

प्रज्ञानं ब्रह्म



Manipal

INSPIRED BY LIFE

# Annual Quality Assurance Report (AQAR)

**2014 -15**

**Manipal Academy  
of Higher Education**



Submitted to

**National Assessment  
and Accreditation Council (NAAC)**

# VISION

Global leadership in human development,  
excellence in education and healthcare

# MISSION

Be the most preferred choice of students, faculty and industry

Be in the top 10 in every discipline of education health sciences,  
engineering and management.

# VALUES

- Integrity
- Transparency
- Quality
- Team work
- Execution with passion
- Humane touch

***MANIPAL ACADEMY OF HIGHER EDUCATION, MANIPAL***

(Established under Section 3 of UGC Act, 1956)

**Annual Quality Assurance Report (AQAR)**

***2014-15***

**Submitted to**

**NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL**

Bangalore - 560 072 India

## Part – A

AQAR for the year (for example 2013-14)

2014-15

## 1. Details of the Institution

## 1.1 Name of the Institution

MANIPAL ACADEMY OF HIGHER  
EDUCATION (MAHE), MANIPAL

## 1.2 Address Line 1

"manipal.edu"

## Address Line 2

MADHAV NAGAR

## City/Town

MANIPAL, UDUPI

## State

KARNATAKA

## Pin Code

576104

## Institution e-mail address

registrar@manipal.edu

## Contact Nos.

0820-2922323

Name of the Head of the  
Institution:

DR. H. VINOD BHAT

## Tel. No. with STD Code:

0820-2922615

## Mobile:

98450 69081

Name of the IQAC  
Co-ordinator:

DR. PRADEEP KUMAR G

## Mobile:

9880530609

## IQAC e-mail address:

iqac@manipal.edu

## 1.3 NAAC Track ID

KAUNGN10065

(For ex. MHC0GN 18879)

OR

**1.4 NAAC Executive Committee No. & Date:**

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*(For Example EC/32/A&A/143 dated 3-5-2004.*

*This EC no. is available in the right corner- bottom of your institution's Accreditation Certificate)*

**1.5 Website address:**

www.manipal.edu

**Web-link of the AQAR:**

<http://manipal.edu/mu/about-us/iqac-mahe/aqar-2014-15.html>

For ex. <http://www.ladykeanecollege.edu.in/AQAR2012-13.doc>

**1.6 Accreditation Details**

Sl. No.	Cycle	Grade	CGPA	Year of Accreditation	Validity Period
1	1 <sup>st</sup> Cycle	B+		2002	5 yrs
2	2 <sup>nd</sup> Cycle	--	--	--	--
3	3 <sup>rd</sup> Cycle	--	--	--	--
4	4 <sup>th</sup> Cycle	--	--	--	--

**1.7 Date of Establishment of IQAC :**

DD/MM/YYYY

03/06/2013

**1.8 Details of the previous year's AQAR submitted to NAAC after the latest Assessment and Accreditation by NAAC ((for example AQAR 2010-11 submitted to NAAC on 12-10-2011)**

- i. AQAR 2013-14 submitted NAAC on 21/05/2016 (DD/MM/YYYY)
- ii. AQAR \_\_\_\_\_ (DD/MM/YYYY)
- iii. AQAR \_\_\_\_\_ (DD/MM/YYYY)
- iv. AQAR \_\_\_\_\_ (DD/MM/YYYY)

**1.9 Institutional Status**

**University**

State  Central  Deemed  Private

**Affiliated College**

Yes  No

**Constituent College**

Yes  No

**Autonomous college of UGC**

Yes  No

**Regulatory Agency approved Institution**

Yes  No

(eg. AICTE, BCI, MCI, PCI, NCI)

**Type of Institution** Co-education  Men  Women   
 Urban  Rural  Tribal

**Financial Status** Grant-in-aid  UGC 2(f)  UGC 12B

Grant-in-aid + Self Financing  Totally Self-financing

## 1.10 Type of Faculty/Programme

Arts  Science  Commerce  Law  PEI (Phys Edu)

TEI (Edu)  Engineering  Health Science  Management

Others (Specify) **Allied Health, Communication, Regenerative Medicine, Architecture, Nursing, Hotel Management, Life science, Information Science,**

**1.11 Name of the Affiliating University (for the Colleges)** **Not applicable**

**1.12 Special status conferred by Central/ State Government-- UGC/CSIR/DST/DBT/ICMR etc**

**Autonomy by State/Central Govt. / University** **As a Deemed University by Central Govt.**

University with Potential for Excellence	<input type="text" value="--"/>	UGC-CPE	<input type="text" value="--"/>
DST Star Scheme	<input type="text" value="--"/>	UGC-CE	<input type="text" value="--"/>
UGC-Special Assistance Programme	<input type="text" value="--"/>	DST-FIST	<input checked="" type="checkbox"/>
UGC-Innovative PG programmes	<input type="text" value="--"/>	Any other (Specify)	<input type="text" value="TIFAC-CORE"/>
UGC-COP Programmes	<input type="text" value="--"/>		

## 2. IQAC Composition and Activities

<b>2.1 No. of Teachers</b>	<input type="text" value="13"/>
<b>2.2 No. of Administrative/Technical staff</b>	<input type="text" value="16"/>
<b>2.3 No. of students</b>	<input type="text" value="-"/>
<b>2.4 No. of Management representatives</b>	<input type="text" value="5"/>
<b>2.5 No. of Alumni</b>	<input type="text" value="3"/>
<b>2.6 No. of any other stakeholder and</b>	<input type="text" value="-"/>

**Community representatives**

2.7 No. of Employers/ Industrialists

1

2.8 No. of other External Experts

-

2.9 Total No. of members

38

2.10 No. of IQAC meetings held

Yearly 2

2.11 No. of meetings with various stakeholders:

No 2

Faculty 2

Non-Teaching Staff Students 2

Alumni 2

Others 2

2.12 Has IQAC received any funding from UGC during the year? Yes No If yes, mention the amount **NIL****2.13 Seminars and Conferences (only quality related)****(i) No. of Seminars/Conferences/ Workshops/Symposia organized by the IQAC**Total Nos.  International  National  State  Institution Level **(ii) Themes**

- Fire safety measures
- Quality Audit training to Faculty
- Comprehensive hands on workshop on Tweed/Mari field Technique
- The Art and Science of Minimal Intervention Dentistry
- Success Mantra For MDS Entrance
- Naso Alveolar Molding (NAM)
- Ethical Dilemmas in Research
- Eye for Implantology – Beginner's
- Pharmaceutical Sciences
- Awareness programme on integrated management system, quality objectives
- Basic life support
- VLSI, Embedded Systems and Healthcare IT
- MCI recognised Basic Medical Education workshop
- Investigators Training
- Pharmacoeconomics
- Medical Audit

### 2.14 Significant Activities and contributions made by IQAC

- Compilation and finalization of NAAC Self Study report (2012-2014) and submission of the same to NAAC for re-accreditation.
- Compiled award application and won FICCI Overall Excellence award 2014
- Compiled data for University Web ranking 2014 and Ranked No. 1 in India and 695 in the World
- Compiled data for THE WEEK – HANSA Survey 2014 and Ranked No. 1 Private Deemed University in India
- Compiled data for QS University Ranking ASIA 2014 and Ranked No. 13 in India and No. 181-190 in Asia
- Compiled data for QS University Ranking BRICS 2014 and Ranked No. 85
- Compiled data for URAP (University Ranking by Academic Performance) 2013-14 Field Ranking - No. 9 in India and No. 914 in the world under “Medical and Health Sciences” field
- Compiled data for SiliconIndia Top 20 Private Universities in India 2014 for MBA/Engineering courses and Ranked No. 3 in India
- Compiled award application Golden Peacock Environment Management Award for the year 2014 and won the same
- Compiled data for UI GreenMetric Ranking for Global Universities 2014 and Ranked No. 1 in India under the Sub Urban category
- Compiled data for University Web Ranking – Ranked No. 8 in India & No. 695 in the world
- Compiled data for Careers360 University Ranking 2015 and Ranked No. 3 among Top Private Universities in India and rated AAAA+ grade under Top Private Multi-disciplinary University
- Internal auditors training program integrating both ISO 9001:2008 and ISO 14001:2004 Standards was conducted for one batch of 26 participants with the help of lead auditors from M/s TUV Rheinland Pvt. Ltd B'lore between June 16 to 18, 2014 at Manipal campus.

### Training programs conducted by Directorate of Research

#	Name of Faculty	Topic	Date	Place	No. of Participants
1	Dr. Lakshmi Sundar	Knowledge Sharing in Scientific Research	August 12, 2014	Interact Manipal	150

2	Dr. N Udupa and Dr. Raghuvir Pai	Introduction to Research Activities of Manipal University	August 14, 2014	Interact Manipal	150
3	Dr. Yogendra Nayak	Quality of Publications, Impact factor, Citation, H- index, University Ranking etc.			
4	Dr. Manthan D 47Janodia	Research and Intellectual Property Rights			
5	Dr. Rekha Shenoy	Funding Opportunities and University Grant Proposals.			
6	Dr. N Udupa and Dr. Raghuvir Pai	Introduction to Research Activities of Manipal University			
7	Dr. Yogendra Nayak	Quality of Publications, Impact factor, Citation, H- index, University Ranking etc.	August 16, 2014	KMC, Mangalore	150
8	Dr. Manthan D Janodia	Research and Intellectual Property Rights			
9	Dr. Rekha Shenoy	Funding Opportunities and University Grant Proposals.			
10	Mr. Srinivasan Acharya	Informative session on introduction to plagiarism and understanding of the plagiarism software and its reports			

11	Mrs. Shantala Pai.	Manipal University Press editorial services			
12	Mr. Srinivasan Acharya	Informative session on introduction to plagiarism and understanding of the plagiarism software and its reports	October 18, 2014	KMC, Mangalore	100
13	Mrs. Shantala Pai.	Manipal University Press editorial services			
14	Dr. Manohara Pai M.M.	Innovation, Incubation and Entrepreneurship	October 21, 2014	Interact, Manipal	100
15	Directorate of Research	Pre-Conference workshop in "Computational Methods for Interdisciplinary Research"	December 15-16, 2014	MIT, Manipal	70
16	Directorate of Research	International Conference on Computational Methods in Engineering and Health Sciences	December 15-16, 2014	MIT, Manipal	100
17	Dr. G Jagadish, Senior Advisor, USFDA and Adjunct Professor, MCOPS, Manipal	Publication in International Journals and Excellence in writing research for publication	December 29, 2014	Interact, Manipal	150
18	Dr. Srikanth Prabhu	Computational sciences in Healthcare	January 10, 2015	MCOPS, Manipal	90
19	Dr. Raviraja NS	Scope of Regenerative Medicine and Stem Cell Research	January 16, 2015	MCOPS, Manipal	110
20	Prof KSV Baliga	Self-Development through Translational Analysis			
21	M/s Ajay D Pillai and his associates	Awareness program on Wellcome DBT fellowship.	February 11, 2015	Interact, Manipal	150

22	A K Balaji and his Associates on behalf of M/s R K Deewan and Company	Patent awareness camp	February 16, 2015	Interact, Manipal	125
23	Directorate of Research	Transcendence 2015	February 26, 2015	MCOPS, Manipal	150

### Training programs conducted by MCPD

No.	Resource person(s)	Topic/Course	Date	Location	Attendees
1	Dr. Srikanth Prabhu	Computational sciences in Healthcare	10/01/2015	MCOPS, Manipal	90
2	Dr. Raviraja N S	Scope of Regenerative Medicine and Stem Cell Research	16/01/2015	MCOPS, Manipal	110
	Prof KSV Baliga	Self-Development through Translational Analysis			
3	M/s Ajay D Pillai and his associates	Awareness program on Wellcome DBT fellowship	11/02/2015	Interact, Manipal	150
4	A K Balaji and his associates on behalf of M/s R K Deewan and Company	Patent awareness camp	16/02/2015	Interact, Manipal	125
5	Directorate of Research	Transcendence 2015	26/02/2015	MCOPS, Manipal	150
6	Directorate of Research	Manipal Research Colloquium -2014	06/04/2015 07/04/2015	MIT, Manipal	600
7	Directorate of Research	Student Research Poster Competition (SRPC 2014):			
8	Mr. Khilesh Chaturvedi	Workshop on Effective Proposal Writing for faculties	28/052015 - 29/052015	MCPD, Manipal	60
9	Dr. K Ramnarayan	Inauguration and overview of the program	30/05/2015	Seminar Hall, MIT	125
	Dr. Raghuvir Pai	Research at Manipal University			
	Dr. ShivanandaBhat	Scopus and Web of Science			
	Dr. N Udupa	Research Grants			
	Dr. Rekha Shenoy	Publishing in Scientific Journals			
	Mrs. Shantala D Pai	Publishing with Manipal University Press			
	Dr. Yogendra Nayak	Impact factor and Citations			
	Dr. Manthan D Janodia	IPR and Copyrights			

	Dr. Rekha Pai	MU/MIT Library and Digital Repository			
10	Mr. Ben Sakker Kelly and Dr. Arun Chawla	Endeavour Scholarship and Fellowships in Australia	04/06/2015	Interact, Manipal	150
11	Mr. Ben Sakker Kelly and Dr. Arun Chawla	Endeavour Scholarship and Fellowships in Australia	05/06/2015	KMC, Mangalore	100
12	Mr. Alok Poundrik and Mr. Basha Kodidela	Training session of M/s Thomson Reuters(web of science group)	26/06/2015	Interact, Manipal	150
13	Directorate of Research	Summer Training – 2015	15/06/2015 to 04/07/2015	Interact, Manipal	125

### HR Training

1. Conducted 3 days of hands on training on the new software – Employee Expert for the HR and Finance team.

### IT Applications

- Alumni Information Systems software- to capture all the old student data from the Student Registers. – completed
- Alumni Portal website from M/S Fourth Ambit – completed

### KMC Manipal

- The IQAC has conducted annual department audits analysing the strengths and weakness of the departments and providing suggestions on areas of improvement for the individual departments.
- Sensitization of all staff/ Holding regular meetings.

### SOAHS Manipal

Mock drills for Fire emergencies, emergency response preparedness for some hazardous spillage of materials was conducted .Internal audit were conducted twice in a year.

### MCON Manipal

Maintaining the quality of curricular activities

### MCOPS Manipal

Internal auditing, review of audit outcome and corrective actions

### MMMC Manipal

- M –ECO club, an environmental conscious club was inaugurated in June 2015 and as part of club activity- Planting saplings at End-point, Skit competition with environmental theme for BDS students and Car free day for MMMC faculty (October 3, 2015) were carried out.
- M-FIRE, MMMC Faculty Initiative for Recreation and Empowerment was inaugurated in September 2015 and has various sub groups working towards enriching the work experience

### MCODS Mangalore

1. Value added certificate courses
2. Encourage Research

3. Audit by External Agency
4. Community programmes
5. Patient Management System (PMS)
6. Student Exchange Programme
7. Online Feedback by stakeholders
8. Orientation programme to newly recruited staff
9. Professional Development programme
10. Infection Control Cell & Bio waste management
11. Environment friendly campus
12. MOU with International Universities

### MIT Manipal

- ✓ The academic performance of all departments reviewed and suggested steps to improve overall teaching learning process.
- ✓ Monitors the activities throughout the year, makes suggestions and incorporates the remedial measures
- ✓ Interaction with Heads and faculties of each and every department for maintaining and sustaining quality teaching learning process.
- ✓ Framing of quality objectives for institution and departments (programme outcomes).  
Action plan, monitoring and assessment of quality objectives.

### FOA Manipal

- Internal quality audits – once in every six months.
- Preparing Annual Quality Assurance Report
- Introduced innovative methods in teaching, learning and evaluation.
- Enhancement in teaching, learning and evaluation work.
- Interactive Sessional.
- Hands-On Training Workshops for faculty & students.
- Encouraging extra-curricular activities (sports & cultural).

### SOM Manipal

2 Internal Quality Audits and Review meetings

### SOC Manipal

Internal audit

### SOIS Manipal

- **Study Abroad Program (SAP)** - Students from Efrei, France came to study four subjects from March 29, 2015 to June 6, 2015 in School of Information Sciences (SOIS), Manipal.
- **Center for Software Development [CSD]** - CSD is established as the in-house software development centre at SOIS catering to the needs of application development for various functional units and Institutes of MAHE.
- Research Methodology course for researchers from 9/1/2015 to 17/1/2015
- National Conference on Information Science (NCIS-2014)
- Workshop on Medical Image Processing Using ITK and VTK on 6<sup>th</sup> September, 2014

- Workshop on VLSI Design using Cadence Design Suite on 6<sup>th</sup> September, 2014
- PyBerry Workshop - Application development on Raspberry Pi using Python on 5<sup>th</sup> and 6<sup>th</sup> September, 2014

### Melaka campus

Constructive feedback by IQAC members on further strengthening the curriculum and teaching learning environment.

