pursue their first semester in Manipal and the remaining three semesters at UCB. The degree for the successful candidates will be awarded by UCB.

- **University of California, Riverside, USA**

Under this agreement, the University of California supports and provides overseas industrial training and also the certification for students undergoing the industrial training. The students enrol in academic coursework provided by University of California, leading to a UCR certificate in Hospitality & Tourism Management. The certificate program will be of six months duration.

7. Details of programmes/courses discontinued, if any, with reasons

The institution (WGSHA) was conducting a Postgraduate Diploma program of one year duration leading to the award of Postgraduate Diploma in Dietetics and Applied Nutrition till 2009. On successful completion of the course the students were not able to register themselves as Registered Dietitians as the requirement for the same was MSc. There was growing need for MSc graduates in Dietetics and Applied Nutrition and the industry was also looking for postgraduates with MSc qualification. Considering all these factors, the institution discontinued the Postgraduate Diploma program and converted the same into a two year postgraduate program leading to the award of MSc Degree in Dietetics and Applied Nutrition. The students who had completed their Postgraduate Diploma were given an opportunity to enrol for the MSc program as lateral entry students.

8. Annual/Semester/Choice Based Credit System

The institution follows Annual/Semester Based Credit System for the programs conducted.

9. Participation of the department in the courses offered by other departments

With a view to allow cross exposure to the faculty and to enhance their skills, the faculty of the Department of Management Studies are taking part in the extra-curricular and co-curricular activities of the students of hotel management, culinary arts and dietetics as well. Similarly, the faculty of the operational subjects from the Department of Accommodation Operations and Department of Food and Beverage Management are involved in the student activities that are conducted by the Department of Culinary Arts and Department of Allied Hospitality Studies. To give the students hands on experience of management and the operational aspects of the hotel and tourism industry, the students are exposed to various food festivals, event managements, inter house, intra house and inter-class, intra-class competitions which are being supervised and guided by the faculty of all the departments.

10. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)

	Sanctioned	Filled
Professor	2	2
Associate Professor	13	13
Assistant Professor- Selection Grade	3	3
Assistant Professor- Senior Scale	10	10
Assistant Professor	3	3
Tutor	2	2

11. Faculty profile with name, qualification, designation and specialization (D.Sc./D.Litt./Ph.D./M.Phil., etc.)

Sl #	Name of Faculty	Qualification	Designation	Specialization
1	P.Gopalakrishnan	Masters in Personnel Management, BA Honors in Hotel Management, Certified Hospitality Educators(CHE)	Principal	Accommodation Operations
2	Y G Tharakan	BSc, DHMCT, CHA(USA), CHE(USA), FHCI MA (London), MRSH (UK), PGDTHM, MTM, MMM, MPhil	Professor	F & B Management
3	Thirugnanasamban tham	MBA (HR), BSc, MSc (Hotel Management), MIH	Vice Principal / Associate Professor	F & B Management

4	Rajshekar P	MBA, BA, DHMCT	Associate Professor	F & B Management
5	Shreelatha Rao	MSc(Statistics), PGDOM, PGDHE, PGDM, MBA	Associate Professor	Management Studies
6	HS Sethu	BCom, MCom, PGDFM, MCom(Entrepreneurship)	Associate Professor	Management Studies
7	Valsaraj P	BSc, BHM, MHRM	Associate Professor	F & B Management
8	Vasanthan Sigamany	DHMCTAN,MTM	Associate Professor	F & B Management
9	Ratnadeep Bhattacharya	DHM, MCom, Dip in Office Automation	Associate Professor	Accommodation Operations
10	Rahul Shedbalkar	BHM, Executive General Management Programme, MBA	Associate Professor	Accommodation Operations
11	Keith Shirlvin Nigli	BSc in Catering Technology & Hotel Management, MTM, MPhil	Associate Professor	Accommodation Operations
12	Sandeep Srivastava	DHMCTAN, Craft course in Hotel Reception & Bookkeeping	Associate Professor	F & B Management
13	Kshama H Vishwakarma	DHMCT, BA, MPM	Associate Professor	F & B Management
14	M.S.Siddiqui	BSc Engineering Mechanical, Diploma in Mechanical Engineering, Diploma in Industrial Safety	Associate Professor / Chief Engineer	Engineering
15	Mrs Jyotsna Lobo	MA (Tourism Mgt), DHMCT, CHE, SCHE, M.sc in Hotel Management	Associate Professor	Accommodation Operations
16	Meenakshi Garg	BSc, MSc	Assistant Professor – Selection Grade	Dietetics
17	Vidya Patwardhan	BSc, BLISc,MLISc, Certificate of Professional Advancement, PGDHRM, MHRM, MPhil	Assistant Professor– Selection Grade	Management Studies
18	Rajiv Mishra	BHM, PGDMM, MHM(MSc), MTM	Assistant Professor– Selection Grade	F & B Management
19	Ajith Kumar SJ	BBM, MBA	Assistant Professor-Senior Scale	Management Studies

20	Raghavendra G	MSc, PGDCA, MCA	Assistant Professor–Senior Scale	Management Studies
21	ParithoshDabral	BSc in Hospitality & Hotel Administration, MBA, Certificate in German (A1& A2), Dip. In Training & Development, Sommelier Certificate Level I, UGC NET	Assistant Professor–Senior Scale	F & B Management
22	Pallavi G Shettigar	MPhil, MSc, B.Sc. (Nutrition, Food Service Management& Dietetics)	Assistant Professor - Senior Scale	Dietetics
23	Dayananda Prabhu	BHM, EMBA	Assistant Professor-Senior Scale	F & B Management
24	Prasenjit Sarkar	DHMCT, BSc, MSc in Hotel Management	Assistant Professor–Senior Scale	F & B Management
25	S Kaliappan	DHMCTAN, BA(English), M.Sc. in Hotel Management	Assistant Professor–Senior Scale	F & B Management
26	Arup Kumar Dhar	MBA, BSc in Hotel Management & Tourism, DHMCT & AN	Assistant Professor–Senior Scale	F & B Management
27	Narayan B Prabhu M	MBA, BE	Assistant Professor–Senior Scale	Management Studies
28	Naresh Nayak	BHM, Executive Post Graduate Diploma in Management	Assistant Professor–Senior Scale	Accommodation Operations
29	Anusha Pai	BHM	Assistant Professor	Accommodation Operations
30	Swathi Acharya K	MSc in Nutrition & Dietetics,	Assistant Professor	Dietetics
		PG Diploma In Dietetics		
		BA (Home Science)		
31	Manoj Belwal	DHM, BBA	Assistant Professor	F & B Management
32	Nithish D	BSc in Hospitality Science	Tutor	F & B Management
33	Manish TK	BHM	Tutor	F & B Management

12. List of senior Visiting Fellows, faculty members, adjunct faculty, emeritus professors

With the intention to make available the expertise to the student community, the institution has appointed the following as Adjunct Faculty for teaching and training the students at the institution.