### Dubai campus

Please refer the Minutes of the Chairpersons' Meeting

## 2.15 Plan of Action by IQAC/Outcome

The plan of action chalked out by the IQAC in the beginning of the year towards quality Enhancement and the outcome achieved by the end of the year

### QMS objectives

Excellence in education, health care and research leading to a place in the top 100 Universities in Asian Rankings

#### I. Enhancing Academic Reputation:

##### I. Quality of intake

#	Quality Objective	Target	Achievement Status
1	Cut off ranking at admission level	Better as compared to previous year	Cut off ranking for MBBS & few other courses are lower when compared to previous year. But there is improvement in BDS course and to some extent in the Engineering courses. <b>Partially Achieved</b>
2	Diversity of students	Better representation as compared to previous year	Better represented when compared to Better representation in 2015 as compared to 2014 (No. of Indian States/UT: 2014 - <b>34</b> 2015 - <b>35</b> ) (No. of Countries: 2014 - <b>16</b> 2015 - <b>29</b> ) Increase recorded in: 20 States Decrease recorded in: 15 States <b>Achieved</b>
3	Increase in number of applications, National and International	Higher as compared to previous year	Achieved (National 2013 - <b>101880</b> ; 2014 - <b>122514</b> International 2013 - <b>1711</b> ; 2014 - <b>1954</b> )

4	Student Ratio UG: PG: PhD benchmarked with top Universities in the world		Currently MU ratio is <b>22:10:1</b>
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## 2. - Academic

#	Quality Objective	Target	Achievement Status
1	Declaration of results on time	Within a month of conduct of exams	Results are declared on time
2	Conduct of exams as per academic calendar	As per calendar	Conducted as per calendar
3	Student attrition rate	Reduce as compared to previous benchmark	2013: Lowest: <b>0%</b> ; Highest: <b>5%</b> ; Avg: <b>1.37%</b> 2014: Lowest: <b>0%</b> ; Highest: <b>4%</b> ; Avg: <b>1.47%</b>
4	Enhance Student Progression		
i.	Percentage of eligible students progressing to higher levels	Improve compared to previous benchmark	2015: <b>84.23%</b>
ii.	Percentage of eligible Students placed.	5 % increase every year over the previous 3 years average	2013: <b>78%</b> 2014: <b>82%</b>
5	Number of students involved in social responsibility projects and extension activities	Improve on previous benchmark	All most all the colleges have achieved the target. Details available at IMRs office
6	Graduation rate	% of students completing the programme on time, target can be 1% better than average of previous three batches	Most of the colleges have achieved the target. Details available at IMRs office
7	Introduction of new programmes	At least 20 new programmes compared to previous year	2013: Tech: 5 + HS: 6 (Total <b>11</b> ) 2014: Tech: 15 + HS: 7 (Total <b>22</b> )

**3. Service delivery Process:**

#	Quality Objective	Target	Achievement Status
1	Student feedback of faculty	Minimum of 3 on a scale of 5	All the colleges have achieved the target. Details available at IMRs office
2	Student feedback on infrastructure	Minimum of 3 on a scale of 5	Will present in next MRM
3	Student feedback on academic program	Minimum of 3 on a scale of 5	All the colleges have achieved the target. Details available at IMRs office
4	Patient feedback on services	Minimum of 3 on a scale of 5	Kasturba Hospital Manipal –OP- 4.37, IP – 3.26 KMCH – Mangalore – 4.5 Dr. TMAP H Udupi- OP – 3.8, IP – 3.4 Dr. TMAP H Karkala – OP – 3.67, IP 3.53
5	Faculty student ratio as per statutory and regulatory requirements	As applicable	All the colleges have achieved the target. Details available at IMRs office

**II. Enhancing Research Output:**

#	Quality Objective	Target	Achievement Status
1	Number of papers presented in National and International conferences per faculty	At least one	2013: 0.749 2014: 0.650 (Not achieved)
2	Number of publications in National and International, Indexed journals with impact factor per faculty (indexed by Scopus)	Minimum 5% increase every year	2013: 0.510 2014: 0.465 (Not achieved)
3	Enhance Quality of Publication		
a	Increase in Average Journal Impact factor by 0.2 every year.	By 0.2 every year	2013: 0.4 2014: 0.3 (Not achieved)
b	Increase in Average H index by 2.0 per author every year.	By 2.0 per author every year.	2013: 73 2014: 73 (Not achieved)
4	Amount of research grants received	5% increase every year	2013: Rs. 23,35,55,596 2014: Rs. 27, 33, 41, 354

			(Achieved, exceeded by 17.03%)
5	No of patents applied for	At least one patent more than the previous year	2013: <b>6</b> 2014: <b>13 (Achieved, exceeded by 116.6%)</b>
6	Number of Ph D registrations	At least 5% increase every year	2013: Tech: <b>63</b> + HS: <b>117</b> (Total – <b>180</b> ) 2014: Tech: <b>49</b> + HS: <b>108</b> = (Total – <b>157</b> )
7	Number of faculty with Terminal degrees.	Increase by 5 % every year	<b>1194</b> as on Dec. 31, 2013 <b>1226</b> as on Dec. 31, 2014 (Increased by 2.68%)

### III. Increasing focus on Internationalisation

#	Quality Objective	Target	Achievement Status
1	Number of International students in UG and PG programmes	5% increase	2013: UG – <b>1152</b> ; PG – <b>20</b> 2014: UG – <b>1685</b> ; PG – <b>37</b>
2	Number of incoming and outgoing exchange students in UG and PG programmes (includes IAESTE, AIESEC, Study Abroad programmes, interns etc.)	10% increase	2013: Inbound: <b>286</b> , Outbound: <b>162</b> 2014: Inbound: <b>256</b> , Outbound: <b>162</b>
3	Number of Collaborations with Foreign Universities	At least 10 per year	2013: <b>51</b> , 2014: <b>35 (Achieved)</b>
4	Setting up of Alumni Centres abroad	At least five by end of 2015	Director, Alumni Relations proposed to discontinue this objective
5	Number of International faculty	Increase by at least two per year	2013: <b>07</b> 2014: <b>09 (Achieved)</b>
6	Transnational mobility of faculty	At least 10 per year	2013: <b>08</b> 2014: <b>09</b>

### IV. Enhancing Employer Reputation

#	Quality Objective	Target	Achievement Status
1	Number of companies participated in campus placements	5 % more than previous year	2013: 140 2014: 164

2	Number of Fortune 500 companies participating in campus placements	5 % more than previous year	2013: 26 (Forbes listed 50) 2014: 29 (Forbes listed 51)
3	Percentage of Alumni Registered with University	From existing 8.3% to 50% by end of 2015	12.5% (About 1600 Alumni have not confirmed Email IDs hence still pending)
4	Number of Industry Collaborations	At least 5 per year	2013: 5 2014: 6
5	Setting up Alumni Chapters in India	At least five by end of 2015	Director Alumni proposes to discontinue this objective
6	Organising Alumni reunions	At least one by all institutions by end of 2015	Being done

**V. Training:**

#	Quality Objective	Target	Achievement Status
1	Ensure continual enhancement of knowledge/skills of teaching faculty	Attend at least one professional development programme and a minimum of 10 hours of training every year	2013-14: 1624 2014-15: 1716
2	Ensure continual enhancement of knowledge/skills of non-teaching staff	To be provided with at least 2 hours of training every year	2013: 216 2014: 221 (Data pertains to University staff only)

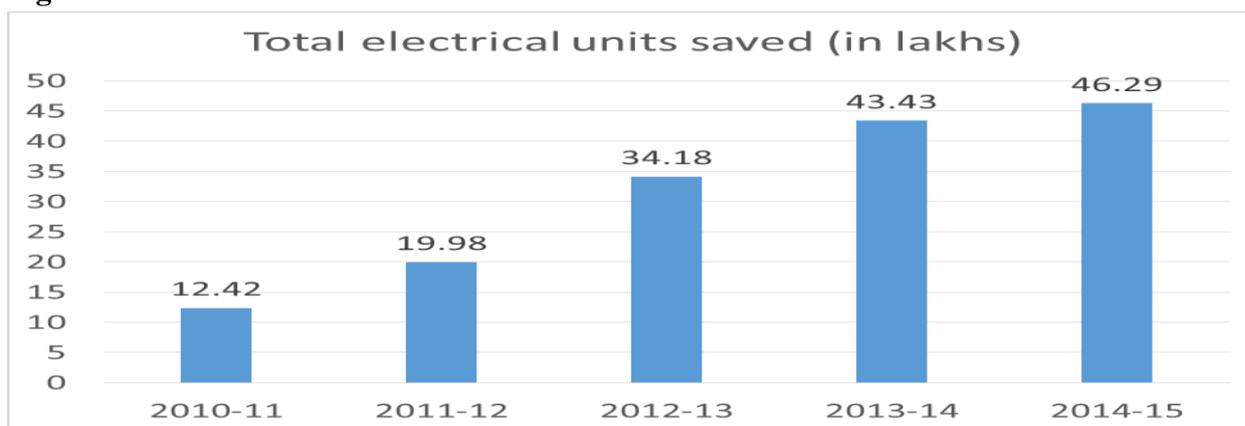
**EMS Objectives:**

#	Quality Objective	Target	Achievement status
1	6% reduction in per capita electricity consumption year on year for the next 3 years	6% reduction for the next 3 years	Provided below (Fig. 1)
2	2% reduction in per capita potable water consumption year on year for the next 3 years	2% reduction for the next 3 years	Provided below (Fig. 2)

3	To be ranked within the top 20 Universities globally under the suburban category in the UI Green metric World University Ranking by 2017	--	--
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**Projected electrical units saved due to adoption of energy saving methods**

**Fig. 1**



2.15 Whether the AQAR was placed in statutory body

Yes  No

Management  Syndicate  Any other body

Provide the details of the action taken

1. Declaration of results on time (Within a month of conduct of exams): Results of most of the programmes were declared on time. Suggested to further reduce the time taken for declaration of results, especially in Medical courses to 7 days, subsequent to the introduction of onscreen marking system
2. Student Ratio UG: PG: PhD benchmarked with top Universities in the world \_ Director Research presented data related to MU and few top Universities. Currently MU ratio is 22:10:1. The ratio presented was based on yearly intake statistics. Suggested to benchmark with the overall students strength
3. Chairman suggested HR dept. to try and organize / host a workshop at Manipal for all the Universities on the topic “Human resource practices in Universities”
4. Suggested to HR dept. to recruit at least 50 international faculty. For this, an ad. can be released in our own website and also some other HR recruitment facilitating websites.
5. VC suggested International Admissions dept. to look at Thailand for marketing MAHE programs ,as sizeable no. of Thai students are doing their schooling at Bangalore. Shortly they will be ready for Higher education. University should try to attract these students, as they would like to continue their Higher education in India,

6. Also suggested not to go for Education shows at Indonesia. It would be appropriate to approach the school with whom we have a MoU and try to convert this to four more MoUs using the contacts.
7. Fixed a target to International admissions dept. to go for around 1000 MoUs by May 2020 with different Universities world over.
8. Suggested International admissions dept. to put up a small strategy paper to collaborate with BRICS nations as these nations are emerging areas with huge population and heterogeneous in nature and also are English speaking.
9. VC said that, he was impressed by a presentation made on student exchange program by a Dental student recently and suggested Director & Dy Director, International office to discuss with him and take this further.
10. Suggested to find out some top 5 Universities where we can depute top performers of SMILE program for shadowing their leaders
11. VC suggested Purchase dept. to explore the possibility of completely going for E-procurement. Also, said that, there shall be at least one quote from Ecommerce portals like Snap Deal / Flipkart for any new procurements for comparison.

### **New Initiatives:**

#### **Admission (National & International):**

- B Tech Online Common Counselling, 2015

#### **HR:**

- Migration from PeopleSoft HR ERP to a new module- Employee Expert – Parallel run is in progress and expected to go live by October, 2015
- Proposed to issue uniform identity cards for all the employees

#### **Directorate of Research:**

- Second Manipal Research Colloquium – April 06-07, 2015, with 400 participants and 65 resource persons
- Student Research poster competition (SRPC)-2015 - April 06-07, 2015 -100 and above posters are presented
- Release of Volume 2, Issue 1 of Manipal Research Review
- Preparation of CD with Research Abstracts presented in Manipal Research Colloquium
- Summer Training 2015 – from June 15 to July 04, 2015
- Awareness program by ‘Scopus’ and ‘Web of Science’

#### **Student Affairs:**

- Workshop on Leadership skills for Student Council governing members
- Strengthening of the teacher guardian scheme (Policy on Teacher Guardian Scheme is under progress)

#### **Student finance:**

- Fee collection of the senior batch of students has been implemented through the payment gateway of ICICI Bank through the student portal. This is in addition to the existing facility of collection through State Bank Collect.
- Fee notification and schedule for general category students has been displayed on the University website.

## ISD:

- Web filtering Appliance– to monitor and control internet access – Cyberoam UTM Tool – deployed during 10<sup>th</sup> April , 2015
- Data Networking Projects at New Bldgs. – completed
- Cisco Network Switches installed with 10G - completed
- Microsoft Lync – Collaboration Tool – Completed
- Various IT applications are either completed or work in progress

## Part – B

## Criterion – I

**1. Curricular Aspects****1.1 Details about Academic Programmes**

Level of the Programme	Number of existing Programmes	Number of programmes added during the year	Number of self-financing programmes	Number of value added / Career Oriented programmes
PhD	13	-	13	13
PG	156	7	163	163
UG	48	1	49	49
PG Diploma	15	-	15	15
Advanced Diploma	-	-	-	-
Diploma	2	-	2	2
Certificate	13	4	17	17
Others	12	-	12	12
<b>Total</b>	<b>259</b>	<b>12</b>	<b>271</b>	<b>271</b>
Interdisciplinary	12	-	12	12
Innovative	3	-	3	3

**1.2 (i) Flexibility of the Curriculum: CBCS/Core/Elective option / Open options**

Programs governed by regulatory bodies follow the curriculum as prescribed by them and incorporate flexibility by offering elective / open options within the limits as permissible by the regulatory bodies. Credit system is introduced for 100 percentage of the Technology, Management and Communication programs and 15 percentage of the health sciences programs. Most of the programs which are in the credit system are gradually progressing towards incorporating the requirements of the Choice based credit system.

**(ii) Pattern of programmes:**

Pattern	Number of programmes
Semester	Health Sciences:30, Technology, Management and others :129
Trimester	Technology ,Management and others :2
Annual	Health Sciences: 120 Technology ,Management and others : Nil

**1.3 Feedback from stakeholders\*** Alumni  Parents  Employers  Students

(On all aspects)

Mode of feedback: Online  Manual  Co-operating schools (for PEI)

#### 1.4 Whether there is any revision/update of regulation or syllabi, if yes, mention their salient aspects.

##### **KMC Manipal**

Incorporating soft skills, gender sensitivity, medico-legal and ethical issues in the curriculum

Incorporating environmental studies module

A curriculum book with exact topics and syllabus to be given in the beginning at the time of admission.

Need for periodic Assessment and mock examination

##### **SOAHS Manipal**

(50<sup>th</sup> Academic senate meeting-9/5/2015)

- All allied health courses will be moving to Credit system in the next academic year
- Minor syllabus revisions in courses- CVT, HIM, OT, MIT, Optometry, Clinical Psychology, Perfusion technology, M.Sc RRT & DT, M.Sc exercise sciences and sports

##### **SOLS Manipal**

Board of Studies (BoS) meeting on 29.6.2015, approved the following:

- Revised syllabus and regulations for B Sc. Biotechnology, M.Sc. Molecular Biology and Human Genetics and M.Sc. Bioinformatics courses
- Revised internal assessment marks for research project of B Sc. Biotechnology and M.Sc. Medical Biotechnology; M.Sc. Molecular Biology and Human Genetics courses
- Sessional examination question paper pattern for B Sc. Biotechnology course

##### **MCOPS Manipal**

Uniform regulations to govern the programs, Introduction of credit based system, and evaluation, revised curriculum with inputs from experts

##### **MMMC Manipal**

Minor revision were done.

##### **MCODS Mangalore**

1. Objective Structured Practical and Clinical Examinations (OSPE & OSCE)
2. A minimum of 30% to be scored in Internal Assessment to be eligible for appearing for University Examination in the subject/s offered
3. Includes both Objective and Descriptive pattern of Theory examination

##### **FOA Manipal**

The entire syllabus has been revised, implemented and effective from July 2014

##### **SOM Manipal**

All courses updated incorporating feedback from Alumni and Employers.

**SOC Manipal**

BA course was renamed as BA (Media and Communication), Practicality was brought in some of the core subjects.

**SOIS Manipal**

Structure and syllabus modified in M.Sc. Tech (EWT/ VIR). Subject contents modified in M.Sc. Tech (MSW/ VLSD). New electives added in all the branches of M.Sc. Tech and M.Sc. (IS) programs. Change of minimum internship duration of all the M.Sc. (Tech) programs effective from Jan 2015 admission batch.

**WGSHA Manipal**

Modifications in Existing Course Structures passed through the Senate during 2014-15.

**Melaka campus**

**Faculty of Medicine:** Yes. In the instructional shift, The P2S2 University Examination shall be held at the end of Semester 9. The Clinical Component shall be represented by OSCE and Short Cases. Portfolio would be used to guide and facilitate students' activities, projects, reports, completion of procedures and other collection of work performed during clinical postings in Semester 10. the overall Instructional Shift shall have an outcome based education approach with teaching and assessment revolving around different levels of learning outcomes - Program Educational Objectives, Program Outcomes, Course Outcomes and Session Outcomes.

**Faculty of Dentistry:** The final draft of the review curriculum is ready and need to be presented to the Board of Study and Senate for approval before could be implemented. There is no major changes in the contents except for two new modules added following the recommendation from the Malaysian Dean Council. The teaching approaches are now moving towards student centred and integration of knowledge in the attempt of holistic approach towards patient care.