Sl. No.	Name of the Adjunct Faculty	Address	Department & Period
1	Dr. Pradeep Racherla	Asst. Prof. of Marketing, Gene Edwards Professor of Banking, College of Business, West Texas A & M university, Texas, USA	WGSHA for two years from Aug.24, 2013
2	Dr. Crist Inman	Executive Director, Raxa Collective, Earthen Cube, Bund Road, Off NH 47, Bypass, Maradu, Ernakulum 682304, Kerala	WGSHA, Faculty of Architecture, Planning & Design, Dept. of Allied Hospitality Studies, for two years from January31,2013
3	Dr. Srikanth Beldona	Programme Director, MS in Hospitality Business Management, Alfred Lerner College of Business & Economics, University of Delaware, 14 West Main Street, Raub Hall, Newark, DE 19716.	WGSHA for two years from December 19, 2012
4	Dr. Asad Mohsin	Chairperson & Associate Professor, The University of Waikato Management School, Private Bag 3105, Hamilton 3240, New Zealand.	WGSHA, WACA, Dept. of Allied Hospitality, two years from January31,2013.
5	Dr. Dennis Dixon Miller	Baldwin Wallace University, Berea, OH 44017	WGSHA for two years from July 2013
6	Prof. Siddarth Deepak	75 Chestermere Boulevard Toronto, ON M1J2Y2, Canada.	WGSHA for two years from May 12, 2014
7	Dr. Swarup Sinha	Principal, ITC Hospitality Management Institute, ITC Green Centre 10, Institutional Area Sector-32, Gurgaon-122001.	WGSHA for two years from December 30, 2013
8	Mr. M S Neelakantan	Puthanveetu Kallam, Kallur, Post Mankara,Palakkad-678612	WGSHA/DAHS for two years from December 01, 2014
9	Dr.(Chef) K. Damodharan	# 10, Kannadasan Street, Rangarajapuram, Kodambakkam, Chennai-600024	WGSHA/DAHS/DOCA for two years from December 01, 2014

In addition, the institution has been availing the services of the following guest faculty who are subject experts in their fields of study.

1. Dr. Prabhakar Sastri
2. Ms. Mathilde Poirrier
3. Mr. Adithya V Shetty
4. Mrs. Sujaya H
5. Mr. Firaz Khan
6. Ms. Priya Aggarwal

13. Percentage of classes taken by temporary faculty members – programme-wise information

The institution does not have temporary faculty. All the classes, both theory as well as practical, are taken by the full time faculty on the rolls of the institution and by the guest faculty.

The guest faculty services are engaged for the following:

Program	Name of the guest faculty	Number of classes scheduled per week for the faculty	Total number of classes per week	Percent (%)
BHM	Dr. Prabhakar Sastri	2	4 Hrs.	28.57
	Mr. AdityaShetty	3	6 Hrs.	42.85
	Ms. Mathilde Poirrier	3	12 Hrs.	42.85
	Mrs. Sujaya H	4	4 Hrs.	57.14
	Mr. Firaz Khan	4	4 Hrs.	57.14
	Ms. Priya Aggarwal	2	4 Hrs.	28.57

14. Programme-wise Student Teacher Ratio

The following is the number of students studying various programs.

Program	No. of students
BHM	368
BA Culinary Arts	144
MSc Dietetics & Applied Nutrition	67
MSc Hospitality & Tourism	25
BHMTT	34
Total	638

The total number of faculty at the institution is 33. The Student to Faculty ratio is 638:33, i.e.19:1.

15. Number of academic support staff (technical) and administrative staff: sanctioned and filled

	Sanctioned	Filled
College Office	7	7
Accounts & Finance	7	7
Personnel	1	1
Others	22	22

16. Research thrust areas recognized by funding agencies

The inputs and the data from the Travel and Tourism industry suggest that there is a growing need for tapping the potential avenues for development of tourism in the nation, especially in the state of Karnataka. Taking into consideration these, the institution has been motivating the faculty and the students to come up with various research projects that are viable and can be implemented through funding agencies. The hotel industry has shown tremendous growth in the last five years and the need for experts in F & B Production field is growing. The industry is looking forward for people who are certified to take up a career in Production and can initiate qualitative improvements with cost efficiency. The Department of Culinary Arts and the Department of Hospitality Studies are keen to pursue brief projects in these areas and have been trying to approach funding agencies for the same, through Centre for Excellence in Hospitality and Tourism Research of the institution.

17. Number of faculty members with on-going projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise.

Nil

18. Inter-institutional collaborative projects and grants received

ITC has been supporting the student endeavours by offering scholarships to the meritorious students pursuing their program at WGSMA, Manipal. For the year 2013-14 the ITC has contributed Rs.4.25.000=00 in terms of Scholarship to the students, which includes Rs.3,85,000 to BHM students and Rs.40,000 to students of BA Culinary Arts. Besides, the Manipal University offers scholarships to the students whose parents are working in University institutions. The Manipal University also offers Konkani scholarships to the meritorious students who have studied PUC at Academy of General Education colleges and are pursuing their professional degree programs at Manipal University. A total of 15 students, which includes 12 of BHM and 3 of MSc Dietetics & Applied Nutrition, have availed the scholarship in the year 2013-14.

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received

NIL

20. Research facility/centre with

- state recognition Nil
- national recognition Nil
- international recognition Nil

21. Special research laboratories sponsored by/created by industry or corporate bodies

NIL

22. Publications:

Manipal University has established e-Prints digital repository. This facility will archive all the published material produced by the faculty members. It will also archive synopsis of PhD thesis and Master's thesis. The important work that the University faculty members have produced over the years will be available for public access through the internet. It will also allow faculty members across MU to know the work done by their colleagues in other institutions, thereby leading to potential collaborations within the University. It will also facilitate evaluation of the work done by the faculty members. The following are the advantages of the e-Prints archive:

For authors, it provides a central archive of their work and increases dissemination and impact of their research, besides acting as a full CV. For the teaching faculty members, the repository can be used to place teaching material on the web and also as an aid to classroom teaching. For institutions, it will assist in creating more visibility and prestige and also act as an advertisement to funding agencies, potential new faculty members and students. Besides, it will benefit the society at large, as it provides access to literature produced in the University and it ensures long-term preservation of the University's academic output.

The e-Print/repository will have scholarly research, materials produced by the faculty members, and as the author grants the right to the institution to preserve and distribute the work via the repository will have perpetual right on the materials.