As such the proposed curriculum will also be changes in the assessment and structure of the programme.

**Dubai campus**

We are the branch campus (offshore) of MU, India and we follow the same syllabus as followed at MU India

**1.5 Any new Department/Centre introduced during the year. If yes, give details.**

Nil
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**Criterion – II****2. Teaching, Learning and Evaluation****2.1 Total No. of permanent faculty**

Total	Asst. Professors	Associate Professors	Professors	Others
2262	977	534	422	329

**2.2 No. of permanent faculty with Ph.D.**

487

**2.3 No. of Faculty Positions Recruited (R) and Vacant (V) during the year**

Asst. Professors		Associate Professors		Professors		Others		Total	
R	V	R	V	R	V	R	V	R	V
165	180	20	51	16	30	171	155	372	416

**2.4 No. of Guest and Visiting faculty and Temporary faculty**

61

178

0

**2.5 Faculty participation in conferences and symposia:**

No. of Faculty	International level	National level	State level
Attended	443	735	247
Presented	478	706	147
Resource Persons	53	165	53

**2.6 Innovative processes adopted by the institution in Teaching and Learning:****KMC Manipal**

Small group teaching was emphasized. Various small group teaching methods like seminar, tutorial, case based learning, problem based learning and team based learning was introduced.

**SOAHS Manipal**

- Digital pedagogic approaches
- Creative learning methods such as Collage, Mime, street play

**SOLS Manipal**

- Teacher guardian for first year students
- Weekly coaching for poor students

**MCON Manipal**

- Innovative teaching learning method are adopted, e.g: Team based learning, concept mapping.
- Evidence Based Practice in M.Phil Nursing speciality subject is introduced for M.Phil Nursing students.

**MCOPS Manipal**

1. Macro and micro academic management system, 2. Student information systems – Online attendance/ marks, 3. Strict adherence to examination schedules, 4. Good teacher awards

**MMMC Manipal**

Active learning is emphasized in the curriculum. Self-Directed Learning (SDL), Problem Based Learning (PBL), Case Based Learning (CBL), audio-visual aids and practical sessions are part of teaching learning methods.

PBL: Students are introduced to a conceptually and clinically significant topic, presented in the format of a case scenario. PBL is conducted in two sessions. In the first session (brain storming session), cases are given and the students work together to analyze the problem and clarify difficult terms, identify key issues, formulate a hypothesis, and list the learning objectives. In the second session (presentation session), which is conducted after a week, students present the specified learning objectives.

The mode of teaching makes use of both traditional blackboard teaching and modern techniques such as power point presentations with good use of quality images and videos. Students can access audio-visual learning materials prepared by faculty members in the health sciences library of the university.

Case based learning: Using cases (real or paper based), to enhance the critical thinking and reasoning is extensively used in laboratory based learning sessions.

Team based learning: To inculcate the spirit of collaborative and cooperative learning, some topics are conducted using the team based learning approach.

Gaming: To make learning fun and to enhance retention, methods like crosswords, puzzles and other gaming approaches have been incorporated.

**MCODS Mangalore**

1. OSPE and OSCE
2. ICT enabled teaching
3. Teacher Guardian mentorship
4. Case based learning

**MIT Manipal**

- Remedial classes for academically poor students.
- Guest Lectures
- Program electives/ open electives
- AMS-Interactive tool for student performance and attendance analysis
- Slot-wise timetable

- Organizing Guest Lecture from Industry experts and site visits, Power point Presentation facility in each class, Continuous Evaluation with 5 assignments as self-learning exercise, QEEE program for students and faculty members
- More courses added as Open Electives for IV & V semester students.
- Industry initiated electives.
- 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.
- 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
- Conducted workshop on latest technologies; Conducted Placement classes
- Concept of academic counselling of under achievers was introduced where students with low attendance and marks are counselled and given assistance with improvement of performance
- Industry visit
- Demonstration of Videos related to the subject
- Modern amenities like LCD projection including animations, showing models
- Innovative pedagogy like active involvement, role plays and audio visual equipment.

#### FOA Manipal

- Integrated teaching methods
- Live labs
- Hands on training Workshops
- Interaction with industry experts and alumni
- guest lectures

- group discussions & studies
- study tours/case studies as course requirement

### **SOM Manipal**

Online course management software used by all faculty members. Online cases from Harvard Publishers purchased, Paraphrasing workshop conducted for all students.

### **SOC Manipal**

am plus students experimental newspaper, TV news production, documentary production video and audio, organising and managing events, class presentation, class seminars, RTI filing drive

### **SOIS Manipal**

Industry Sponsored labs & State of the art teaching facilities

Industry standard hardware and software laboratories

Opportunities to work on industry defined mini-projects & Industry relevant curriculum

Opportunity to study abroad

All subjects with associated labs & seminar by all students in I & II semester.

### **WGSHA Manipal**

Innovative processes adopted by the institution in Teaching and Learning:

MAHE 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.

The institution has different clubs that facilitate literature, dramatics, sports, adventure and social activities. The institution has joined hands with another institution (India Skills) to train and develop the youth to take up jobs in the hospitality sector. The faculty have actively participated in these activities.

Student / Faculty Research: The college has established the Centre for Excellence in Hospitality and Tourism Research (CEHTR) to focus on research, consultancy and continuing professional development initiatives in the area of hospitality and tourism management within the college. Extensive involvement of faculty and students in research projects demonstrate continual quality improvement in all its academic and co-curricular activities to achieve global competency through research

Skills training for unemployed youth from the local community are imparted through Manipal City & Guilds as our CSR initiative. Many short term courses in hospitality are offered as part of the programme

WGSHA is the only college in India to offer Sommelier programme from the International Sommelier Guild (ISG) with its two levels of wine fundamentals certifications. This is also integrated with the existing F & B curriculum of BHM and BA in Culinary Arts. International faculty representing ISG, train the students in this global certification which adds value to our students learning

Community Outreach Programme: The programme conducted in Padukere Beach and Hirebettu School enable d the student to involve in social activities.

**Melaka campus**

**Faculty of Medicine:** Adoption of Structured Large Group Teaching, Just in Time (Lecture), SCORPIO (Clinical Teaching), Work Place Based Assessment

**Faculty of Dentistry:**

1. Introduction of 13 most common dental diseases in the form of integrated Case Based Learning (CBL).
2. Blended learning to improve skills application in Oral Diagnosis and Oral Radiology.
3. Elective research project for year 4 students with manuscript ready for submission to journal of choices
4. E-path an electronic modules in Oral Pathology for student centred learning

**Dubai campus**

1. Implementation of technology in teaching like teaching with videos, online presentations, webinars etc..
2. To enhance quality of teaching, Faculty Development Programmes were held.
3. Development of course cross sections
4. Teaching with role plays, case studies etc..
5. Regular Industry visits are organised for practical exposure
6. Continuous assessment
7. Implemented Moderation process for examinations

**2.7 Total No. of actual teaching days during this academic year****KMC Manipal – 302 days****SOAHS Manipal**

UG semester batch	187
UG annual batch	198
PG annual batch	205

**SOLS Manipal – 283 days****MCODS Manipal - 227 days****MCON Manipal**

Course	2014-15
Basic B.Sc Nursing & P.B.B.Sc Nursing	230 days
P.B.Diploma in Nursing	247 days
M.Sc Nursing	242 days

**MCOPS Manipal – 180 days****MMMC Manipal – 305 days**

**MCODS Mangalore- 243 days**

**MIT Manipal – 176 days**

**FOA Manipal – 233 days**

**SOM Manipal – 175 days**

**SOC Manipal – 192 days**

**SOIS Manipal – 169 days**

**WGSMA Manipal – 187 days**

**SORM Bangalore – 203 days**

**Melaka campus – 222 days**

**Dubai campus – 162 days**

## **2.8 Examination/ Evaluation Reforms initiated by the Institution (for example: Open Book Examination, Bar Coding, Double Valuation, Photocopy, Online Multiple Choice Questions)**

Following are the reforms initiated:

1. Double valuation system
2. Bar code on answer books
3. Multiple choice questions for few courses
4. Examination automation through Student information system (SIS)
5. On Screen Marking (OSM) for evaluation
6. Digital examination/evaluation using e-Pad devices
7. Open book examination

### **MCON Manipal**

Answer key is prepared during the question paper preparation and based on the answer key evaluation is done by subject teachers

### **MCODS Mangalore**

- Double Evaluation of answer scripts
- OMR enabled Multiple Choice questions
- On Screen Marking (OSM) - Answer script

**MIT Manipal**

- Periodic assignments were given to the students where it is required to be submitted by the students within the stipulated time, subsequently corrections were carried out and evaluated assignments were given back to the students
- Internal assessment test (sessional) were conducted as per institution timetable twice a semester.
- Final exam (end sem.) conducted as per centralized timetable from institution.
  - Assignment evaluation: out of 10 marks
  - Sessional Test: 20 + 20 = 40 marks
  - Final exam: out of 50 marks
- Through continuous evaluation of students through in-semester tests (two sessional tests, quizzes, assignments and end semester examination)
- Continuous evaluations of students will be done through assignments, tests and end semester examination.
- Students are evaluated relatively on a grade scale of 10. Every theory subject will have 50% of in-semester marks (continuous evaluation) and 50% of end semester marks. A minimum of 18 marks out of 50 is necessary in the end semester exam to obtain the credit for the course.
- The student performance in each theory course is evaluated out of 100 marks, of which 50 marks are for in-semester assessments and 50 marks are for end semester assessments. In-semester assessment in theory courses is based on periodic tests, assignments, quizzes, case presentations, seminars etc, which shall be defined by the course instructor.
- The student performance in the laboratory courses is also evaluated out of 100 marks and is based on in-semester assessment out of 60 marks and end semester examination for 40 marks.
- The performance of the student in a course is reflected in the Letter Grade awarded
- Introduction of Two compulsory sessional tests
- 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.
- Tests are the preparations for the end semester examination and are conducted in the same manner, except for the duration, which is one hour against that of three hours for the examinations. Two tests will be conducted in each semester and the contents will be announced in the beginning of the semester while the course plan is distributed to the students.

Continuous Evaluation, inclusion of MCQ in the Sessional Question paper.

**FOA Manipal**

- Continuous performance evaluation for Internal Assessment
- Double Valuation – End Semester Examination
- Online Screen Marking

**SOM Manipal**

Online MCQ using Moodle

**SOIS Manipal**

Change of minimum internship duration of all the M.Sc. (Tech) programs from EIGHT months to TEN months with effective from Jan 2015 admission batch.

**WGSMA Manipal**

Open Book examination

**Melaka campus**

Evaluation utilizing questions from IDEAL Consortium, Faculty vetting committee, Coding & recoding of answer scripts and Centralised double evaluation

**Dubai campus**

Moderation Process was introduced for all Schools

Double Valuation, Photocopy, Online Multiple Choice Questions)

### 2.9 No. of faculty members involved in curriculum restructuring/revision/syllabus development as member of Board of Study/Faculty/Curriculum Development workshop

Total no. of faculty members involved in curriculum restructuring/revision/syllabus development as member of Board of Study/Faculty/Curriculum Development workshop are **566**

### 2.10 Average percentage of attendance of students – 85-90%

### 2.11 Course/Programme wise distribution of pass percentage:

#	COURSE	Appeared	Distinction %	First %	Second / Pass Class %	Total Pass %
1	M.Sc. Photonics	6	0	0	100	100
2	M.Sc. HTM	10	0	0	70	70
3	M.Sc. DAN	23	0	0	91.3	91.3
4	M.Com (Logistics and Supply Chain)	24	0	0	91.67	91.67
5	BBM (Professional)	32	0	0	96.88	96.88
6	BBM (Financial Markets)	20	0	0	85	85
7	BBM (e-Banking and Finance)	41	0	0	82.93	82.93

8	M.A. Geopolitics & International Relations	5	0	0	100	100
9	M.Sc. Chemistry	20	0	0	100	100
10	M.Sc. Physics	31	0	0	77.42	77.42
11	M.Sc. Mathematics	25	0	0	96	96
12	Master of Hospital Administration	30	0	80	20	100
13	Master of Public Health	60	38.33	60	1.67	100
14	Master of Social Work	13	53.85	38	0	92.31
15	Executive M. Arch. (Advanced Design)	4	0	0	50	50
16	B. Arch.	71	0	0	97.18	97.18
17	B.Sc. Applied Science	1	0	0	100	100
18	M.Sc. Clinical Embryology	6	0	17	83.33	100
19	M. Phil. Psychiatric Social Work	3	0	0	100	100
20	M.Sc. Yoga Therapy	3	33.33	67	0	100
21	DM (Cardiology)	1	0	0	100	100
22	DM (Gastroenterology)	1	0	0	100	100
23	DM (Nurology)	2	0	0	100	100
24	M.CH (Urology)	2	0	0	100	100
25	M.CH (Nero Science)	2	0	0	100	100
26	M.CH (Paediatrics Surgery)	1	0	0	100	100
27	PG Diploma in Panchakarma	4	0	0	100	100
28	M.Sc. Medical	70	5.71	37	50	92.86
29	M.D. General Medicine	1	0	0	100	100
30	M.D. Paediatrics	1	0	0	100	100
31	M.D. Pathology	1	0	0	100	100
32	M.D. Radio Therapy	1	0	0	100	100
33	M.D. Biochemistry	7	0	0	100	100
34	M.D. Paediatrics	17	0	0	70.59	70.59
35	M.D. Radiotherapy	2	0	0	100	100
36	M.D. Pharmacology	9	0	0	100	100
37	M.D. Anatomy	7	0	0	85.71	85.71
38	M.D. Oto-Rhino-Laryngology	7	0	0	100	100

39	M.D. Community Medicine	2	0	0	100	100
40	M.D. Dermatology, Venereology & Leprosy	2	0	0	100	100
41	M.D. Forensic Medicine	3	0	0	100	100
42	M.D. Anaesthesiology	16	0	0	100	100
43	M.D. General Medicine	37	0	0	94.59	94.59
44	M.D. Hospital Administration	3	0	0	100	100
45	M.D. Microbiology	4	0	0	100	100
46	M.D. Pulmonary medicine	2	0	0	100	100
47	M.D. Radiodiagnosis	6	0	0	100	100
48	M.D. Physiology	5	0	0	100	100
49	M.D. Immunohematology and Blood Transfusion	2	0	0	100	100
50	M.D. Pathology	13	0	0	76.92	76.92
51	M.S. Obstetrics & Gynaecology	16	0	0	100	100
52	M.S. Ophthalmology	9	0	0	100	100
53	M.S. General Surgery	17	0	0	88.24	88.24
54	M.S. Orthopaedics	13	0	0	76.92	76.92
55	DPM (Psychiatry)	5	0	0	100	100
56	D. Orthopaedics	9	0	0	88.89	88.89
57	D.O. (Ophthalmology)	2	0	0	100	100
58	D.M.R.D. (Radio Diagnosis)	2	0	0	0	0
59	D.L.O. (Oto-Rhino-Laryngology)	2	0	0	100	100
60	D.G.O. (Obstetrics & Gynaecology)	5	0	20	80	100
61	D.D.V.L. (Dermatology, Venereology & Leprosy)	2	0	0	100	100
62	D.C.H. (Child Health)	4	0	0	75	75
63	D.A. (Anaesthesiology)	9	0	56	44.44	100
64	D.C.P. (Clinical Pathology)	10	0	20	60	80

65	M. Ch. Cardio Vascular and Thoracic Surgery	1	0	0	100	100
66	Fellowship in Clinical Genetics	1	0	0	100	100
67	PG Diploma in Panchakarma	8	12.5	50	37.5	100
68	MBBS	494	1.42	33	51.21	86.03
69	M.Sc MRP	5	20	80	0	100
70	M.Sc. HHIA	1	0	0	100	100
71	M.Sc Health Informatics	3	0	0	100	100
72	M.Sc. Cardiac Catheterization and Interventional Technology	1	0	0	100	100
73	MPT	40	0	0	97.5	97.5
74	MPT in Sports & Clinical Biomechanics	1	0	0	100	100
75	Master of Optometry	6	0	83	16.67	100
76	MOT	16	0	88	12.5	100
77	M.Sc. NMT	6	0	0	33.33	33.33
78	M.Sc. Echocardiography	1	0	0	100	100
79	M.Sc. Medical Imaging Technology (MIT)	12	8.33	17	58.33	83.33
80	M.Sc MLT	8	12.5	88	0	100
81	MASLP	37	0	11	81.08	91.89
82	M.Sc. Respiratory Therapy (RT)	1	0	0	0	0
83	B.Sc. CVT	14	0	57	35.71	92.86
84	B.Sc. HIA	6	0	0	100	100
85	BASLP	37	5.41	51	35.14	91.89
86	BPT	41	2.44	39	41.46	82.93
87	B. Optometry	16	0	0	100	100
88	B.Sc. Medical Imaging Technology (MIT)	6	0	0	83.33	83.33
89	BOT	9	0	33	44.44	77.78
90	B.Sc. RT	20	10	35	50	95
91	BPT Bridge Program	5	40	60	0	100

92	B.Sc. Medical Laboratory Technology (BMLT)	8	12.5	25	37.5	75
93	B.Sc. Perfusion Technology	7	0	0	100	100
94	B.Sc RRT & DT	4	0	0	100	100
95	B.Sc. MRT	3	0	3.3	66.67	100
96	PGDNMT	6	0	0	100	100
97	MDS - Conservative Dentistry and Endodontics	7	0	0	100	100
98	MDS - Oral and Maxillofacial Surgery	6	0	0	100	100
99	MDS - Oral Medicine and Radiology	6	0	0	100	100
100	MDS - Oral Pathology and Microbiology	6	0	0	100	100
101	MDS - Orthodontics and Dentofacial Orthopaedics	7	0	0	100	100
102	MDS - Pedodontics and Preventive Dentistry	5	0	0	80	80
103	MDS - Periodontology	9	0	0	100	100
104	MDS - Public Health Dentistry	5	0	0	100	100
105	MDS - Prosthodontics and Crown & Bridge	5	0	0	100	100
106	PG Diploma in Dental Materials	1	0	0	100	100
107	BDS	200	5.5	70	20	95.5
108	M.Sc. Nursing	61	0	0	100	100
109	M.Phil. Nursing	8	0	0	100	100
110	Post Basic Diploma in Oncology Nursing	2	0	0	100	100
111	Post Basic Diploma in Cardio Thorasic Nursing	25	0	0	100	100
112	B.Sc. Nursing	155	0	0	90.32	90.32
113	PB B.Sc. Nursing	19	0	0	100	100
114	M. Pharm	244	0	0	100	100
115	Pharm D.	51	0	0	100	100
116	Pharm D (PB)	8	0	0	100	100
117	B. Pharm	70	0	0	72.86	72.86

118	MA in English / Philosophy / Sociology	13	0	0	100	100
119	PG Diploma in Corporate Communication	7	0	0	100	100
120	MA Communication	34	0	0	97.06	97.06
121	BAJC	72	0	0	84.72	84.72
122	B.Sc Animation	5	0	0	40	40
123	BBA (JDM)	43	25.58	58	6.98	90.7
124	MBA	116	0	0	100	100
125	M.Sc. Regenerative Medicine	9	0	0	100	100
126	Advanced PG Diploma in Stem Cell and Regenerative Medicine	1	0	0	100	100
127	M.Sc. Molecular Biology & Human Genetics	10	0	0	90	90
128	M.Sc. Bioinformatics	5	0	0	100	100
129	M.Sc. Medical Biotechnology	3	0	0	66.67	66.67
130	B.Sc. Biotechnology	34	0	0	100	100
131	MBBS Phase II Stage II	142	0.7	0	96.48	97.18
132	BDS Phase II Professiona V	21	0	0	100	100
133	M.Sc.Tech (Medical Software)	11	0	0	100	100
134	M.Sc.Tech (VLSI Design)	28	0	0	100	100
135	M.Sc.Tech (VLSI System Design & Verification)	6	0	0	100	100
136	M.Sc.Tech (IT Management)	2	0	0	100	100
137	M.Sc.Tech (Embedded and Wireless Technology)	11	0	0	100	100
138	M.Sc.Tech (Embedded Systems)	90	0	0	100	100

139	M.Sc.Tech (Embedded Systems & Instrumentation)	5	0	0	100	100
140	BHM	83	0	0	67.47	67.47

**Engineering programs:****Undergraduate**

Title of the Programme	Total no. of students appeared	Division				
		Distinction %	I %	II %	III %	Pass %
Bio-Medical Engineering	24	37.50%	25.00%	33.33%	0	95.83%
Chemical Engineering	59	40.68%	35.59%	13.56%	0	89.83%
Civil Engineering	225	34.22%	38.22%	17.78%	0	90.22%
Computer Science and Engineering	239	43.93%	29.29%	17.15%	1	90.79%
Electrical and Electronics Engineering	220	30.00%	35.45%	20.45%	0	85.91%
Electronics and Communication Engineering	242	41.32%	30.17%	16.94%	0	88.43%
Industrial and Production Engineering	67	29.85%	44.78%	20.90%	0	95.52%
Mechanical Engineering	257	45.14%	28.40%	15.18%	2	89.49%
Printing Technology	23	39.13%	26.09%	4.35%	0	69.57%
Information Technology	135	25.93%	34.07%	24.44%	0	84.44%
Instrumentation and Control Engineering	81	27.16%	30.86%	29.63%	0	87.65%
Biotechnology	23	39.13%	43.48%	17.39%	0	100.00%
Mechatronics	79	30.38%	31.65%	21.52%	1	84.81%
Aeronautical Engineering	58	32.76%	24.14%	20.69%	0	77.59%
Automobile Engineering	72	34.72%	40.28%	13.89%	0	88.89%

**Postgraduate**

Title of the Programme	Total no. of students appeared	Division				
		Distinction %	I %	II %	III %	Pass %
Bio-Medical Engineering	24	75.00	20.83	0.00	0.00	95.83
Computer Science and Engineering	25	88.00	12.00	0.00	0.00	100.00
Construction Engg. and Management	18	66.67	22.22	0.00	0.00	88.89
Digital Electronics and Advanced Communication	25	80.00	12.00	0.00	0.00	92.00
Energy Management, Auditing and Lighting	18	83.33	16.67	0.00	0.00	100.00
Engineering Management	18	72.22	22.22	0.00	0.00	94.44
Structural Engineering	25	72.00	16.00	4.00	0.00	92.00
Computer Aided Mechanical Design and Analysis	18	66.67	27.78	0.00	0.00	94.44
Control Systems	18	83.33	16.67	0.00	0.00	100.00
Manufacturing Engineering and Technology	18	72.22	27.78	0.00	0.00	100.00
Network Engineering	18	72.22	16.67	0.00	0.00	88.89
Software Engineering	18	55.56	38.89	0.00	0.00	94.44
Nuclear Engineering	-	-	-	-	-	-
Printing and Media Technology	3	100.00	0.00	0.00	0.00	100.00
Microelectronics	17	76.47	17.65	5.88	0.00	100.00
Power Electronic Systems and Control	17	94.12	0.00	5.88	0.00	100.00
Astronomy and Space Engineering	18	50.00	44.44	5.56	0.00	100.00
Printing and Media Technology (Dual Degree)	4	25.00	0.00	0.00	0.00	25.00
Industrial Bio -Technology	17	70.59	23.53	5.88	0.00	100.00
Computer Science and Information Security	17	70.59	29.41	0.00	0.00	100.00
Chemical Engineering	14	71.43	28.57	0.00	0.00	100.00
Environmental Engineering	18	38.89	38.89	16.67	0.00	94.44

Biochemical Engineering	1	100.00	0.00	0.00	0.00	100.00
Industrial Pollution Control	4	50.00	50.00	0.00	0.00	100.00
Advanced Thermal Power and Energy System	19	63.16	31.58	0.00	0.00	94.74

## 2.12 How does IQAC Contribute/Monitor/Evaluate the Teaching & Learning processes:

### KMC Manipal

- Student feedback on teachers and infrastructure obtained periodically
- Seminars and conferences for teaching faculty to inspire their quality of teaching.
- Medical education unit through which IQAC periodically conducts sessions to explore avenues to enhance teacher effectiveness through professional skill development training programmes.
- Department audit by trained Auditors twice a year
- Analysis of Results, Research output, Performance of students and teachers analyzed in Core committee meeting and board of studies

### SOAHS Manipal

Internal audits, online feedback, marks sent to parents

### SOLS Manipal

Every subject has a teaching schedule drawn. Every class is registered through an online attendance. Students provide feedback on faculty and services. Every student is monitored and evaluated via internal assessment examinations, seminar presentations and assignments.

### MCON Manipal

Every month departmental meeting are conducted and the progress of teaching and learning is discussed. Any deviation from regular planned activity is rectified. Every month faculty meeting is held during which the progress and evaluation of the students are discussed. Feedback given by the students is communicated to the faculty during these meetings and need for improvement is stressed.

### MMMC Manipal

By providing inputs, regular audits and collecting / analysing students feed backs

### MCODS Mangalore

- Online Feedback given by the students on quality of teaching/teacher, teaching methods and also suggestions from IQAC for improvement.
- Department audit by trained Auditors twice in a year

- Analysis of Results, Research output, Performance of students and teachers analysed in Core committee meeting
- Faculty sent to Teaching Learning workshop conducted by the University

### MIT Manipal

1. All the faculty members are asked to enter the day to day activities in the “Academic Management System-AMS” and the same is monitored.
2. Course coverage is monitored.
3. Audits are done to see all the activities are done on time.
4. Feedbacks are studied and improvements are suggested.

### FOA Manipal

The conductance of classes as per the course plan/lesson plan are monitored by the class committee chairpersons (CCC) who report to the Academic Co-ordinator, and to the Director.

- Improvement in academic quality
- Monitoring academic process
- Enhancing academic and industrial interaction
- Initiatives of newer teaching methods
- Interaction with alumni for academic purposes.
- Hands on workshops
- Total Quality Management practice to improve academic standards

### SOM Manipal

Lesson planning, online attendance system, and Audits

### SOIS Manipal

#### Contributions:

- Conduction of workshops and guest lectures to students
- Workshops for faculty members

#### Monitoring/ Evaluation:

- Conduction of periodic IMS internal audit twice in a year
- Review of internal audit by Management Representative from Department of Quality, MAHE
- External audit by TUV, Bengaluru

## 2.13 Initiatives undertaken towards faculty development

<i>Faculty / Staff Development Programmes</i>	<i>Number of faculty benefitted</i>
Refresher courses	144
UGC – Faculty Improvement Programme	42
HRD programmes	220

Orientation programmes	99
Faculty exchange programme	12
Staff training conducted by the university	340
Staff training conducted by other institutions	52
Summer / Winter schools, Workshops, etc.	310
Others	176

#### 2.14 Details of Administrative and Technical staff

Category	Number of Permanent Employees	Number of Vacant Positions	Number of permanent positions filled during the Year	Number of positions filled temporarily
Administrative Staff	825	57	54	10
Technical Staff	571	21	19	8

### Criterion – III

#### 3. Research, Consultancy and Extension

##### 3.1 Initiatives of the IQAC in Sensitizing/Promoting Research Climate in the institution

- An annual budget of more than INR 10 crore earmarked to promote research
- Provision to utilize matching grants, seed money, publication charges and other logistics
- Facilitate interdisciplinary research activities by sharing of specialized equipment, state-of-the-art research laboratories, libraries, medical simulation center, teaching hospitals, innovation centre, Manipal Anatomy and Pathology (MAP) museum etc.
- Further globalization of research activities through partnerships with industry and premier institutions within India and overseas
- Training and technical assistance to the researchers through mobility and exchange programme
- Dissemination of research output through scientific publications and scientific presentations
- Implementation of uniform research policy including intellectual property rights, ethics, academic dishonesty and plagiarism.
- Awareness programme and training modules to increase the number of quality publications in Scopus and Web of Science indexed journals.
- Incentivize patents and research publications indexed in Scopus and Web of Science with a good impact factor.
- Policy to utilize these incentive points to attend International Conferences by the faculty.
- Subscription to databases like Scopus, Web of Science and access to publishers like Springer, Elsevier etc. to improve publication standards.
- Facilitate researchers to write joint and interdisciplinary proposals from public and private funding agencies.
- Recognition to top researchers through incentive awards on a yearly basis (Gold Medal/Cash Prize)
- Assistance to file intellectual property and commercialization through technology transfer office.
- Introduction of bursary schemes for deserving undergraduate and postgraduate students and research scholars.
- Publication of Manipal Research Review and Manipal University Research E-Bulletin to compile and collate research activities
- Initiation of publishing research journals in the field of Medicine, Dentistry, Nursing, Allied Health, Pharmacy, Technology and Management and Engineering.
- Subscription to more than 500 periodicals in the year 2014
- Dr. T M A Pai endowment chair with worth of Rs. 10 lakhs were sanctioned for the 22 top researcher to foster high quality research

- Research cell was constituted in the year 2014 with respect medical stream

### Research Outcomes:

- Research Grants: Extramural grants to the tune of INR 27 crore were awarded to Manipal University in the academic year 2014.
- Research Publications: Faculty/Researchers of MU published a total of 1165 publications in Scopus indexed journals, with an average of 0.2 Citations per Publication and an average Journal Impact Factor of 0.3, with H-index of 12
- Intellectual Property: A total of 9 patent applications were filed in the year 2014 and 3 patents are awarded
- Awards and Accolades: Manipal University was awarded the Best University Promoting Research at the ASSOCHAM National Education Excellence Awards, 2014 and FICCI Higher Education Award in 2014
- Best Paper award for the paper “The Advantages of Just in Time (JIT) Supplies from a Supplier – A System Dynamics Simulation Analysis” at the 29th International Business Research Conference held in Sydney, Australia on Nov 24 and 25, 2014
- Manipal University grant for 22 students were awarded in the year 2014.
- Number of papers with Journal Impact Factor more than 5 were 6
- Manipal University is the only private university from India to participated in International Ocean Discovery Program (IODP) Arabian Sea Monsoon Expedition 355.
- Discovery of 5 new isotopes in nuclear physics and discovery of new astrophysical objects by the astrophysics team.
- Excellent paper award for the paper “Increasing the efficiency of a PV system using dual axis solar tracking” in the 11th IRF International Conference (ICEECSME – 2015) held in Bangalore on Feb 15, 2015
- UG students from KMC, Mangalore have consistently been awarded the ICMR STS projects.

### Research Activities

- DoR has supported activities to create an ecosystem to sustain excellence in research among the student community, and driven by the Student Research Forum.
- Student Research Forum was constituted having student representatives from undergraduate, post graduate and PhD programme. Through this forum regular workshops and lectures were organized.
- Students’ Research Day was conducted in February 2014. At this event research scholars presented 60 posters and 10 research papers. In addition, 45 research papers were presented by the UG students.
- Manipal Research Colloquium from April 11-12, 2014 witnessed more than 120 participants and 65 invited speakers.
- A Summer Training program was conducted between June 16 and July 12, 2014.
- A two day workshop on Computational Methods for Interdisciplinary Research from December 15-16, 2014, had over 100 participants.

- International Conference on Computational Methods in Engineering and Health Sciences (ICCMEH) from December 17-19, 2014 with over 100 presentations.
- Orientation programmes for the benefit of UG and PG students to take up research is a regular feature. These initiatives have helped the students to improve their analytical skills, reasoning capacity and scientific curiosity.
- Motivated the UG students to take up research projects under Manipal University UG student research grant.
- Presentation by students at National and International conferences and publication papers in reputed journals.
- Innovation day held at the Innovation Centre allowed the faculty and students to showcase their talent and innovations with outstanding innovations suitably rewarded.
- Invitation to experts from renowned organizations to deliver plenary lectures.
- Forging partnerships with industry to enhance innovation and training students to acquire skills that equip them for fulfilling careers.
- Awareness programmes about the fundamentals of the Optics and basics of Lasers for the students at 10+2 level through the workshop “KIRAN”, ANSHU
- Collaboration with international universities in all specialties including Engineering & Architecture, Medicine, Management, Media & communication, Life sciences, Dentistry and the culinary arts.