The details of research publications and presentations for the last three years are given below:

Type	National / International	2012	2013	2014
		Publication	International	9
	National	7	4	2
Presentation &	International	3	2	2
	National	1	1	1
Books	International	0	3	1
	National	0	2	8

The details of the above are given below:

Journal Articles (2014)

NATIONAL

Gopalakrishnan, Parvadhavardhini (2014) *Assessing Quality of Educational Service by the SERVQUAL Model: Viewpoints of Hotel Management Undergraduate Students at Manipal University in India*. NITTE Management Review: Special Issue on Management Education, 8 (2). pp. 11-22. ISSN 2231-6043

Prabhu, Narayan B. M and Eapan, Merlyn Rose (2014) *Local Community's Perceptions of Eco Tourism in Goa*. ATITHI – Journal of Hospitality and Tourism, 2 (2). pp. 145-154. ISSN 2347-6907

INTERNATIONAL

Bhat, Sridevi k and Acharya, Swathi k and Shettigar, Pallavi G (2014) *Knowledge, attitude and practices study on type ii diabetes and the influence of education on it*. International Journal of Research In Medical and Health Sciences, 4 (5). pp. 63-67. ISSN 2307-2083

Patwardhan , Vidya and Mayya, Suresh and Joshi, H G (2014) *Organizational Role Stress among Managers in the Indian Hospitality Industry*. International Journal of Business and Management Invention www.ijbmi.org , 3 (9). pp. 13-19. ISSN 2319-801X, eISSN 2319 – 8028

Prabhu , Narayan B. M (2014) *An exploratory study on online travel trends and travel behavior of employees working in I.T. organizations in Bengaluru, India*. Global Review of Research in Tourism, Hospitality and Leisure Management (GRRTHLM) - An Online International Research Journal, 1 (3). pp. 179-186. ISSN 2311-3189

Tharakan , Y G (2014) *A Comprehensive Model for Development of Sustainable Health and Wellness Tourism Destination at Manipal*. International Journal of Hospitality & Tourism Systems, 7 (1). pp. 12-26. ISSN 0947-6250

Patwardhan , Vidya and Mayya, Suresh and Joshi , H G (2014) *Research on Career Management of Women Managers in Hospitality Industry: A review and analysis of journal publications of twenty years*. Human Resource Reflection: An International refereed journal of HR and OB. ISSN(Online): 2348-7518

Valsaraj, Blessy Prabha and Valsaraj, Payini and Bhatt, Sripathy M and Prabhu , Ravindra and George, Anice (2014) *Development of Dietary Guidelines for Persons undergoing Haemodialysis.* IOSR Journal of Nursing and Health Science (IOSR-JNHS), 3 (1). pp. 31-35. ISSN 2320-1959.p- ISSN: 2320-1940

Mishra, Rajiv and Pal, Kulwinder (2014) *Empowering Front Office Professionals with Understanding of Guests' Personality Psychology.* .Global Journal of Management and Business Research (GJMBR) , 13 (12). pp. 45-50. ISSN 0975-5853 (Print) & 2249-4588 (Online)

Balasubramanian, Kandappan and Jaykumar , V and Fukey, Leena Nitin and Thirugnanasambantham, K (2014) *Service praxis using tablet personal computer (ipad apps) - A Proposed Framework.* International Journal of Scientific knowledge, 5 (6). pp. 20-28. ISSN 2305-1493

BOOK SECTION

NATIONAL

Valsaraj , P and Singh, D (2014) *Tradition at a Premium: Insights into the Schematic Implementation of Resources in Order to Develop Sustainable Tourist Attractions.* In: Strategic Development Policies and Impact Studies of Sustainable Rural and Community-based Tourism. Prism Books, Delhi, pp. 23-33. ISBN 978-93-80607-61-0.

Srivastava, Sandeep (2014) *EMERGING TRENDS IN IN-ROOM DINING.* In: Hospitality and Tourism Industry: Modernization, Innovations and Opportunities". Gaurav Book Centre. ISBN 9789383316223

Prabhu , Narayan B. M (2014) *An exploratory study on online travel trends and travel behavior of employees working in I.T. organizations in Bengaluru, India.* In: Global Biz Research handbook. J.A. Alpha Business Research and Publishers Pvt. Ltd., chennai, pp. 123-130. ISBN 978-1-941505-14-4

Patwardhan , Vidya and Mayya, Suresh and Joshi, H G (2014) *Workplace based Learning and Career Advancement: Viewpoints of Women in Service Organizations in India.* In: Let's learn. Bloomsbury, New Delhi, pp. 417-433. ISBN 9789384052225

Sarkar, Prasenjit (2014) *Ethicurean- A Study on ethical Food Trends, Opportunities and Risks.* In: Advances in Hotel, Travel and Tourism Research: A Global Perspective. Babarasisdas Chandiwala Institute of Hotel Management and Catering Technology, New Delhi, pp. 93-102. ISBN 978-81-920850-3-6

Rao, Shreelatha (2014) *Dimensions of service quality in restaurants: a comparative study in udupi and dakshina kannada districts.* In: Global Conference on Service Management. Auro University, Surat, pp. 44-46. ISBN 13: 978-81-928189-2-4

Patwardhan , Vidya and Mayya, Suresh and Joshi , H G (2014) *Organizational Role Stress among Managers in the Indian Hospitality Industry.* In: Global conference on service management. AURO University, Surat, pp. 47-50. ISBN 9788192818924

Valsaraj , P and Patwardhan , Vidya and Shettigar, Pallavi G (2014) *RELATIONAL EFFECT OF OCCUPATIONAL STRESS ON JOB SATISFACTION AND GENERAL WELLBEING AMONG CHEFS IN INDIA.* In: Global conference on service management. AURO University, Surat, pp. 38-46. ISBN 9788192818924

INTERNATIONAL

Nayak, Naresh P (2014) Customer's Awareness of Environment-Friendly Initiatives in Hotels. In: .Global Business economics and sustainability. J A Alpha Business Research and Publishers Pvt. Ltd., Dubai, pp. 22-41. ISBN 978194505168

Conference**NATIONAL**

Subramanian, Karan and Shinde, Prasad and Prabhu , Narayan B. M (2014) A Study to understand the travel behavior and travel media trends of IT employers in Bengaluru. In: Tourism, Hospitality and Management – An interdisciplinary approach towards advanced research , Feb 18-19 2014, Christ University,Bengaluru. (Unpublished)

INTERNATIONAL

Rajshekhkar, P (2014) Green Practices in the Food Service Industry at Manipal – A Study. In: ENIT - Agenzia Nazionale del Turismo 4TH INTERNATIONAL CONFERENCE ON TOURISM MANAGEMENT AND RELATED ISSUES, Sept, 18-19-2014, Rome, Italy. (Submitted)

Shedbalkar, Rahul Satish (2014) Novel Application Technology & Trends in Hospitality Management Tutelage. In: UNSPECIFIED.

Journal Articles (2013)**NATIONAL**

Garg , Meenakshi and Jindal , Shradha (2013) Dual burden of malnutrition in mother-child pairs of the samehousehold: Effect of nutrition transition. Journal of Nutrition Research, 1 (1). pp. 1-7. ISSN 2348 –1064

Rao, Shreelatha (2013) Linear Programming for Revenue Management in Hotel Industry. Journal of Hospitality Application & Research, 8 (1). pp. 3-7. ISSN 0973-4538

Patwardhan , Vidya and Rao, Shreelatha (2013) Student perspectives of industrial training experience in hospitality industry: A study. Indian Journal of Hospitality & Tourism Research, 5. pp. 21-27. ISSN 09754954

Rao , Shreelatha and Patwardhan , Vidya (2013) A study of factors moderating student's selection of hospitality program in India. Indian Journal of Hospitality & Tourism Research, 5. pp. 68-73. ISSN 09754954

INTERNATIONAL

Nayak, Naresh P. and Prabhu , Narayan B. M (2013) A study on alcohol consumption patterns and preference of liquor over wine amongst the youth in Manipal. Journal of Hospitality and Tourism (Atithi), 1 (1). pp. 77-88. ISSN 2347-6907

BOOK SECTION

NATIONAL

Rajshekhar, P (2013) *Proceedings of State Level Conference on “Latest Trends in Hospitality and Tourism Industry”*. In: UNSPECIFIED UNSPECIFIED, pp. 35-42.