#### Workshops and CME organized

SI	Name of Faculty	Topic	Date	Place	Number of Participants
1	Dr. M. K. Unnikrishnan	Introducing Interdisciplinary Research	17-Jan-14	Interact, Manipal	100
2	Dr. G Jagadish Adjunct Prof. MCOPS, Manipal	Planning, Executing and Publishing Research Projects	11-Feb-14	MCOPS, Manipal	100
3	Dr. Raviraja Adhikari	Interdisciplinary Research	19-Feb-14	Interact, Manipal	100
4	Dr. P. D. Gupta	Search and Research	10-Mar-14	Interact, Manipal	100
	Adjunct Professor				
	MCOPS				
5	Directorate of Research	Manipal Research Colloquium -2014	April 11-12, 2014	Interact Manipal	600
	Directorate of Research	Student Research Poster Competition (SRPC 2014):			
6	Dr. Arun Kumar	Availability of various	5-Jun-14	Interact	100

	Chawla	Australian fellowships and scholarships		Manipal	
7	Dr. Arun Kumar Chawla	Availability of various Australian fellowships and scholarships	7-Jun-14	KMC, Mangalore	100
8	Directorate of Research	Summer Training 2015	June 16- July 12, 2014	Interact, Manipal	240
9	Dr. Lakshmi Sundar	Knowledge Sharing in Scientific Research	12-Aug-14	Interact Manipal	150
10	Dr. N Udupa and Dr. Raghuvir Pai	Introduction to Research Activities of Manipal University	14-Aug-14	Interact Manipal	150
	Dr. Yogendra Nayak	Quality of Publications, Impact factor, Citation, H-index, University Ranking etc.			
	Dr. Manthan D 47Janodia	Research and Intellectual Property Rights			
	Dr. Rekha Shenoy	Funding Opportunities and University Grant Proposals.			
11	Dr. N Udupa and Dr. Raghuvir Pai	Introduction to Research Activities of Manipal University	16-Aug-14	KMC, Mangalore	150
	Dr. Yogendra Nayak	Quality of Publications, Impact factor, Citation, H-index, University Ranking etc.			
	Dr. Manthan D Janodia	Research and Intellectual Property Rights			
	Dr. Rekha Shenoy	Funding Opportunities and University Grant Proposals.			
12	Mr. Srinivasan Acharya	Informative session on introduction to plagiarism and understanding of the plagiarism software and its reports	25-Aug-14	Interact, Manipal	150

	Mrs. Shantala Pai.	Manipal University Press editorial services			
13	Mr. Srinivasan Acharya	Informative session on introduction to plagiarism and understanding of the plagiarism software and its reports	18-Oct-14	KMC, Mangalore	100
	Mrs. Shantala Pai.	Manipal University Press editorial services			
14	Dr. Manohara Pai M.M.	Innovation, Incubation and Entrepreneurship	21-Oct-14	Interact, Manipal	100
15	Directorate of Research	Pre-Conference workshop in “Computational Methods for Interdisciplinary Research”	December 15-16, 2014	MIT, Manipal	70
16	Directorate of Research	International Conference on Computational Methods in Engineering and Health Sciences	December 17-19, 2014	MIT, Manipal	100
17	Dr. G Jagadish,	Publication in International Journals and Excellence in writing research for publication	29-Dec-14	Interact, Manipal	150
	Senior Advisor, USFDA and Adjunct Professor, MCOPS, Manipal				

### 3.2 Details regarding major projects

	Completed	Ongoing	Sanctioned	Submitted
Number	3	46	6	99
Outlay in Rs. Lakhs	82.77	2746.41	233.03	4309.03

### 3.3 Details regarding minor projects

	Completed	Ongoing	Sanctioned	Submitted
Number	4	246	5	143
Outlay in Rs. Lakhs	32.63	837.4	25.45	1143.15

### 3.4 Details on research publications

	International	National	Others
Peer Review Journals	103	43	
Non-Peer Review Journals			
e-Journals			
Conference proceedings	7	3	

### 3.5 Details on Impact factor of publications:

Range  Average  h-index  Nos. in SCOPUS

#### Dubai campus

Range  Average  h-index  Nos. in SCOPUS

### 3.6 Research funds sanctioned and received from various funding agencies, industry and other organisations

#### KMC Manipal

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
<b>Major projects</b>				
Study of drug resistance in pulmonary tuberculosis cases with and without HIV co-infection in Udupi District, Coastal Karnataka. – Kiran Chawla	3	Indian Council of Medical Research, New Delhi	3,832,956.00	7,06,421
To compare the efficacy, safety and effects of Caffeine Versus Aminophylline for Apnea of Prematurely in Indian Neonates. A prospective Randomized Control Trial - Dr. Leslie Lewis	3	Indian Council of Medical Research, New Delhi	1976176.00	585540.00
Understanding the Epidemiology of Antimalarial Drug Resistance in Plasmodium Vivax and Elucidation of Resistance Deterministic Host	3	Indian Council of Medical Research, New Delhi	5,212,134.00	1,249,030.00

Factors For Antimalarial Drugs – Dr.KavithaSaravu				
Optimizing non invasive markers for embryo selection-Dr Satish Kumar Adiga (Fellowship - Ms Fiona Olvitta D'souza)	3	Indian Council of Medical Research, New Delhi	393,333.00	177,000.00
The lost focus on males in adolescent friendly health care services-a qualitative analysis-Dr Veena Kamath	2	Indian Council of Medical Research, New Delhi	1,882,876.00	533,427.00
Prevalence of Maternal Genito-Urinary and Periodontal Infections and Associated Risk For Adverse Pregnancy Outcome-A Case Cohort Study-  Dr K E Vandana	4	Indian Council of Medical Research, New Delhi	1,884,004.00	149,054.00
Adolescent health care in two districts of coastal Karnataka an exploratory study-Dr Asha Hegde	2	Indian Council of Medical Research, New Delhi	1,094,372.00	543,186.00
A randomized cross over double blind pilot clinical trial comprising the glycemc index of coconut sap and cocount sugar in healthy human subjects-Dr K L Bairy	6 mths	Central Plantation Crops Research Institute	348,000.00	348,000.00
Strenthening the existing Monitoring and supervision Mechanism for ICDS scheme through NIPCCD-Dr Pawan Kumar	5	National Institute of Public Cooperation and Child development	459,938.00	25,117.00
CAS Study project-	1	Philips		

Dr Rajagopal KV, KMC, Manipal		Electronics India Ltd	325,844.00	162922.00
Screening for Human Papilloma Virus and other DNA virus infections of the cervix among tribal women in Southern India-Dr Ranjitha Shetty-	3	Indian Council of Medical Research, New Delhi	1,473,447.00	1473447.00
Value of fetal autopsy and establishment of normal fetal radiologic anatomy-Dr K M Girisha	3	Indian Council of Medical Research, New Delhi	1,333,385.00	34,370.00
The Impact of sperm DNA damage on Genomic instability and survival strategies in Embryonic stem cells-Dr Satish Kumar Adiga	3	Government of India, Ministry of Science & Technology, Department of Science & Technology, NewDelhi	3,316,940.00	316,940.00
Differences in T lymphocyte apoptosis in the granulomatous inflammation in intestinal tuberculosis and Crohn's disease - implications to diagnosis and pathogenesis-Dr C Ganesh Pai	3	Science and Engineering Research Board, New Delhi	5,148,000.00	800,000.00
Molecular Analysis of filamin b related disorders-  Dr K M Girisha (Award of Sr. Research Fellowship to Mr Abdul Mueed Bidchol)	3	Indian Council of Medical Research, New Delhi	268,400.00	134,200.00
Effect of biotin supplementation to sperm wash media on the	3	Indian Council of Medical Research, New	489,180.00	244,590.00

enhancement of sperm function and pregnancy outcome in intrauterine insemination programme- Dr Guruprasad Kalthur		Delhi		
Effect of antituberculosis drugs on gemete functional physiology, fertility potential and pre-implantation embryo developmental potential in mouse- Dr Guruprasad Kalthur	3	Indian Council of Medical Research, New Delhi	751,760.00	275,880.00
Repeated superovulation induced changes in the oocytes, embryos and somatic cells-Dr Guruprasad Kalthur	3	Science & Engineering Research Board (SERB)	2,214,400.00	700,000.00
A clinico microbiological environmental and molecular approach to explore the epidemiology of neglected disease Meliodosis-Dr Chiranjay Mukhopadhyay	3	Indian Council of Medical Research, New Delhi	1,549,000.00	624666.00
Evaluation of multiple ligation dependent probe amplification (MLPA) for diagnosis and carrier detection in families with a dystrophinopathy-Dr Girisha K M	3	Science and Engineering Research Board, New Delhi	2,100,000.00	700,000.00
A community based prospective study to evaluate the efficacy of second dose of measles vaccination under the Universal Immunization Program in costal	2	Indian Council of Medical Research, New Delhi	245,570.00	107,743.00

Karnataka-Dr Pawan Kumar				
Effect of assisted hatching on developmental potential of the embryo etc-Dr Satish Kumar Adiga (Fellowship - Mr Sachin Honguntikar)	3	Indian Council of Medical Research, New Delhi	708,000.00	136,356.00
Multicentric Collaborative study of the Clinical Biochemical and Molecular Characterization by Lysosomal Storage Disorders in India - The initiative for research in LSD-Dr Girish K M	3	Indian Council of Medical Research, New Delhi	2,343,200.00	379,680.00
Assessment of risk Factors and predictors for spontaneous pre-term birth in a South Indian Antenatal Cohort-Dr Chythra R Rao	3	Indian Council of Medical Research, New Delhi	3,476,511.00	497,627.00
Fertility preservation using Moringa oleifera/Leaf extract in Mice Treated with Chemotherapeutic Agents and its Nechanism of Action-Dr Guruprasad Kalthur	3	Indian Council of Medical Research, New Delhi	1,801,012.00	587,681.00
Behavioural biochemical and histopathological analysis of the effects of antiotensin converting enzyme (ACE) inhibitors and angiotensin receptor blockers (ARBS) on learning and memory in male wister rats-Dr Veena Nayak	3	Indian Council of Medical Research, New Delhi	1,587,995.00	510,074.00

Financial Assistance for attending 64th Annual Meeting of the American Society of Human Genetics held during 18.10.2014 to 22.10.2014 in California (USA)-Dr Anju Shukla	Not Mentioned	Science and Engineering Research Board (SERB)	117,554.00	117,554.00
Financial Assistance for participating in Oncofertility Conf. 2014 held from 22.09.2014 to 23.09.2014 in North Western University (USA)-Ms Shunbhashree Uppangala	Not Mentioned	Science and Engineering Research Board (SERB)	108,386.00	108,386.00
Research Collaboration (Amendment 5th - Feb 2014)-Dr Raviraj Acharya	2	Intel Technology India Pvt Limited	438,204.00	73,034.00
CSPP100F2301- Dr Padma Kumar	4	Novartis Healthcare Pvt Ltd	855,000.00	45000,00
PROTOCOL/01/SKIN IRRITANCY/2014 - DR K L BAIRY	1	Apex Laboratories Private Limited	264,000.00	132,000.00
PROTOCOL NO.KMC/EYE/02/2013 - DR K L BAIRY	1 1/2	Apex Laboratories Private Limited	354,400.00	177,200.00
PROTOCOL 001/BURN STUDY/2013 - DR K L BAIRY	2	Apex Laboratories Private Limited	294,340.00	147,170.00
KMC/NASAL/02/2013 - Dr K L Bairy	1 1/2	Apex Laboratories Private Limited	330,000.00	165,000.00

PROTOCOL/01/BURN WOUNDING HEALING STUDY/14-DR K L BAIRY	2	Apex Laboratories Private Limited	294,340.00	147,170.00
ILO522D2301-Dr P S V N Sharma	2	Quintiles Research (India) Pvt Ltd	800,000.00	90001.00
SPRL/OA/09-10/001-Dr Vivek Pandey	2	Manipal Acunova Ltd, Bangalore	1,717,820.00	155624.00
CACZ885M2301-Dr Tom Devasia	4	Novartis Healthcare Pvt Ltd	1,658,600.00	197900.00
Research Collaboration (Amendment 5th - March 2014)	2	Intel Technology India Pvt Limited	438,204.00	73,034.00
Research Collaboration (Amendment 5th - April 2014)-Dr Raviraj Acharya	2	Intel Technology India Pvt Limited	438,204.00	73,034.00
Research Collaboration (Amendment 5th - May 2014)-Dr Raviraj Acharya	2	Intel Technology India Pvt Limited	438,204.00	73,034.00
KMC/PHA/ZINCOVIT SYRUP 001/2013-Dr K L Bairy	1,1.5	Apex Laboratories Private Limited	544,200.00	217,680.00
KMC/PHA/ZINCOVIT SYRUP 002/2013-Dr K L Bairy	1,1.5	Apex Laboratories Private Limited	482,400.00	192,960.00
KMC/PHA/ZINCOVIT SYRUP 003/2013-Dr K L Bairy	1,1.5	Apex Laboratories Private Limited	433,200.00	173,280.00
KMC/PHA/ZINCOVIT SYRUP 004/2013- Dr K	1 1.5	Apex Laboratories		248,160.00

L Bairy		Private Limited	620,400.00	
KMC/PHA/ZINCOVIT DROPS 005/2013- Dr K L Bairy	1 1.5	Apex Laboratories Private Limited	544,200.00	217,680.00
KMC/PHA/ZINCOVIT DROPS 006/2013- Dr K L Bairy	1 1.5	Apex Laboratories Private Limited	482,400.00	192,960.00
KMC/PHA/ZINCOVIT DROPS 007/2013- Dr K L Bairy	1 1.5	Apex Laboratories Private Limited	433,200.00	173,280.00
KMC/PHA/ZINCOVIT DROPS 008/2013- Dr K L Bairy	1 1.5	Apex Laboratories Private Limited	620,400.00	248,160.00
KMC/ZVT/01/2014- Dr K L Bairy	1 1.5	Apex Laboratories Private Limited	429,960.00	257,976.00
KMC/ZVT/02/2014- Dr K L Bairy	1 1.5	Apex Laboratories Private Limited	429,960.00	257,976.00
NIS-CAP-XXX-2011/1-EPICOR ASIA-Dr Tom Devasia	2	Max neeman Medical International Limited	250,000.00	19,000.00
EX2211-3748-Dr Sudha Vidyasagar	5	Novo Nordisk India Pvt Ltd	7,000,000.00	190,774.00
BRV07-Dr Avinash Shetty	2	Shantha Biotechnics Limited	1,906,000.00	476500.00
Research Collaboration (Amendment 5th - June	2	Intel Technology	438,204.00	73,034.00

2014)-Dr Raviraj Acharya		India Pvt Limited		
Research Collaboration (Amendment 6th - July 2014)-Dr Raviraj Acharya	6 Month	Intel Technology India Pvt Limited	438,204.00	73,034.00
KMC/Zincoderm G/01/2013-Dr K L Bairy	1 year 6 mnth	Apex Laboratories Private Limited	521,400.00	208,560.00
KMC/Zincoderm GM/02/2013 Dr K L Bairy	1 year 6	Apex Laboratories Private Limited	444,840.00	177,936.00
Rota :03/12- Dr Veena Kamath	2	Serm Institute of India Ltd	200,000.00	200,000.00
Research Collaboration (Amendment 6th - Aug 2014)- Dr Raviraj Acharya	6mnth	Intel Technology India Pvt Limited	438,204.00	73,034.00
Research Collaboration (Amendment 6th - Sep 2014)-Dr Raviraj Acharya	6 months	Intel Technology India Pvt Limited	438,204.00	73,034.00
3 Nethra Royal Clinical trial-Dr Lavanya G Rao	4 months	Forus Health Pvt Ltd	700,000.00	250,000.00
Research Collaboration (Amendment 6th - Oct 2014)-Dr Raviraj Acharya	6 months	Intel Technology India Pvt Limited	438,204.00	73,034.00
Research Collaboration (Amendment 6th - Nov 2014)- Dr Raviraj Acharya	6 months	Intel Technology India Pvt Limited	438,204.00	73,034.00
Registry Study-Dr Sudha Vidyasagar	Until completion of the	St John National Academy of	150,000.00	150,000.00

	Registry	Health Science, Bangalore		
Research Collaboration (Amendment 6th - Dec 2014)- Dr Raviraj Acharya	6 months	Intel Technology India Pvt Limited	438,204.00	73,034.00
KMC/Ageless Liquid/01/2014- Dr K L Bairy	1 1/5	Apex laboratories Pvt Ltd	680,400.00	408,240.00
KMC/Ageless Liquid/03/2015- Dr K L Bairy	1 1/5	Apex laboratories Pvt Ltd	752,400.00	451,440.00
CSPP1002301- Dr Padma Kumar	4	Novartis Healthcare Pvt Ltd	855,000.00	9,000.00
EX2211-3748- Dr Sudha Vidyasagar	5	Dr Sudha Vidyasagar	7,000,000.00	14,188.00
SRPL/OA/09-10/001- Dr Vivek Pandey	2	Manipal Acunova	1,717,820.00	89,523.00
Research Collaboration (Amendment 7th - Jan 2015)- Dr Raviraj Acharya	3 month	Intel Technology India Pvt Limited	219,102.00	73,034.00
Research Collaboration (Amendment 7th - Feb 2015)-Dr Raviraj Acharya	3 month	Intel Technology India Pvt Limited	219,102.00	73,034.00
Public Health	September 2014till December 2015	UNICEF	23,67,899	18,94,149

Public Health	2015	PIPPSE/PHFI	11,52,950	08,07,065
Public Health	2015	PIPPSE/PHFI	13,40,879	09,38,615
PHD Students' Contribution to the Advancement of Knowledge: A Study of Teachers in Colleges and Universities of Karnataka State. (Statistics)	2 Years	ICSSR	4,32,688	1,00,625
Promoting Research – Perception and Practices in educational institutions of India – A Cross Sectional Study (Resubmitted on 25th July,2014) (Statistics)	3 Years	DST	20,06,840	10,00,000
Women Employees of higher education in Karnataka: Struggles & Successes (Statistics)	2 Years	ICSSR	9,30,950	Nil
BARC-Evaluation of Nuclear Data Including covariance error Matrix for advanced Nuclear System in India (Statistics)	3 Years	BARC	22,00,000	8,60,550
Generalized inverse of matrix & its applications (Statistics)	3 Years	DST	19,00,000	6,00,000
Major projects (Virology)	2014-15	NCDC, ICMR, DBT, NVBDCP, DST, NIH- ITREOH, CDC, BRITISH COUNCIL DIVISION	3,84,69,261.00	3,84,69,261.00

Minor Projects	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
NC25608- Dr Sudha Vidyasagar	6 months	Quintiles Research (India) Pvt Ltd	25,556.00	25,556.00

Case Report preparation-Dr K L Bairy	Not Mentioned	Boehringer Ingelheim India Pvt Ltd	61,000.00	61,000.00
CQVA149A318- Dr Aswini Kumar Mohapatra	1	Novartis Healthcare Pvt Ltd	16,520.00	1,520.00
	2015	APSA Bangalore	5,000	5,000
Fortification of staple foods with vitamin A for preventing vitamin A deficiency”	6 Months	WHO	4,50,000	1,48,862

Interdisciplinary Projects				
<b>Industry sponsored</b>	50			
<b>Projects sponsored by the University/ College</b>				
Translational Virology Dr Arun Kumar	2 Years	MAHE University	10,00,000.00	10,00,000.00
Mendelian Genetics Dr. Girish K.M	2 Years	MAHE University	10,00,000.00	10,00,000.00
Fertility & Clinical Embryology Dr. Satish Kumar Adiga	2 Years	MAHE University	10,00,000.00	10,00,000.00
Inflammatory Bowel Diseases Dr. Ganesh Pai	2 Years	MAHE University	10,00,000.00	10,00,000.00
Laboratory Quality Management Dr Pragna Rao	2 Years	MAHE University	10,00,000.00	10,00,000.00
Prediabetes Dr Sudha Vidyasagar	2 Years	MAHE University	10,00,000.00	10,00,000.00

Students research projects (other than compulsory by the University)	10	ICMR	1,00,000	-
Any other(Specify)	-	-	-	-
Total	-	-	-	

### SOAHS Manipal

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
Major projects	2015	Mc Gill University, Canada	670,870 CAD	670,870 CAD
Minor projects	2015	DST	5,00,000	4,62,600

		ICMR	18,50,000	63,325
Major projects	2011 - 2014	DST, Govt. of India	Rs. 27,00,000/-	Rs. 4,45,215 (in 2014-2015)
Major projects	2012-2015	DST, Govt. of India	Rs. 46,17,200/-	Rs. 4,38,040 (in 2014-2015)
Major projects	2012-2015	ICMR	Rs. 23,44,316/-	Rs. 5,22,290
Major projects	2013-2015	ICSSR	Rs. 5,00,000	Nil in 2014
Minor Projects				
Interdisciplinary Projects				
Industry sponsored				
Projects sponsored by the University/ College				
Students research projects (other than compulsory by the University)				
Any other(Specify)	-	-	-	-
<b>Total</b>	-	-		

**SOLS Manipal**

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
Major projects	2-4 years	DBT, DST, ICMR, BRNS, SERB, VGST	641.96	103.49
Minor Projects				
Interdisciplinary Projects				
Industry sponsored				
Projects sponsored by the University/ College				
Students research projects (other than compulsory by the University)				
Any other(Specify)	-	-	-	-
<b>Total</b>	-	-		

**MCODS Manipal**

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
Major projects	01	Colgate	5,00,000	5,00,000
Minor Projects				
Interdisciplinary Projects				
Industry sponsored	03	BioMTA ISTA Dental products Colgate pamolive	1,41,745	1,31,745
Projects sponsored by the University/ College	02	MAHE	20,000	-
Students research projects ( <i>other than compulsory by the University</i> )	01	ICMR	60,000	45,000
Any other(Specify) Travel	01	FHNO Travel fellowship AO TC WHITE,	7,37,381	7,37,781
Total			14,59,526	14,14,526

**MCON Manipal**

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
Major projects	03	ICMR(Sangeetha)	1000000.00	2,55,600.00
		GFATM		78,00,000.00
	05	ICMR – DHR- Geriatric Health care Research	56,82,000.00	17,84,441.00
Minor Projects	-	-	-	-
Interdisciplinary Projects	-	-	-	-
Industry sponsored	-	-	-	-
Projects sponsored by the University/ College	-	-	-	-
Students research projects ( <i>other than compulsory by the University</i> )	-	-	-	-
Any other(Specify)	-	-	-	-
Total	03	-	66,82,000.00	98,40,041.00

**MCOPS Manipal**

Nature of the Project	Duration	Name of the	Total grant	Received
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	Year	funding Agency	sanctioned	
Major projects			18	15,043,135.00
Minor Projects			9	330,544.00
Interdisciplinary Projects				
Industry sponsored				<b>27,29,718.00</b>
Projects sponsored by the University/ College	1	Manipal University		
Students research projects (other than compulsory by the University)				
Any other(Specify)				
Total				2.43 Cr

**MMMC Manipal**

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
Major projects (04)		ICMR, Shantha Biotechnics Ltd., Australian Rickettsia Reference Laboratory	Rs. 67.10 Lakhs	
Minor Projects (01)		My Girls Blood, Washington - USA	Rs. 3.2 Lakhs	
Interdisciplinary Projects				
Industry sponsored				
Projects sponsored by the University/ College			Rs.12.184/-	
Students research projects (other than compulsory by the University)				
Any other(Specify)				
Total			70,42,184/-	

**MCODS Mangalore**

Nature of the Project	Duration Year	Name of the funding Agency	Total grant Sanctioned	Received
Major projects	2014-15	Boston University and Mazumdar Shaw Cancer Centre	Rs 1,20,000/-	Rs 60,000/-
	2014-15	Shree Kshetra Dharmasthala Rural Development Projects	Rs 3,50,000/-	Rs 1,00,000/-
Minor Projects	2014-15	ICMR	Rs 70,000/-	Rs 70,000/-
Interdisciplinary Projects	-	-	-	-
Industry sponsored	-	-	-	-
Projects sponsored by the University/ College	-	-	-	-
Students research projects (other than compulsory by the University)	-	-	-	-
Any other(Specify)	-	-	-	-
Total			Rs 5,40,000/-	Rs 2,30,000/-

**MIT Manipal**

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
Major projects	2-4	VGST, DeitY, DST, DAE-BRNS Govt of India, SERB-DST	250.61	100.5260
Minor Projects	1-3	VGST, DST, ICSSR	15.49	1.2000
Interdisciplinary Projects	-	-	-	-
Industry sponsored	-	-	-	-
Projects sponsored by the University/ College	2	Manipal University	7.32	7.3200

Students research projects (other than compulsory by the University)	4	Manipal University	4.09	4.0900
Any other(Specify)	9	Committee on Space research, France	66.1769	66.1769
<b>Total</b>	1-9	VGST, DeitY, DST, DAE-BRNS Govt of India, SERB-DST, ICSSR, Manipal University, Committee on Space research, France	<b>343.6869</b>	<b>179.3129</b>

### SOC Manipal

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
Major projects	2	Indian Council of Medical Research	6,99,075	1,53,235
Minor Projects	3	National Council for Women	2,41,290	96.516
Interdisciplinary Projects				
Industry sponsored				
Projects sponsored by the University/ College	.2 .3	Manipal University Press Manipal University and Syndicate Bank	•	2,25,000*
Students research projects (other than compulsory by the University)				
Any other(Specify)	1 .2 .2	Prasar Bharati Goonj (KMC) I –Care Home	1,50,000 1,22,000 30,000	1,50,000 1,22,000 30,000
<b>Total</b>				

**SOIS Manipal**

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
Major projects	1	Massachusetts General Hospital, USA	US\$ 50,000	US\$ 20,000
Minor Projects				
Interdisciplinary Projects				
Industry sponsored				
Projects sponsored by the University/ College				
Students research projects ( <i>other than compulsory by the University</i> )				
Any other(Specify)				
<b>Total</b>				

**SORM Bangalore**

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
Major projects	2014-15	DRDO, DBT,CSIR,ICMR,DST, ,DR.TMA PAI END CHAIR GRANT, STEMADE FOUNDATION CURTIN UNIVERSITY- INDIA INITIATIVE FUND, DAIICHI SANKYO INDIA PVT. LTD., GURGAON, INDIA, DST-SERB	11	11
<b>Minor Projects</b>	<b>NIL</b>	<b>NIL</b>	<b>NIL</b>	<b>NIL</b>
Interdisciplinary Projects	NIL	NIL	NIL	NIL
Industry sponsored	NIL	NIL	NIL	NIL
Projects sponsored by the University/ College	1	DR.TMA PAI END CHAIR GRANT	NIL	NIL
Students research projects ( <i>other than compulsory by the University</i> )	NIL	NIL	NIL	NIL

Any other(Specify)	NIL	NIL	NIL	NIL
Total	1	11	11	11

**3.7 No. of books published** i) With ISBN No.  Chapters in Edited Books   
 ii) Without ISBN No.

**3.8 No. of University Departments receiving funds from**

UGC-SAP <input style="width: 40px;" type="text"/>	CAS <input style="width: 40px;" type="text"/>	DST-FIST <input style="width: 40px; text-align: center;" type="text" value="1"/>
DPE <input style="width: 40px;" type="text"/>		DBT Scheme/funds <input style="width: 40px; text-align: center;" type="text" value="2"/>
DST <input style="width: 40px; text-align: center;" type="text" value="7"/>	UGC <input style="width: 40px; text-align: center;" type="text" value="2"/>	

**3.9 For colleges** Autonomy  CPE  DBT Star Scheme   
 INSPIRE CE  Any Other  (fy)

**3.10 Revenue generated through consultancy**

**3.11 No. of conferences organized by the Institution**

Level	International	National	State	University	College
Number	35	64			
Sponsoring agencies	ICMR, DBT, MU	SBC(I)			

**3.12 No. of faculty served as experts, chairpersons or resource persons**

**3.13 No. of collaborations** International  National  Any other

**3.14 No. of linkages created during this year**

**3.15 Total budget for research for current year in lakhs :**

From Funding agency	<input style="width: 80px; text-align: center;" type="text" value="2133.27"/>	From Management of University/College	<input style="width: 80px; text-align: center;" type="text" value="3036.9"/>
Total	<input style="width: 80px; text-align: center;" type="text" value="5170.22"/>		

## 3.16 No. of patents received this year

Type of Patent		Number
National	Applied	9
	Granted	2
International	Applied	
	Granted	1
Commercialised	Applied	
	Granted	

## 3.17 No. of research awards/ recognitions received by faculty and research fellows Of the institute in the year

Total	International	National	State	University	Dist	College
258	22	82	23	54	21	56

## 3.18 No. of faculty from the Institution

who are Ph. D. Guides

274

and students registered under them

144

## 3.19 No. of Ph.D. awarded by faculty from the Institution

93

## 3.20 No. of Research scholars receiving the Fellowships (Newly enrolled + existing ones)

 JRF  SRF  Project Fellows  Any other 

## 3.21 No. of students Participated in NSS events:

 University level  State level   
 National level  International level 

## 3.22 No. of students participated in NCC events:

 University level  State level   
 National level  International level 

## 3.23 No. of Awards won in NSS:

 University level  State level   
 National level  International level 

## 3.24 No. of Awards won in NCC:

 University level  State level   
 National level  International level

### 3.25 No. of Extension activities organized

University forum	-	College forum	13
NCC	2	NSS	-
		Any other	-

### 3.26 Major Activities during the year in the sphere of extension activities and Institutional Social Responsibility

#### KMC Manipal

- Participation in national health programmes of the government
- Conducting camps at various places involving various departments of the hospital
- Conducting and participating in blood donation camps

#### SOAHS Manipal

1. Started external postings in Asare, Geriatric, & school clinic
2. “Scientific Meet on Medical Imaging Technology” held on 14<sup>th</sup> & 15<sup>th</sup> March 2015
3. Organ Donation awareness programme was conducted on 27<sup>th</sup> November 2015
4. Hearing screening camp was conducted on 21-Oct-2014 at Government Hospital, Karkala
5. Diabetic camps were conducted for screening diabetic foot.
6. Community outreach programmes were conducted in normal schools, special school, old age homes by Our department

#### SOLS Manipal

- INSPIRE science internship for school students (May 2015)
- Science Day residential program for a week, culminating in a science exhibition for public, including school students (Feb 2015)
- Student forum organised lectures on a range of topics by external experts
- Workshops and demonstrations arranged for students from schools and colleges in the state

#### MCODS Manipal

- College actively participated on Rural dental health care programs
- Awareness programs on Breast Cancer, HIV, Women’s oral health and Tobacco cessation
- Awareness program to the Autodrivers association of Manipal
- School Dental Health Program
- Amchi project in Ladakh in association with European Dental Students Association
- Celebration of National Science Day, World No Tobacco Day and Children’s Day.
- Oral health awareness talk to school teachers
- Awareness program for the prevention of maxillofacial injuries resulting from Dog Bites in children

- Kannada classes to the students

### MCOPS Manipal

ACPI (Association of Community Pharmacists of India) activities. Promotion of role of pharmacist in public health

KSPOR (Kautilya's Society for Pharmacoeconomics and Outcomes Research) activities. Promotion of research activities on pharmacoeconomics.

### MMMC Manipal

- Community service under Huluran Kasih - Our students make themselves free and available to render voluntary services to the underprivileged members of the society through our student based reach out program Huluran Kasih .
- Students and faculty of MMMC are members of haemophilia society which conducts annual camps for haemophilia patients
- MMMC student council had organized a blood donation camp in collaboration with KMC Blood Bank in November 2015. Through this camp we were able to contribute 66 units of blood to the blood bank.
- M –ECO club, an environmental conscious club was inaugurated in June 2015 and as part of club activity- Planting saplings at End-point, Skit competition with environmental theme for BDS students and Car free day for MMMC faculty (October 3, 2015) were carried out.
- M-FIRE, MMMC Faculty Initiative for Recreation and Empowerment was inaugurated in September 2015 and has various sub groups working towards enriching the work experience

### MCODS Mangalore

- Treatment of patients through satellite clinics
- Treating patients in the rural area through Mobile clinics
- Active participation in social activities such as DISHA, Rastriya Ektha Divas, World Health day, Swatchha Bharath Abhiyaan, Participation in Dhanta Bhagya Scheme of Government of Karnataka

### MIT Manipal

- Development of advanced composites Laboratory in collaboration with NAL Bangalore.
- IGSTC and Manipal University sponsored workshop.
- The department of Biomedical Engineering organized a two day workshop on Soft Computing in Healthcare Applications (SOFT-COMP2014).
- A National level symposium organized on safety in process industries and chemical laboratories
- 2014 International Conference on Advances in Energy Conversion Technologies in association with IEEE (PES, Bangalore), Schneider Electric, TI India University programme, Cranes Software & Corel Technologies, DST & CSIR.
- Texas Instruments Innovation Challenge – India Analog Design Contest , 2014 was conducted as a part of TI University Program



**SOIS Manipal**

- Volunteer Services Organization
  - Organized DaanUtsav – Joy of Giving Week in first week of October 2014.
  - Visited Bijapu Slum Area @ Manipal, 6 time during year mentioned above
- MITHRA Association
  - Supported 2 students passed 10<sup>th</sup> Standard for their 10+1 and 10+2

**WGSHA Manipal**

Sl. No.	CSR Activity
1	Manipal City & Guilds Skills Training for local community development
2	Activities by Volunteer Service Organisation (VSO), Manipal University
3	Blood Donation Camps by WANASS Club, WGSHA
4	Beach Cleaning Activities by WANASS Club, WGSHA
5	Orphanage Visits by Students, Birthday Cakes contributions
6	Community Outreach Services and Growth Monitoring at Anganwadis by students of M. Sc Dietetics and Nutrition
7	Nutrition Education Exhibition cum Stall at the World Diabetes Day Awareness and Screening Expo. Conducted by the Dept. of Medicine at Kasturba Hospital, Manipal

### Criterion – IV

#### 4. Infrastructure and Learning Resources

##### 4.1 Details of increase in infrastructure facilities:

Facilities	Existing	Newly created	Source of Fund	Total
Campus area	690.985 acres	--	--	690.985 acres
Class rooms	392	6	Own funds	398
Laboratories	344	8	Own funds	352
Seminar Halls	148	12	Own funds	160
No. of important equipments purchased ( $\geq$ 1-0 lakh) during the current year.	6,900	568	Own funds	7,468
Value of the equipment purchased during the year (Rs. in Lakhs)	56,757.13	4,997.54	Own funds	61,754.67
Others				

##### 4.2 Computerization of administration and library

Library is fully automated using Easylib Software.