Nayak, Naresh P and Prabhu, Narayan B M (2013) *Socio-Economic Impacts on Pilgrimage tourism with reference to Udupi Sri Krishna Mutt, Karnataka*. In: 4th Annual National seminar on business and management of tourism. Centre for publications, Christ University, Bangalore, pp. 63-71. ISBN 97893-8230511-8.

INTERNATIONAL

Nayak , Naresh and Prabhu , Narayan B. M (2013) *A Gap Analysis on perspectives of Managers and Guests with regards to Guestrooms of four star hotels in Cochin, Kerala*. In: Paper proceedings of International conference on Tourism and Hospitality management 2013(online). International Center for Research and Development, Srilanka, pp. 94-107. ISBN 978-955-4543-20-1

Prabhu , Narayan B. M and Nayak, Naresh P (2013) *INFLUENCE OF ADVERTISING MEDIA ON TRAVEL PLANNING OF EMPLOYEES WORKING IN I.T. ORGANIZATIONS IN BANGALORE, INDIA*. In: Paper Proceedings of the International conference on Tourism and Hospitality management 2013(online). International Center for Research and Development, Srilanka, pp. 129-138. ISBN 978-955-4543-20-1

Pai , Anusha and Prabhu , Narayan B. M and Nayak , Naresh P (2013) *Pilgrim Satisfaction - a case study of Udupi Sri Krishna Temple*. In: Paper proceedings of the international conference on Tourism and Hospitality management 2013(online). International Center for Research and Development, pp. 6-13. ISBN 978-955

Conference

NATIONAL

Prabhu , Narayan B. M and Nayak , Naresh and Somaya, T M (2013) *A resort overcoming pitfalls to increase the footfalls - a case study of Kadkani River resort*. In: National Seminar on Business and Management of Tourism, 8-9th Feb 2013, Bengaluru. (Unpublished)

INTERNATIONAL

Parvadhavardhini , G and Prabhu , Narayan B. M (2013) *Globalisation of Indian Hotel Industry*. In: Department of Hotel, Restaurant & Institutional Management Alfred Lerner College of Business and Economics, , 24 September 2013, University of Delaware, Newark, USA. (Unpublished)

Tharakan , Y G (2013) *A model for sustainable Health and Wellness Tourism at Manipal based on Hypothetical and Motivational Analysis*. In: 4th International Research Symposium in Services Management , 2-6th July,2013, Kerala .

Journal Articles (2012)

NATIONAL

1. Garg, Meenakshi and Sharma ,Richa (2012) Prevalence of PICA Practice among Pregnant Women in and around Manipal, Udupi District, Karnataka. Health and Population-Perspectives and Issues, 33 (2). pp. 86-95. ISSN 0253-6803
2. Tharakan , Y G (2012) Development of a Health and Wellness Centre at Manipal – an introspection. Journal of Hospitality Application & Research, 7 (2). pp. 52-66. ISSN 0973-4538
3. lobo, Jyotsna and Shedbalkar, Rahul (2012) Innovative practices: technology and applications in hospitality management education. Samyoga – An Academic Journal , 7 (2). pp. 8-18. ISSN 2231- 3362
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INTERNATIONAL

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6. Rajshekhar, P (2012) Mangalore & Manipal—An ideal destination to promote medical tourism. In: Annual International Conference on Tourism and Hospitality Research (THOR 2012), 9-10th July2012, Singapore
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8. Nayak, Naresh P and Prabhu, Narayan (2012) Health Tourism Karnataka, India (An Insight). In: 5th International Colloquium on Tourism and Leisure (ICTL) 2012, 9-12 July, Bangkok, Thailand
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BOOK SECTION

NATIONAL: Nil

INTERNATIONAL: Nil

Conference

NATIONAL

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23. Details of patents and income generated

NIL

24. Areas of consultancy and income generated

NIL

25. Faculty members selected nationally/internationally to visit other laboratories in India and abroad

The institution has always been in the forefront in the country and has consistently been ranked among the top 5 hotel management institutions of India. To keep pace with the changing needs of the industry and the requirements and to bridge the gap between supply and demand, the institution frequently reviews the curriculum for pathway mapping. For this, the faculty are deputed to various institutions and industries, both India as well as abroad, to gain first-hand information about the changes happening in the academia and the industry. The following faculty have been selected to visit other laboratories (institutions of repute and the hotel industry) within and outside India.

1. **Prof. Parvadhavardhini Gopalakrishnan**, Principal:

- February 2013 – Visited George Brown University, Toronto, Canada
- September 2013 – Visited University of Delaware, USA
- December 2012 – Visited various Universities in New Zealand on the invitation of Giles Brooker Group. The programme included visit to and interaction with the authorities of North Shore International Academy, International Travel College, New Zealand Wine Institute, Massey University Institute of Food, Nutrition & Human Health, Auckland Tourism Events & Economic Development, Massey University (Albany Campus), Hospitality Standards Institute of New Zealand, Hospitality Association of New Zealand, , Waiariki Institute of Technology, University of Waikato
- November 2011 – Visited France & Canada – Le Cordon Bleu, Paris and Centennial College, Toronto, Canada

2. **Mr. Thirugnanasambantham**, Associate Professor, F & B Management & In-charge, Department of Culinary Arts:

- July 2012: Was deputed for annual refresher training at Prego, Taj Coromandel, Chennai with an intention to provide him hands on experience in a reputed hotel industry and its modern kitchen.
- February 2014 – Visited George Brown University, Toronto, Canada

3. **Chef P Valsaraj** – Visited Synthite, Cochin in December 2014 to familiarise the process of food processing as per the latest fssai and HACCP guidelines, food audits and certificates and quality management system of spices and oleoresins.
4. **Mr. Keith Shirlyin Nigli**, Associate Professor, Department of Accommodation Operations:

November 2011: Mr. Keith was deputed to Working Group Meeting (WGM) for Development of Modular Curricula in the area of institutional housekeeping organised by PSS Central Institute of Vocational Education, a constituent unit of NCERT, Bhopal from November 14-18, 2011.

5. **Mrs. H.S. Sethu**, Associate Professor and **Mr. Ajith Kumar**, Assistant Professor-Senior Scale, Dept. of Management Studies:

March 2011: Train the trainer workshop conducted by Chartered Institute of Management Accountants, Mumbai for the faculty who teach or intend to teach the CIMA qualification to prepare and deliver curriculum effectively.