All documents are barcoded

E-prints software is used for digital library

- Employee management software
- Purchase inventory module
- Hospital information system
- Online journals and catalogue
- Patient Management System
- Employee Self Service
- Student Information System – Online attendance
- Financial Accounting System
- Biometric attendance system for faculty
- Telephone directory
- E mail directory
- EPAC (Public Access Catalogue) Library Search Engine
- Digital Subscription: Health Science Library
- Research data Management Portal
- E learning – online learning
- Plagiarism check (Turnitin)

##### 4.3 Library services:

###### Kasturba Medical College, Manipal

	Year	Existing		Newly added		Total	
		No.	Value	No.	Value	No.	Value
Text Books Reference Books	2014-15	63964	4,78,54,66.36	1568	47,35,44.35	65532	5,25,90,109.70
e-Books	2015	-	-	-	-	-	4,13,400.00

Journals & e-Journals	2015	-	-	9	8,16,068.00	321	2,26,78,625.00
Digital Database	2015	-	-	-	-	-	54,21,163.00
CD & Video	2014	-	-	21	-	790	-
Others (specify)	-	-	-	-	-	-	-

**Manipal Institute of Technology, Manipal**

	Existing		Newly added (2014-15)		Total	
	No.	Value	No.	Value	No.	Value
Text Books	90939	38520441.06	2182	2370327.90	93121	40890768.96
Reference Books	12318	2486909.95	37	108959.47	12355	2595869.42
e-Books	478	241128.00	27795	3980892.00	28273	4222020.00
Journals		36831229.00	302	4586020.00		41417249.00
e-Journals		41333109.00	1137	10509915.00		51843024.00
Digital Database	2	488000.00	3	1778841.00	5	2266841.00
CD & Video	CD 5050 Video 764	312591.00	CD 450		5500	312591.00
Others (specify) NPTEL Lectures		150000.00				150000.00

**Kasturba Medical College, Mangalore**

	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	376		600			
Reference Books	110	12,24,893.00	49	31,16,662.00	1135	43,41,555.00
Journals	193	50,04,311.00	45	1,59,036.00	238	51,63,036.00
e-Books	1565		5853			
e-Journals	2035		3135			
Digital Database	5	86,11,745.00	3	83,44,058.00	8	1,69,55,803.00
CD & Video	62		70			
Others (specify)						

**Manipal Center for Philosophy & Humanities, Manipal**

	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	611	363672	411	250110	1022	613782
Reference Books	-		-			
e-Books	-		-		-	
Journals (Jan-Dec)	17	220438	-		17	220438
e-Journals	-				-	
Digital Database	1	\$2025.00	-		1	\$2025.00
CD & Video	5	3200	7	4249	12	7449.00
Others (specify)			-			

**School of Management, Manipal**

	Existing (2013-14)		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	1587	7,54,943.00	874	8,36,500.00	2461	1591443.00
Reference Books	11	-	14	-	-	-
e-Books						
Journals	-	-	17	39,500.00	17	39,500.00
e-Journals						
Digital Database	4	20,11,920.00	2	5,17,200	6	25,29,120.00
CD & Video						
Others (specify)						

**Welcomgroup Graduate School of Hotel administration, Manipal**

	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	9797	4966355.36	541	297320	10337	5263675.36
Reference Books	771	-	8	-	779	-
e-Books	-	-	-	-	-	-
Journals	57	4018302	-	-	57	4018302
e-Journals	2248	-	-	-	2248	-
Digital Database	3	334396.50	-	-	3	334396.50
CD & Video	543	509449	52	00	595	509449
Others (specify)						

**Manipal Center for Natural Sciences, Manipal**

	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	319	4,99,062.28	19	11,835.00	338	5,10,897.28
Reference Books	41	2,98,952.93	1	2,100.00	42	3,01,052.93
e-Books	16	Complementary				
Journals	13	1,55,675				1,55,675

e-Journals	22	33,62,914				33,62,914
Digital Database	1	44,81,411				44,81,411
CD & Video	18	13,114.59	-	-	-	13,114.59
Others (specify)	11( Project report)	--				

### School of Communication, Manipal

	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	10841		714	2.5lakh	11556	
Reference Books	260		5		265	
e-Books	25		0		25	0
Journals	55 (journals +other periodic als)	2.75lakh	1		56	2.75
e-Journals	4		0		4	
Digital Database	2	2.5lakhs	0		4	3.5lakhs
CD & Video						
Others (specify)	13	50000	0		13	50000

### Dept. of European Studies

2014-15	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	326	626574.00				
Reference Books	6	32134.00				
e-Books	-					
Journals	8	209892.00				
e-Journals	-					
Digital Database	-					
CD & Video	-					
Others (specify)	-					

### Dept. of Geopolitics & International Relations

	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books			91	76967		76967
Reference Books						
e-Books						
Journals	12	73858	1	600	1	74458
e-Journals	08 (print & online)					

Digital Database						
CD & Video						
Others (specify)						

#### School of Regenerative Medicine, Bangalore

	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	490	21,18,669.41	2	7,264.00	492	
Reference Books	Nil	Nil	Nil	Nil	Nil	Nil
e-Books	Nil	Nil	Nil	Nil	Nil	Nil
Journals	8	Nil	Nil	Nil	Nil	8
e-Journals	Nil	Nil	Nil	Nil	Nil	Nil
Digital Database	Nil	Nil	Nil	Nil	Nil	Nil
CD & Video	Nil	Nil	Nil	Nil	Nil	Nil
Others (specify)	Nil	Nil	Nil	Nil	Nil	Nil

#### 4.4 Technology up gradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Departments	Others
Existing	11356	2808	All desktop / Laptops are having network connectivity and internet access		164	806	7454	124
Added	880	227			19	48	578	8
Total	12236	3035			183	854	8032	132

#### 4.5 Computer, Internet access, training to teachers and students and any other programme for technology up gradation (Networking, e-Governance etc.)

Conducted regular training on technology upgradation to all the teaching and non-teaching staff members of the university on yearly basis. Provided high speed internet access to all the staff members.

#### 4.6 Amount spent on maintenance in lakhs:

i) ICT	Rs. 580.26 lacs
ii) Campus Infrastructure and facilities	Rs. 3735.83 lacs
iii) Equipment's	Rs. 1841.8 lacs
iv) Others	Rs. 5821.51 lacs
<b>Total:</b>	Rs. 11979.40 lacs

## Criterion – V

### 5. Student Support and Progression

#### 5.1 Contribution of IQAC in enhancing awareness about Student Support Services

##### **KMC Manipal**

- Student Orientation programme at the beginning of the academic programme
- The institution publishes its updated prospectus and handbooks annually. The information content is disseminated to students at the beginning of every academic year.
- Timely announcements of upcoming events, projects, and notices are displayed in notice board kept at vantage points.
- Groups emails are sent to students and parents wherever necessary

##### **SOAHS Manipal**

Facilitate / monitor/ conduct of orientation, counselling and psychology support services (individualized). Formation of committees within IQAC to provide information to students. Student affairs conducted learning enhancement and wellness programs (March-April 2015) and also observed several events as mandated by UGC

##### **SOLS Manipal**

Orientation program for new students of every batch

##### **MCODS Manipal**

The institution has made efforts to bring in awareness on various aspects of the student services through teacher-guardian program and facility to check attendance online. In addition, the student council of the college is actively involved in various cultural, sports and social activities mentored/guided by the faculty of the college

##### **MCON Manipal**

- Students have a health and social welfare committee through which social service activities are organized regularly.
- Nursing students and faculty members are members of Voluntary Service Organization of Manipal University.
- Each department organizes an average of 4 to 5 outreach programme as a part of their curriculum; which includes special camps, school health programmes, awareness programmes, and national day celebrations every year.
- Faculty and students are actively involved in conducting regular health education in the clinical setting, community and school like, lactation counselling, psychoeducation, breast feeding, diabetes clinic, hemophilia etc.
- Faculty and students are actively involved in Blood donation camps, Eye Camp, Dental camp etc.
- Monthly two Morbidity clinics are conducted by Community Health Nursing

department at Athrady and Marne Villages.

### **MMMC Manipal**

The information about SIS is given in student brochure and the same is conveyed during orientation. Any new information comes on SIS is informed to the class through announcements

### **MCODS Mangalore**

1. Student Orientation programme at the beginning of the academic programme
2. Orientation to Clinics
3. Handbook to First year students containing all the academic matters
4. Orientation to Ethical issues and Guideline to be followed in Research to newly joined PGs
5. Teacher Guardian mentorship
6. Alumni meeting

### **MIT Manipal**

1. The institution publishes its updated academic handbook and academic calendar every year. The book includes information about the institute, list of teaching and non-teaching staff, details about undergraduate and post graduate programmes, rules and regulation of the college and its library, internal assessment and the pattern of evaluation, the tutorial system, hostel facility etc.
2. The institution facilitates students to avail scholarship & other financial assistance from state government, central government and other authorities.
3. Enrichment of library by adding new books and journals.
4. Builds a culture of social responsibility through extension activities by students.
5. Grievance Redressal Cell is working for student support
6. Provides latest information and communication tools like Wi-Fi Campus, Internet Facility e
7. Keeps updating the information on the website on regular basis.

### **FOA Manipal**

- Teacher guardian system for monitoring the progress of the student in attendance, studies and extracurricular activities and provide necessary counselling and support.
- Various committee for students – Anti-ragging, condemnation, disciplinary & grievances and redressal committee
- Student feedback
- Complaint/Suggestion box
- Student Information System for maintaining student records
- Student counselling
- Co-curricular activities
- Student exposure to various forums
- Training and placement of final year Students in reputed companies for practical training.
- Guest lecture by alumni and experts from industry.

- Educational tours

### **SOM Manipal**

Learning Management System introduced for all courses, Student counsellor allotted for every student.

### **SOC Manipal**

Providing guidance for Dissertation and providing guidance for projects

### **SOIS Manipal**

- Study abroad program opportunities for internship/ study
- Workshops and invited talks on current trends to improve skill sets.
- Internship placement support for second year students.
- Conduction of bridge courses for the first semester students on industry standard C programming and industry standard hardware & software
- Industry defined mini-projects
- Seminar in each semester for all the students

## **5.2 Efforts made by the institution for tracking the progression**

### **KMC Manipal**

- All the department maintain document, compare and discuss the performance and progress of the students in their exams and other academic activities.
- Every department maintains a register for recording the progress of students.
- Each student is allotted a mentor and the mentor maintain a mentoring booklet in which he/she updates details of academic performance and curricular progress. Mentors offer academic counselling to students, recommend them for remedial coaching, if necessary, and also meet/communicate with parents of their mentees to update them on their progress.

### **SOAHS Manipal**

Teacher guardian system, mentoring / counselling

Placement committee – campus selection through interviews

### **SOLS Manipal**

Teacher-guardian for every student, Regular feedback to students and parents (during the program)

Alumni cell and coordinator, contact via emails (after graduation)

Faculty in touch with students regarding their progression

### **MCODS Manipal**

- Monthly attendance of students
- Result analysis of the internal assessment and counselling of poor performers
- Facility to view attendance and performance of wards by parents online

### **MCON Manipal**

- Through the Alumni Cell graduates are contacted for tracking of their achievements
- Every year alumni meet is conducted and alumni are invited to participate

## **MMMC Manipal**

Twice a year internal audit is done and following which MRM is held in which academic related issues such as student results, student: faculty ratio, number of publications are reviewed and tracking of institutional progression is done.

## **MCODS Mangalore**

1. Teacher Guardian Monitoring system
2. Periodical tests and sessional examinations
3. Online attendance and sessional mark
4. Research Projects for advanced learners
5. Financial support to present research papers in conferences
6. Counselling service
7. Feedback from students, faculty, parents and patients
8. Participation and performance of students in academic, cultural and sports competitions at college level, university level and national level.

## **MIT Manipal**

1. Through AMS-Academic Management System by checking attendance and student performance in Internal and External assessments.
2. Through continual assessment of curriculum delivery throughout the semester vide assignments, internal class tests, in semester examinations etc.
3. Interim reviews for Projects and Seminars.

## **FOA Manipal**

- Student Information System
- Class committee meetings
- BOS, Employer feedback of training batch

## **SOM Manipal**

Regular Internal Audits, Management Review Meetings for discussing program issues.

## **SOC Manipal**

Through Alumni cell

## **SOIS Manipal**

Continuous internal assessment and evaluation system includes theory tests, lab tests, theory assignments and lab assignments. Seminar, mini-project, and workshops and guest lectures to improve the skill set.

## **WGSMA Manipal**

Every faculty functions as Teacher guardian/ mentors for about 10 to 15 students of the college. ITC has been supporting the student endeavours by offering scholarships to the meritorious students pursuing their program at WGSHA. 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.

### 5.3 (a) Total Number of students

UG	PG	Ph. D.	Others
16852	4479	175	692

### (b) No. of students outside the state

16997

### (c) No. of international students

1846

No		%	Men	No		%	Women
12929	58			9269	42		

Last Year						This Year					
General	SC	ST	OBC	Physically Challenged	Total	General	SC	ST	OBC	Physically Challenged	Total
21,595					21,595	22198					22198

Demand ratio **1:19.4** (Average of all courses)

Dropout % : Lowest: **0%**; Highest: 4%; Avg: **1.47%**

### 5.4 Details of student support mechanism for coaching for competitive examinations (If any)

NA

No. of students beneficiaries

### 5.5 No. of students qualified in these examinations

NET	9	SET/SLET	NA	GATE	65	CAT	41
IAS/IPS etc	1	State PSC	3	UPSC	4	Others	132

### 5.6 Details of student counselling and career guidance

1	No students Counselling by Director Student Affairs	97
2	No students Counselling by Deputy Director Student Affairs	152
3	No of students counselling by Student Counsellor	747
<b>Total</b>		<b>1262</b>

No. of students benefitted

846

### 5.7 Details of campus placement

<i>On campus</i>			<i>Off Campus</i>		
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed	Students	
<b>314</b>	<b>1925</b>	<b>1571</b>	<b>270</b>		

#### KMC Manipal

<i>On campus</i>			<i>Off Campus</i>		
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed	Students	
9	33	28	13		

#### MCON Manipal

<i>On campus</i>			<i>Off Campus</i>		
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed	Students	
Fortis Memorial Research Institute, New Delhi	84	56	Data not available		
Aster Medicity Hyderabad	53	28			
Manipal Hospital Goa	51	17			
Kasturba Hospital Manipal	105	42			

#### SOAHS Manipal

<i>On campus</i>			<i>Off Campus</i>		
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed	Students	
07	125	05	99		

**MCOPS Manipal**

<i>On campus</i>			<i>Off Campus</i>		
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed	Students	
37	110	109	--		

**SOIS Manipal**

<i>On campus</i>			<i>Off Campus</i>		
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed	Students	
42	160	133	27		

**SOM Manipal**

<i>On campus</i>			<i>Off Campus</i>		
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed	Students	
27	96	76	10		

**SOC Manipal**

<i>On campus</i>			<i>Off Campus</i>		
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed	Students	
30	77	77	3		

**WGSMA Manipal**

<i>On campus</i>			<i>Off Campus</i>		
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed	Students	
17	54	54	na		

**MIT Manipal**

<i>On campus</i>			<i>Off Campus</i>		
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed	Students	
<b>128</b>	<b>1204</b>	<b>1080</b>	<b>60</b>		

**FOA Manipal**

		<i>On campus</i>	<i>Off Campus</i>
Number of Organizations Visited (involved)	Number of Students Participated	Number of Students Placed	Number of Students Placed
87	71	-	71

**5.8 Details of gender sensitization programmes**

A Total of 178 sessions have been conducted by an external expert from Bangalore, in which, 7386 employees (Faculty, officials, non-teaching staff and outsourced staff) were covered and benefitted

**5.9 Students Activities**

**5.9.1 No. of students participated in Sports, Games and other events**

State/ University level  National level  International level

**No. of students participated in cultural events**

State/ University level  National level  International level

**5.9.2 No. of medals /awards won by students in Sports, Games and other events**

Sports: State/ University level  National level  International level

Cultural: State/ University level  National level  International level

### 5.10 Scholarships and Financial Support

#	TYPE OF SCHOLARSHIP	2014-15	
		# Students	Amount (In Rs)
1	AGE SCHOLARSHIP	182	2,195,925
2	AICTE SCHOLARSHIP	309	42,076,000
3	AGE SCHOLARSHIP (For polytechnic students)	104	6,290,875
4	G SHANKAR FAMILY TRUST	6	225,397
5	INTEREST SUBSIDY ON EDUCATION LOAN	33	435,461
6	KONKANI SCHOLARSHIP	776	15,924,030
7	KUNDAPUR MOHAN & LATA BHANDARKAR SCHOLARSHIP	9	275,000
8	SAGES	201	39,617,870
9	M-C-M SCHOLARSHIP (for BSc Nursing students)	42	1,927,000
10	SCHOLARSHIP FOR MERITORIUS STUDENT (SOIS students)	23	1,184,000
11	FREESHIP/MCM SCHOLARSHIP	199	44,503,850
	<b>Total (A)</b>	<b>1,884</b>	<b>154,655,408</b>
	<b>From Manipal Foundation</b>		
1	STAFF CHILD/SPOUSE SCHOLARSHIP	290	51,636,429
	<b>Total (B)</b>	<b>290</b>	<b>51,636,429</b>
	<b>Grand Total (A+B)</b>	<b>2,174</b>	<b>206,291,837</b>

### 5.11 Student organised / initiatives

Fairs : State/ University level  National level  International level

Exhibition: State/ University level  National level  International level

5.12 No. of social initiatives undertaken by the students

## Criterion – VI

### 6. Governance, Leadership and Management

#### 6.1 State the Vision and Mission of the institution

##### **Vision**

Global leadership in human development, excellence in education and healthcare

##### **Mission**

Be the most preferred choice of students, faculty and industry.

Be in the top 10 in every discipline of Education, Health sciences, Engineering and Management.

#### **2 Does the Institution has a management Information System**

Yes. We are having University Management Software

- Student Information System (SIS)
- HR Management System
- Financial Accounting System,
- Purchase and Inventory System,
- Hostel Management System,
- Library Management System
- Online attendance
- Online feedback
- Administrative procedures including finance, Student admission, Student records, Evaluation and examination procedures, Research administration, etc
- Patient Management System,
- Employee Self Service, Biometric attendance system for faculty etc..