26. Faculty members serving in

a) National committees b) International committees c) Editorial Boards d) any other (please specify)

1. Ms Meenakshi Garg: Participant in the MCHN research priority setting exercise being conducted by The INCLEN Trust International and Life member of the Indian Association of Enteral and Parenteral Nutrition (IAPEN).
2. Ms Pallavi Shettigar: Life member of Indian Dietetic Association
3. Prof Y G Tharakan – On the Editorial Board of International Journal of Hospitality and Tourism Systems ISSNNo.0947-6250
 Prof. Y G Tharakan - On the Editorial Board of International Journal of Social Sciences (TIJOSS) ISSN 2305-4557. Board of Studies member Calicut University Calicut, Mangalore University and Dr. MGR University, Chennai.
 Prof. Y G Tharakan – Fellow of the Institute of Hospitality, London.UK.
 Prof. Y G Tharakan - Member of Indian Federation of Culinary Association.
4. Chef. Thirugnanasambantham – member of Indian Federation of Culinary Association (IFCA), member of Board of Studies for the Hotel Management, Christ University Bangalore, member of Board of Studies for the Army Institute of Hotel Management, Bangalore.
5. Chef. P Valsaraj – Life membership (NO LM/51) in Society for Applied Biotechnology.
6. Ms. Swathi Acharya – Life member of Indian Dietetic Association.

27. Faculty members recharging strategies

The University has a defined policy that provides research incentives and supports the faculty members for participation in workshops, seminars, conferences (both national as well as international). Besides these, the faculty members are encouraged to involve in inter disciplinary research/learning activities as the campus has many professional institutions catering to the requirements of different sectors of industry. The institutions are encouraged to conduct seminars, workshops and conferences on their own and are also encouraged to bring in experts both from India as well as abroad. Besides the above, the University grants sabbatical leave/study leave to the deserving faculty members as per the defined norms.

28. Student projects

- percentage of students who have done in-house projects including inter-departmental projects:

The students are required to undergo industrial training internal, as a part of the curriculum. Each student spends about 25% of his total duration of study in these trainings. As a part of the academic requirement, all the students have to compulsorily submit research projects to the institution which forms a part of their examination as well.

- percentage of students doing projects in collaboration with other universities/industry/institute:

The students who take up their training in hotel and hospitality industry undergo not only intensive training but also do a small time research project that may suit the industry where they are posted.

29. Awards/recognitions received at the national and international level by

1. Faculty members:

- Prof. Parvadhavardhini Gopalakrishnan, Principal of Welcomgroup Graduate School of Hotel Administration has been listed among 'Top 100 most influential people in the hospitality industry' as reported by Hotelier India Magazine, September 2013.
- Prof. Parvadhavardhini Gopalakrishnan, Principal of Welcomgroup Graduate School of Hotel Administration has been also honoured by CSR in April 2013 and April 2014.
- Prof. Y G Tharakan - has been Presented "Life Time Achievement Award" in February, 2015 for the contribution to the Hospitality and Tourism Education in India by the Indian Hospitality Congress.
- Prof. Y G Tharakan - Participated as the Key Note Speaker at the International Conference on Tourism and Hospitality Management (ICTHM-2014) at Colombo, SriLanka.

- e) Prof. Y G Tharakan - Participated as the Key Note Speaker at the National Conference on February, 2015 conducted at the DY Patil University, Mumbai.

2. Doctoral/post- doctoral fellows Nil

3. Students : Nil

30. Seminars/Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.

Name of the programme	Held from	Held till
International Symposium on Centre for excellence in Hospitality and Tourism research	03/02/12	03/03/12
Guest Lecture/ Cooking Demonstration	16th April 2013	
Salad Demonstration	16th April 2013	17th April 2013
“Student Challenge -Take Off”	27th August 2013	
Food Photography workshop	6th Sept 2013	7th Sept 2013
Demonstration on ‘Contemporary Restaurant and Plated Desserts’	11th Sept 2013	12th Sept 2013
Hosted WGSMA Quest	13th September 2013	14th September 2013
Barry Callibaut - Chocolate workshop	16th Sept 2013	18th Sept 2013
Conducted First Simulation	21st September 2013	
Coordinated the Student Council Installation.	17th August 2013	
Planned and coordinated the Welcome party	24th August 2013.	
Italian, Thai and Bakery Demonstration	7th October 2013	
Biryani, Kebab & Carving Demonstration	8th October 2013	
International Chefs Day/World Bread Day	19th October 2013	
Mexican and Chocolate Demonstration	9th October 2013	
Workshop on ‘Photography and Photoshop’	26th October 2013	31st October 2013
Brand Scan event	27th October 2013	
Live Culinary Demo (Indian Cuisine) for MU faculty and Staff	27th Dec. 2013	
Live Culinary Demo (Baking & Patisserie) for MU faculty and Staff	28th Dec. 2013	
Live Culinary Demo (Salads & Cookies) for Kids of MU Faculty and Staff	29th December 2013	
Sugar work demo	10th March 2014	11th March 2014
Mediterranean Cooking Demonstration	21.04.2014	24.04.2014

31. Code of ethics for research followed by the departments:

The Institutional Research Committee (IRC) at WGSHA reviews the research proposals by the faculty and students. The faculty publications and presentations are sent to IRC for review which suggests modifications, if any, before the same are finalised and presented. All the research proposals are strictly complied with for ethical clearance as per the procedure laid down by Manipal University for ethical clearance. The postgraduate students pursuing their dietetics & applied nutrition course take the clearance from the Ethical Committee of the Kasturba Hospital, Manipal, before the proposals are taken up for research.

32. Student profile course-wise:

2013-14:

Name of the Course	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
Bachelor of Hotel Management	712	50	17	100%	100%
BA in Culinary arts	699	31	12	93.54	100%
Bachelor of Hotel Management, Travel and Tourism	697	10	3	100%	30%
MSc in Dietetics and Applied Nutrition	39	3	17	100%	100%
MSc in Hospitality & Tourism Management	27	8	-	100%	100%
MSc in Tourism Management	0	0	0	0	0
Certificate programs in:					
a. Cookery for Homemakers	7	3	4	100	100
b. Food Service & Waiting in Restaurants					
c. Cookery for Commercial cooks					
d. Bakery for Bakery for Homemakers	6	0	6	0	100

Besides the above, the Department of Culinary Arts has conducted many classes/workshops/practicals with a view to facilitate learning and to create more awareness in the participants about various aspects of Food Production and operations. The details of the same are given here below.

Photography Work Shop (2 Days)	66	50	16	100	100
Plated Desert Presentation Work Shop (2 Days)	20	13	7	100	100
Chocolate Work Shop (2 Days)	20	13	7	100	100
International Chef Day Italian, Thai, & Bakery Demonstration (1 Day)	43	30	13	100	100
Biriyani,Kebab &Carving Demonstration (1 Day)	35	19	16	100	100
Mexican and Chocolate Demonstration (1 Day)	41	22	19	100	100
Indian Cuisine :- (1 Day Workshop for MU Faculty & Staff)	22	7	15	1000	100
Bakery Demonstration (1 Day Workshop for MU Faculty & Staff)	21	5	16	100	100
Salad & Cookies Demo 1 Day Workshop for MU Faculty & Staff's Kids)	10	4	6	100	100
Indian Cuisine:- (1Day Workshop for MARY Land University Students)	12	1	11	100	100
Sugar Art Work Shop (2 Days)	29	20	9	100	100
MIT REVELS-2013 Bakery Demonstration:- (1 Day)	23	12	11	100	100
Kebab Demonstration:- (1 Day)	24	15	9	100	100
Mock tail Demonstration:- (1 Day)	26	14	12	100	100
Tai Demonstration:- (1 Day)	24	12	12	100	100

2014-15:

Name of the Course	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
Bachelor of Hotel Management	964	111	34	96.07	100%
BA in Culinary arts	943	36	26	100%	96.15%
Bachelor of Hotel Management, Travel and Tourism	945	10	3	90%	100%
MSc in Dietetics and Applied Nutrition	59	02	43	100%	100%
MSc in Hospitality & Tourism Management	36	12	5	100%	100%
MSc in Tourism Management	0	0	0	0	0
Certificate programs in:					
a. Cookery for Homemakers	2	1	1	100	100
b. Food Service & Waiting in Restaurants	0	0	0	0	0
c. Cookery for Commercial cooks	5	2	3	100	100
d. Bakery for commercial bakers	0	0	0	0	0

Besides the above, the Department of Culinary Arts has conducted many classes/workshops/practical with a view to facilitate learning and to create more awareness in the participants about various aspects of Food Production and operations. The details of the same are given here below.

Name of the Course	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
Culinary Work Shop For M U Faculty	16	1	15	100	100
Culinary Work Shop For Kids	23	7	16	100	100
Indian Cuisine (1 Day Workshop for MARY Land University Students 16.01.15)	13	2	11	100	100
Indian Cuisine (1 Day Workshop for Study abroad program Students)	13	1	12	1000	100
Bakery Demonstration, (MIT Revels 15)	24	9	15	100	100
Italian Demonstration (MIT Revels 15)	24	6	18	100	100
Mock tail Demonstration, (MIT Revels 15)	21	9	12	100	100
Sizzlers Demonstration (MIT Revels 15)	23	8	15	100	100

33. Diversity of students:

Name of the Course	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
Bachelor of Hotel Management	0	26.86	71.64	1.49
BA in Culinary arts	0	14	75	11
Bachelor of Hotel Management, Travel and Tourism	0	38.46	61.54	0
MSc in Dietetics and Applied Nutrition	0	45	55	0
MSc in Hospitality & Tourism Management	0	0	100	0
MSc in Tourism Management	0	0	0	0
Certificate programs in:				
1. Cookery for Homemakers	0	71	29	0
2. Food Service & Waiting in Restaurants				
3. Cookery for Commercial cooks	0	50	50	0
4. Bakery for Homemakers				
<p>Besides the above, the Department of Culinary Arts has conducted many classes/workshops/practicals with a view to facilitate learning and to create more awareness in the participants about various aspects of Food Production and operations. The details of the same are given here below.</p>				
Photography Work Shop (2 Days)	88	12	0	0
Plated Desert Presentation Work Shop (2 Days)	100	0	0	0
Chocolate Work Shop (2 Days)	100	0	0	0
International Chef Day Italian, Thai, & Bakery Demonstration (1 Day)	100	0	0	0
Biryani, Kebab & Carving Demonstration (1 Day)	100	0	0	0
Mexican and Chocolate Demonstration (1 Day)	100	0	0	0

Indian Cuisine :- (1 Day Workshop for MU Faculty & Staff)	100	0	0	0
Bakery Demonstration (1 Day Workshop for MU Faculty & Staff)	100	0	0	0
Salad & Cookies Demo 1 Day Workshop for MU Faculty & Staff's Kids)	0	100	0	0
Indian Cuisine:- (1Day Workshop for MARY Land University Students)	0	0	0	100
Sugar Art Work Shop (2 Days)	100	0	0	0
MIT REVELS-2013 Bakery Demonstration:- (1 Day)	100	0	0	0
Kebab Demonstration:- (1 Day)	100	0	0	0
Mock tail Demonstration:- (1 Day)	100	0	0	0
Tai Demonstration:- (1 Day)	100	0	0	0

2014-15:

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
Bachelor of Hotel Management	0	23.88	76.12	0
BA in Culinary arts	0	24	76	0
Bachelor of Hotel Management, Travel and Tourism	0	53.84	46.16	0
MSc in Dietetics and Applied Nutrition	0	57.14	40.47	2.38
MSc in Hospitality & Tourism Management	0	31.25	68.75	0
MSc in Tourism Management	0	0	0	0
Certificate programs in				
1. Cookery for Homemakers	0	100	0	0
2. Food Service & Waiting in Restaurants				
3. Cookery for Commercial cooks	0	100	0	0
4. Bakery for commercial bakers				

Besides the above, the Department of Culinary Arts has conducted many classes/workshops/practicals with a view to facilitate learning and to create more awareness in the participants about various aspects of Food Production and operations. The details of the same are given here below.

Name of the Course (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
Culinary Work Shop For M U Faculty	0	100	0	0
Culinary Work Shop For Kids	0	100	0	0
Indian Cuisine (1 Day Workshop for Mary Land University Students 16.01.15)	0	0	0	100
Indian Cuisine (1 Day Workshop for Study abroad program Students)	0	0	0	100
Bakery Demonstration (MIT Revels 15)	100	0	0	0
Italian Demonstration(MIT Revels 15)	100	0	0	0
Mock tail Demonstration, (MIT Revels 15)	100	0	0	0
Sizzlers Demonstration (MIT Revels 15)	100	0	0	0

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

NIL

35. Student progression

Student progression	Percentage against enrolled
UG to PG	2%
PG to M.Phil.	NIL
PG to Ph.D.	NIL
Ph.D. to Post-Doctoral	NIL
Employed	
• Campus selection	59.30%
• Other than campus recruitment	
Entrepreneurs	40.70%

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	9 %
from other universities within the State	34 %
from universities from other States	54%
from universities outside the country	3 %

37. Number of faculty members who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period

NIL

38. Present details of infrastructural facilities with regard to

Library:

- a) The College has a well-stocked library with nearly 10134 books on Hotel Management, Tourism and allied subjects. In addition, it subscribes to nearly 60 journals on general and trade subjects from all over the world. The library also has a large section devoted towards general reading including sports, history, culture, and fine arts. The college library is equipped with 12 computer terminals with e-mail and internet facilities.

Book Bank: Course books prescribed by the college are available in the Library and are issued to students at the beginning of the Academic Year. Students are required to deposit the textbook at the Library at the end of the Course in a good condition. Value of the book in case of non-deposit or the loss thereof would have to be paid for by the concerned student as per the rule.

E-Resources: The Library subscribes to the following online databases:

- **EBSCO Hospitality and Tourism Complete:** EBSCO Hospitality & Tourism Complete covers scholarly research and industry news relating to all areas of hospitality and tourism. This collection contains more than 828,000 records, with coverage dating as far back as 1965. There is full text for more than 490 publications, including periodicals, company & country reports, and books.
- **Culinary Arts Collection:** Culinary Arts Collection: The Culinary Arts collection includes 150 of the major cooking and nutrition magazines. Coverage includes thousands of searchable recipes, restaurant reviews, and industry information.
- **Hospitality, Tourism and Leisure Collection:** With current and relevant content from over 500 industry journals, this collection provides well-rounded coverage of both the historical and current state of affairs in the hospitality and tourism field, while also allowing for focused study of specialized aspects of the industry - including cultural aspects of travel, leisure activities, economic aspects of tourism, and more.

b) Internet facilities for staff and students:

Institute has latest ICT to support students and faculty in teaching, learning and research activities of the institute. Institute also has access to digital resources through intranet of Manipal University. Students have their own laptops. The institution has provided computers at Computer Lab, Library.

Computer lab is well-equipped with PCs with internet of 30mbps, facilities such as scanners, printers and CD writers are also available for peripheral support. The institute has several digital subscriptions such as Emerald, EBSCO to provide students and faculty access to latest business publications. The lab is equipped with the latest software applications including MS Office, SPSS, Opera – Hotel Information System software etc.

Learning Management System is used to communicate academics information between students and faculty. The entire campus is Wi-Fi enabled all class rooms have been provided with internet access point (LAN), Wi-Fi and LCD.

All departmental staff like college office, HR and accounts have individual desktops and ERP - PeopleSoft software - is used for HR and Accounts of the college.

c) Total number of classrooms: 13

d) Class rooms with ICT facility:

All the Class Rooms are air-conditioned and have all ultra-modern information and communication tools and audio-visual arrangements. In addition, the classrooms are provided Wi-Fi connectivity so that the students can avail access to internet facilities in the class also.

e) Students' laboratories:

The institution has laboratories for the students to get trained in front office, housekeeping, F & B Service and F & B Production. Quantitative Kitchen and Lab Kitchens providing opportunities for students to get hands on experience have all modern kitchen equipment. The laboratories are well connected with gas pipelines and electric supply for the kitchen to operate.

f) Research laboratories:

The students while pursuing their course do small time research in the F & B Service and Production labs under the supervision and guidance of faculty. These include research on various service designs and production operations and skills which form a part of their curriculum.

39. List of doctoral, post-doctoral students and Research Associates

- From the host university NIL
- From other universities NIL

40. Number of under graduate students getting financial assistance from the University.

The Manipal University offers following scholarships to the meritorious students:

Particulars	# students	
	2013	2014
KONKANI SCHLARSHIP	9	13
SAGES	1	1
AGE scholarship	2	-
STAFF CHILD/SPOUSE	2	3
TOTAL	14	17

Besides the above, the Manipal University has a policy to provide financial assistance / tuition fee waiver for spouse/children of the employees for studying professional courses at Manipal University institutions.

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

As per the University Policy, before any course is introduced a Preliminary meeting of the Board of Studies is conducted. The Board will have external / industry experts. Before any course is started, the Board obtains formal and informal feedback from the industry to understand and justify the need for the course. Besides, the expertise of the external/industry experts and the job/placement opportunities for the graduates the new courses are also considered. Then the Board submits the proposal to the Academic Senate of the University for consideration. The course to be introduced would be started on approval of the Academic Senate.

42. Does the department obtain feedback from

- a. Faculty members on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes. The BHM curriculum is being regularly upgraded based on the feedback. The latest curriculum revision was approved in November 2014 by the Board of Studies and Academic Senate of Manipal University.

- b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Yes. The BHM curriculum is being regularly upgraded based on the feedback. The latest curriculum revision was approved in November 2014 by the Board of Studies and Academic Senate of Manipal University.

The teaching-learning evaluation is included in the annual faculty performance appraisal and also it helps faculty members to identify the areas for their professional and personal development.

- c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

The students who are sent for training at various hotels across the country give feedback. This feedback helps to add value to and improve on the applications component of the syllabus and incorporate the same into the curriculum delivery and training of our students.

43. List the distinguished alumni of the department (maximum 10)

Course	Admitted & Completed	Name of Alumni	Designation
BHM	2002-2006	Mr. Bhuvan Ravi Shankar	Senior Kitchen Executive
	2007-2011	Ms. Sri Lakshmi Nanditha Bhaskar	Duty Manager
	2009-2013	Ms. Manpreet Chabba	Management Trainee
	2007-2011	Mr. Shashank Bhatia	Asst Manager(F&B)
	2007-2011	Ms. K Swetha Reddy	. HR Executive
	2007-2011	Ms. Subajyoti Jew	Air Hostess
	2008-2012	Mr. Abhishek Mittal	Asst Manager(F&B)
	2003-2007	Mr. Girish Nayak	Pastry Chef
	2004-2008	Mr. Naresh Nayak	Asst Professor
2004-2008	Ms. Anusha Pai	Asst Professor	

44. Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts.

WGSMA, Manipal has conducted the following training programmes/workshops/faculty sensitization programmes:

- 16th April 2013 - Guest Lecture/ Cooking Demonstration by Chef Joachin/ Mrs. Carol Allen, Western Institute of Technology at Taranaki (WITT) for Culinary Arts Students.
- 16th & 17th April 2013 - Salad Demonstration at Madhava Kripa School.
- Briefing on “Student Challenge -Take Off” by Ms. Vaishali – HR Manager, Ibis Hotel (Accor Group), Bengaluru & team on 27th August 2013 for 3rd Year B.A. in Culinary Arts students.
- 2 days Food Photography workshop by Dr. Deepak John Mathew on 6th & 7th Sept 2013
- Demonstration on ‘Contemporary Restaurant and Plated Desserts’ by Chef Girish Nayak on 11th & 12th Sept 2013

- Barry Callibaut - Chocolate workshop by Chef Abhiru Biswas & Chef Pooja – 16th to 18th Sept 2013.
- Italian, Thai and Bakery Demonstration on 7th October 2013.
- Biryani, Kebab & Carving Demonstration on 8th October 2013.
- Mexican and Chocolate Demonstration on 9th October 2013.
- Workshop on ‘Photography and Photoshop’ by Mr. Karan on 26th & 31st October 2013.
- Brand Scan event on 27th October 2013 at KMC Greens.
- Live Culinary Demo (Indian Cuisine) for MU faculty and Staff on 27th Dec. 2013 (22 participants)
- Live Culinary Demo (Baking & Patisserie) for MU faculty and Staff on 28th Dec. 2013 (21 participants)
- Live Culinary Demo (Salads & Cookies) for Kids of MU Faculty and Staff on 29th December 2013 (10 participants).
- Sugar work demo by Chef Lawrence Fernandes & his team on 10th & 11th March 2014
- Mediterranean Cooking Demonstration by Chef Thomas Zacharias Alumnus of WGSHA from 21.04.2014 to 24.04.2014.
- Planned and coordinated the Welcome party for the first year Culinary Arts students on 24th August 2013.
- 17th August 2013 – Coordinated the Student Council Installation.
- Conducted First Simulation on 21st September 2013 for the Culinary Arts students to give hands-on-experience. The theme for the simulation was BELLA CIBO (Italian). The students from in and around Manipal participated in the simulation.
- Hosted WGSHA Quest, an Annual National Level intercollegiate competition which was conducted on 13th and 14th September 2013.
- On 19th October 2013 International Chefs Day/World Bread Day was celebrated.

Conducted International Symposium Hospitality Vision -2014 funded by Manipal University (Mr. Yasar Arafath, Confederation of Indian Industry, Chennai, Dr. Shayamaraj Nedugala, Zen Holistic Wellness, Mumbai, Mr. Rohit Pandey, Director of HR, The Western Pune, Koregaon, Park, Pune, Mr. Hardik Bali, Executive Sous Chef, Lemon Tree Hotels, Pune.)

45. List the teaching methods adopted by the faculty members for different programmes.

Teaching/Learning Methodologies: Lectures, Power point presentations, Discussion, Case studies, Student Presentations, Individual tasks/Group work, Videos, Hands on Training, etc.

Apart from these, the students are encouraged to involve in other research areas of their interest, participate in symposiums and conferences both inside and outside the university, and thereby help build the personal department and the university at large.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

The Head of the Institution monitors and validates the monthly lessons plans maintained by the faculty members, between the first and fifth of every month. This helps in assessing the completion of the planned curriculum and takes action on deviations and suggests remedial measures.

The academic calendar, lesson plans etc. are given to the students before the commencement of the academic session. The effectiveness of the same is ensured/monitored by methodical maintenance of lesson plans, which clearly define the action plan and then the actual content coverage with methodologies used.

47. Highlight the participation of students and faculty in extension activities.

Students and faculty take part in co-curricular and extra-curricular activities. The institution has different club that facilitate literature, dramatics, sports, adventure and social activities. The institution has joined hands with another institution (IndiaSkills) to train and develop the youth to take up jobs in the hospitality sector. The faculty have actively participated in these activities.

48. Give details of “beyond syllabus scholarly activities” of the department.

As a Policy, Manipal University facilitates and encourages research activities by faculty. The University supports the faculty through financial assistance and also inter institutional collaboration. Each faculty is provided with a budget of Rs.50,000 per year for participation / presentation of research papers in workshops, conferences, seminars, including at international level. The research publications by faculty earn them research points which the faculty can make use of, as per policy, to get assistance to attend international conferences etc.

Besides the above, Manipal University encourages faculty exchanges with various foreign Universities, through academic collaboration agreements with them. The research publications and output is one of the parameters on which the faculty performance is assessed at the annual performance review and for release of Performance Incentives.

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details.

The BHM course conducted at WGSHA has been approved by All India Council for Technical Education (AICTE). National Board of Accreditation has granted accreditation for WGSHA for five years since 2012. Besides, the institution has been certified for quality management initiatives and also environment management system. The institution is certified for ISO 9001:2008 of Quality Management System and ISO14001:2004 of Environment Management System.

Welcomgroup Graduate School of Hotel Administration, a constituent college of Manipal University, has once again bagged the top most rank among the hotel management colleges in India for the year 2013-14, winning the awards ‘Supreme hotel management college in India’; ‘1st rank in state of Karnataka’ and ‘1st rank in category of private hotel management institutes in India’. The rankings have been awarded by Global Human Resource Development Centre (GHRDC), India.

WGSHA has consistently been awarded the top rank for the past four years and is proud of its history of over two and a half decades, training students as well as executives in the hotel industry and also offering consultancy services. WGSHA is today one of the most prestigious schools specializing in Hotel Management education. This is mirrored in the excellent profile of our alumni occupying an array of management positions throughout the world. The quality of its education, combined with its capability in meeting the requirements of professionals in the hospitality sector has been recognized throughout the world.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

The curriculum is being reviewed on continual basis and changes incorporated to meet the global standards,

51. Future plans of the department.

Matching curriculum with Industry standards to bring out the best

52. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

- The Mentorship Scheme: In this teacher-guardian scheme, each faculty is allotted 15-20 students for counselling related to curricular and extracurricular guidance

throughout the programme. For issues that need expert counselling the students are referred to the Director, Students Affairs, University

- All the faculty members are provided with laptops from the university
- Encourage student/faculty research
- Demonstrating continual quality improvement in all its academic, healthcare services and co-curricular activities through upgrading delivery system, and sharing the best practices.
- Enhancing the proficiency of the students, staff and faculty to achieve global competency through training and development.

Strengths:

1. Number one college to commence hotel management degree in 1986, with annexed ITC member hotel and added advantage of being a part of two major professional groups namely ITC with its presence in hotels and MU as a deemed university of repute with overseas presence and recognised as one of the best in the private sector.

Accreditation through NBA and recognition through AICTE.

2. The continuous ranking of the college as top three in the country for over five years and International collaborations with New Zealand, Canada. UK and Switzerland
3. Dedicated faculty members. Proactive student support through continual improvement of systems like introduction of LMS (Learning Management System) wherein the students are provided with course material quizzes etc. which facilitate e-communication between the students and the teachers; the Mentorship Scheme In this teacher-guardian scheme, each faculty is allotted 15-20 students for counselling related to curricular and extracurricular guidance throughout the programme. For issues that need expert counselling the students are referred to the Director, Students Affairs, University
4. Facilities matching global standards to enhance learning and student-faculty interaction. All the faculty members are provided with laptops from the university Encourage student/faculty research Demonstrating continual quality improvement in all its academic, healthcare services and co-curricular activities through upgrading delivery system, and sharing the best practices. Enhancing the proficiency of the students, staff and faculty to achieve global competency through training and development.

5. Very convenient class size and well maintained infrastructure, with continual improvement. A diverse student community. Excellent residential facilities with provision of opportunities to enhance cultural and artistic inclinations with systematic involvement of various clubs.

Weakness:

1. Ability to hire and retain qualified faculty
2. External funding for research still being explored.
3. Lack of strong presence in the external community which is currently emphasised.
4. Inability to find guides for pursuing PHDs in the area of hospitality
5. Unequal workloads of faculty and staff.

Opportunities:

1. Growth potential in the industry due to new properties opening nationally and internationally
2. Growing demand for Hospitality graduates
3. University initiatives and university relationships with national and international organisations
4. Match between curricular and societal needs leading to new programmes to meet the newer demands
5. Large network of alumni

Challenges:

1. Competition, need to raise the fees due to inflation resulting in lesser admissions
2. External reporting cumbersome and at times appears meaningless.
3. Reporting takes up a lot quality of time of the resources.
4. Historical negative public perception of the hospitality education and lack of knowledge about the value of the programme
5. Focus on numerical achievement Vs. qualitative achievement

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