#### **6.3 Quality improvement strategies adopted by the institution for each of the following:**

##### **6.3.1 Curriculum Development**

##### **KMC Manipal**

1. Twice a year Board of Studies meeting to upgrade curriculum, Examination pattern, Teaching methodology
2. Inclusion of Subject Expert in the BoS from other University
3. Inclusion of Student Representative
4. Separate Board of studies for Pre, Para and Clinical departments and for PG and Super specialty departments
5. Feedback from students

##### **SOAHS Manipal**

- Conduct of BOS meetings
- Discussion in department meetings
- Student and faculty feedback

**SOLS Manipal**

Identify current areas of relevance and update the curriculum periodically

**MCON Manipal**

1. Introduction of geriatric nursing as a subject to third year BSc Nursing and II year PBBSc Nursing
2. Introduction of Evidence Based Practice as part of Nursing Research in IV year BSc Nursing and II year PBBSc Nursing
3. Interchange of subjects Nursing Research and Statistics and Midwifery and Obstetrical Nursing between third year and fourth year BSc Nursing as per INC instruction

**MMMC Manipal**

Inputs from the existing medical curricula in India and Malaysia is taken with consultation with Malaysian health officials and medical educationists to define a curriculum that meets the health needs of the community and which would address the issue of social accountability

**MCODS Mangalore**

- Yearly twice Board of Studies meeting to upgrade curriculum, Examination pattern, Teaching methodology
- Inclusion of Subject Expert in the BoS from other University
- Inclusion of Student Representative
- Separate Board for each subject/year
- Feedback from students

**MIT Manipal**

- Maintained course plan / lecture plan and respective faculty will follow the same lecture in the class.
- Started conducting class committee meetings to know about the problems from the students in the respective subject in the presence of faculty and solution will be recommended by the department committee headed by the HOD and other members and the corrective measures will be communicated to the students.
- Each member of the faculty entitles for updation of the curriculum as and when required and report it to the course coordinator
- It is further recommended to Department Curriculum Committee (DCC) and forwarded to the Board of Studies (BOS), for suggestions/revisions and later approved by BOS/Academic Senate.

**Class Committee:**

- Separate class committees are constituted by the Head of the department for III to VIII semester of B.Tech programme and for every semester of M.Tech programme. Members: A senior faculty of the department as Chairman, Course Coordinators/Course Instructors of all courses and student representatives.

- Functions of the Class Committee: The class committee will meet thrice in a semester. The first meeting will be held within two weeks from the commencement of the semester in which the course plan, evaluation plan etc. are discussed. The second meeting will be held two weeks after the first test to collect feedback and improve the effectiveness of the teaching learning process. Performance of the students in the tests may also be analyzed. The chairman of the class committee should send the minutes of the class committee meeting to the Associate Director (Academic) through the Head of the Department after each class committee meeting.
- The third meeting is to be held to analyze the performance of the students in all courses of study and grade finalization. The Head of the department will declare the result of III to VIII semester B.Tech programme and I to III semester M.Tech programme.

#### **Department Curriculum Committee (DCC)**

- DCC consists of Program Coordinator Course Coordinator and faculty representatives.
- Chaired by Program Coordinator, the committee monitors the attainment of program objectives.
- Evaluates program effectiveness and proposes necessary changes.
- Prepares periodic reports, records on program activities, progress, status or other special reports for management key stake holders.
- Motivates the faculty and students towards attending workshops, developing projects, working models, paper publications and research.
- Interact with students, faculty, Program Coordinators, Module Coordinator and outside/community agencies (through their representation) in facilitating program educational objectives.
- DCC meets at least once in a Semester to review the program and submits report to BOS at the Institute level.
- Feed-back collected from experts from industry, R & D, alumni and students
- Through industry initiated electives
- 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
- 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.
- 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:
  - ❖ Consumer Electronics
  - ❖ MEMs Technology
  - ❖ Neural Networks and Fuzzy Logic etc.
- Consulted the students, industry personnel and member from academia during the framing of syllabus
- Proposed Curriculum revision, Reduction of credit, and introduction of Minor specialization for 2014 syllabus onwards
- BTech curriculum revised
- Constant Revision of the Curriculum every few years with due inputs from industry experts and academicians (DCC Meetings, BOS meetings)
- Industry experts have been included
- Academicians from other Institute and Departments have been included
- Industry experts have been included
- Academicians from other Institute and Departments have been included
- Syllabus has been revised
- 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.
- Keeping in mind the Graduate attributes: Engineering knowledge, Problem Analysis, Conducting investigations of complex problems
- Regular syllabus/curriculum review by DCC

#### **FOA Manipal**

- Feedback from Alumni, Industry and Employers in curriculum development. Board of Studies

#### **SOM Manipal**

Feedback from guests from Industry, Alumni, Board of Studies, and Employers

#### **SOC Manipal**

Established curriculum is revisited and restructured.

**SOIS Manipal**

Curriculum developed based on the industrial requirements (feedback from Alumni who are working in industry).

**WGSHA Manipal**

A systematic and regular review of the curriculum is conducted twice during the Academic year and changes are incorporated after due approval at the Board of Studies and the Academic Senate of the University.

**6.3.2 Teaching and Learning****KMC Manipal**

- ICT enabled teaching, didactic lectures, discussions, seminars, quiz contests, Case Based Learning
- Academic calendar prepared and given to students and strictly adhered
- Course outline and syllabus given to students in the form of Hand Book/Soft copy

**SOAHS Manipal**

- Subject experts attend teaching-learning workshops
- Use of advanced teaching methods such as problem based learning

**SOLS Manipal**

Set benchmarks to gauge student learning

**MCODS Manipal**

- All the academic activities are planned at the beginning of an academic year
- The follow up and fulfilment of the planned academic program will be audited at six months interval

**MCON Manipal**

- Innovative teaching learning method are adopted, e.g :Team based learning.
- Evidence Based Practice in M.Phil Nursing speciality subject is introduced for M.Phil Nursing students.

**MMMC Manipal**

The learning objectives are provided to students and faculty members at the beginning of the academic year. The curriculum is constructively aligned so that the teaching learning activities and assessment ensures the attainment of the objectives envisaged. The institution also collects extensive feedback from students time to time.

**MCODS Mangalore**

- ICT enabled teaching, didactic lectures, discussions, slide seminars, quiz contests, Objective Structured Practical Examination (OSPE), Objective Structured Clinical Examinations (OSCE), Objective & descriptive type theory exams, Case Based Learning and Viva-voce

- Academic calendar prepared and given to students and strictly adhered
- Course outline and syllabus given to students in the form of Hand Book/Soft copy

### MIT Manipal

- Mentor is appointed by the department and by Identifying weaker students and counselling them to improve their academics in the successive class.
- Learning is never ending process and faculty have been encouraged to attend faculty development programs, attending conferences, presenting papers, carry out research in their interested engineering field
- 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
  - ❖ Tutorial based learning
  - ❖ Remedial classes conducted for identified week students
  - ❖ Mentoring system:
    - Faculty advisor to help at individual level at the department
    - Faculty advisor for professional activities (BMESI )
    - Subject coordinators
    - Placement coordinator for career guidance
  - ❖ Class committee meetings to address student issues pertaining to academics and others
  - ❖ Provision for psychiatric counseling for students if necessary by experts from KMC
- Induction programme will be conducted for newly joined faculty through Technology & Development cell in the Institute.
- A senior faculty will be a mentor the newly joined faculty in the department.
- 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.
- 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.
- The newly inducted faculty members are trained on teaching skills. Learning is achieved on attending various workshops within and outside the university.
- Surprise test, Open elective from other institutes, Remedial classes, Introduction of mini project along with Lab.
- Concept of continuous evaluation is adopted where evaluation of student performance takes place throughout the semester in for of assignments, sessionals, and end semester examinations. 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. Counseling of under achievers is done.
- Maintaining Course plan
- Conducting Tutorials, assignment and sessionals
- Counselling of weak students
- Academic committee has been constituted in the department to discuss matters pertaining to curriculum development and teaching - learning process.
- Illustrative teaching (simulations & animations where ever possible), power point presentations, problem based learning, quizzes, seminars, projects and tutorials
- Focus on slow learners through additional classes, use of innovative methods like GD, active learning and soft skill development.

### **FOA Manipal**

Industry-academia interface for practical knowledge, Integrated learning system, innovative teaching methods, hands on workshops, field trips, case studies, study tours, interaction with alumni, guest lectures.

### **SOM Manipal**

Learning Management System adopted

Online quizzes, Skype guest talks, industry academia interface for practical knowledge

### **SOC Manipal**

Incorporating ICT methods, group seminars and interactive teaching and field visits, film festival and workshops,

### **SOIS Manipal**

Faculty members updating knowledge in the latest technologies by organizing and attending workshops, seminars and conferences

### **WGSMA Manipal**

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 development and the university at large.

The Institution strives towards Continuous Innovation and updation of the teaching learning process to incorporate best practices of the Industry as well as the Academics.

### 6.3.3 Examination and Evaluation

1. Adopted On Screen Marking System (OSM) for valuation of all the answer papers of University examinations
2. Initialized the process for digital examination/evaluation through e-pad

#### KMC Manipal

Most departments follow

- Objective Structured Practical Examination (OSPE)
- Objective Structured Clinical Examinations (OSCE)
- Objective and Descriptive type of Theory questions
- Problem solving type of questions
- Multiple choice questions
- Viva-voce examination

#### SOAHS Manipal

- Faculty Squad – for random checks
- Online Screen Marking system introduced

#### MCODS Manipal

- Internal examination: Result analysis and counselling of poor performer
- The examination involves evaluation of students on various aspects of curriculum through variety of segments such as MCQ, descriptive exam, OSPE and OSCE

#### MCON Manipal

1. Examination invigilation : One teacher for every 25 students
2. One exam chief superintendent for each day
3. Sessional examination question paper pattern is same like University examination
4. Students who are absent for the examination with health problems or any other genuine reasons repeat examination is conducted after two weeks

#### MMMC Manipal

In MMMC, department educational objectives are outcome based. Assessment procedures are aligned with educational objectives (learning outcomes) and teaching methods followed. The learning outcomes in must know, nice to know and desirable to know area have been identified based on their importance to clinical practice in primary health care condition and 75% of questions in essay come from must to know area and rest from other two areas. We set the questions based on a specification table which provides a fair and balanced coverage of the subject matter in both the semesters including in theory and practicals.

Each new question paper undergoes a rigorous and critical review by all faculty of the individual department before being approved.

Each examination has an essay component (Paper I) with 10-12 short essay questions of total 60 marks and multiple true/false question paper (Paper II) of 120 marks. Short essay question test students' subject knowledge, comprehension and application of this knowledge in solving clinical problems. The multiple true/false question paper is an objective method of evaluation which tests the students' ability to discriminate between the correct and the incorrect statements and provides a broader coverage of the subject matter.

Objective structured practical examinations (OSPE) are used to assess the practical skills. The students are observed performing important biochemical tests and questions also test their interpretive skills.

### MCODS Mangalore

1. Examination dates are strictly adhered to as given in the Academic calendar.
2. Continuous assessment of the students through regular sessional exams with 10% weightage as internal assessment in both Theory and Practicals/Clinicals for each subject
3. Students with minimum 75% Attendance and 30% Internal assessment only eligible to write University Exam
4. Evaluation is done in most transparent way with Double evaluation by coding the paper
5. On Screen Marking (OSM) evaluation

### MIT Manipal

- Periodic assignments were given to the students where it is required to be submitted by the students within the stipulated time, subsequently corrections were carried out and evaluated assignments were given back to the students
- Internal assessment test (sessional) were conducted as per institution timetable twice a semester.
- Final exam (end semester) conducted as per centralized timetable from institution.
  - ❖ Assignment evaluation: out of 10 marks
  - ❖ Sessional Test: 20 + 20 = 40 marks
  - ❖ Final exam: out of 50 marks
- Through continuous evaluation of students through in-semester tests (two sessional tests, quizzes, assignments and end semester examination)
- 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.
- Continuous evaluations of students will be done through assignments, tests and end semester examination.
- Students are evaluated relatively on a grade scale of 10. Every theory subject will have 50% of in-semester marks (continuous evaluation) and 50% of end semester marks. A minimum of 18 marks out of 50 is necessary in the end semester exam to obtain the credit for the course.
- Students have the provision to see their answer script and apply for re-evaluation as per university norms.

- The academic performance of a student is assessed by the course instructor /s concerned.
- The student performance in each theory course is evaluated out of 100 marks, of which 50 marks are for in semester assessments and 50 marks are for end semester assessments. In semester assessment in theory courses is based on periodic tests, assignments, quizzes, case presentations, seminars etc, which shall be defined by the course instructor.
- The student performance in the laboratory courses is also evaluated out of 100 marks and is based on in semester assessment out of 60 marks and end semester examination for 40 marks.
- Course instructors are to give the complete course plan approved by the HOD, at the beginning of the semester. Course plan included lesson plan and evaluation plan of the course offered.
- The performance of the student in a course is reflected in the Letter Grade awarded
- Continuous evaluation adopted reducing the strain on the students. Questions are framed so that the range of result forms a Gaussian curve
- Assignment weightage increased from 10 to 20, increase in credit of Lab. All question made compulsory for end semester exams.
- 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.
- Scrutiny of Tutorial, Sessional and Semester Question paper
- Maintaining the schemes of Tutorial, Sessional and Semester Question paper
- Evaluating and processing the results as per Institute norms
- Tests are the preparations for the end semester examination and are conducted in the same manner, except for the duration, which is one hour against that of three hours for the examinations. Two tests will be conducted in each semester and the contents will be announced in the beginning of the semester while course plan is distributed to the students.
- Periodic Assignments and sessional examinations.
- Continuous Evaluation, inclusion of MCQ in the Sessional Question paper.

### FOA Manipal

- Progressive evaluation
- Evaluation Systems by employers/industry experts/alumni to measure the overall effectiveness of the students work
- Double Valuation of End Semester Examination

### SOM Manipal

Moodle based quizzes/Tests

Plagiarism check using software for assignments

### SOC Manipal

Passing marks in internal assessment made compulsory to appear in external examination. Extra classes for students in need of special attention continuation of dual evaluation process.

### **SOIS Manipal**

Change of minimum internship duration of all the M.Sc. (Tech) programs from 8 months to 10 months with effective from Jan 2015 admission batch. Update in “Letter Grading System” of Rules & Regulations; Update in the “Re-registration” of Rules & Regulations

### **WGSMA Manipal**

The institution has a process of examination and evaluation with a lot of stress on Continuous Internal Assessment with a smaller component of the End term examination. This enables a timely and regular feedback to the students enhancing their Academic performance

#### **6.3.4 Research and Development**

- An annual budget of more than 10 crore INR has been earmarked to promote research
- Provision to utilize matching grants, seed money, publication charges and other required research support.
- Facilitate sharing of specialized equipment and other resources like state-of-the-art laboratories, libraries, medical simulation center, teaching hospitals, innovation centre anatomy museum to support multidisciplinary research activities.
- Foster globalization of research activities through joint research in partnerships with industry and premier institutions within India and overseas
- Provide training and technical assistance to the researchers through mobility and exchange programme
- Disseminate of research output through scientific publications and scientific presentations
- Implementation of uniform research policy including intellectual property rights, ethics, academic dishonesty and plagiarism.
- Provide incentives for patents and research publications indexed in Scopus and Web of Science with a greater emphasis for journals with good impact factor.
- The points earned through research publications incentive are used for attending International Conferences by the faculty.
- Develop training modules to increase awareness about the importance of quality publications in Scopus and Web of Science indexed journals.
- Subscribing to databases like Scopus, Web of Science and access to publishers like Springer, Elsevier etc. to implement publication standards.
- Facilitate researchers to write joint and interdisciplinary proposals from public and private funding agencies.
- Recognize top researchers through incentive awards on a yearly basis (Gold Medal/Cash Prize)
- Facility to file intellectual property and commercialization

- Introduce bursary schemes for deserving undergraduate and postgraduate students and research scholars.
- Publication of Manipal Research Review and Manipal University Research E-Bulletin to compile and collate research activities
- Initiation of publishing research journals in the field of Medicine, Dentistry, Nursing, Allied Health, Pharmacy, Technology and Management.
- Subscription to more than 500 periodicals in the year 2014
- To foster best practices research Publications will be screened through Turnitin software to control the plagiarism
- To promote globalization of research activities, Manipal University has collaborated with leading 18 MNCs as well as with 104 premier institutions, 45 research centers within India and 141 partner Universities abroad.

### 6.3.5 Library, ICT and physical infrastructure / instrumentation

- On Campus and Off Campus access to Online Journals and online databases have been provided. Library has a computer lab with Internet access.
- User feedback (online) mechanism is introduced
- Ezproxy technology is used for remote access of e-resources of the library
- Staff members are deputed for training programs
- Computer, scanner kiosk, printer, Photocopying Machine.

Others	<i>Computer Lab with networking printers cum photocopy machine</i> <i>Audiovisual Room</i> <i>Scanning</i> <i>Book Loan (library has over 7000 books)</i> <i>Book Returning</i> <i>Online Books and CD-ROM Reserving</i> <i>Journals (Printed &amp; Online) &amp; Bound Volumes.</i> <i>Online Database</i> <i>Magazines</i> <i>Study Carrels</i> <i>Group Study Rooms</i> <i>WebOPAC</i> <i>Interlibrary Loan</i> <i>Compilation of lecturers publication</i> <i>Library Portal</i>
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### 6.3.6 Human Resource Management

- Introducing a new software for talent banking & recruitment
- Upgrading to a new ERP module for HR-IS & payroll
- Recruitment through new technologies (telephonic & video conferencing)
- Reduction of paper consumption by using computers
- Interview call letters through emails/telephonic calls
- Training & Development programs
- Periodic revision of salary

### 6.3.7 Faculty and Staff recruitment

- Recruitment through new technologies (telephonic & video conferencing)
- Reduction of paper consumption by using computers
- Interview call letters through emails/telephonic calls
  - Introducing a new software for talent banking & recruitment
- MAHE has been a pioneer in attracting and acquiring the best in class academic staff from all over the country without any prejudice with regard to Religion, Region, Sex, Caste etc.
- Every recruitment is through Selection Committee chaired by the Vice Chancellor/Registrar along with other members viz. Pro VC, HOI, HOD and Deputy Director – HR.

### 6.3.8 Industry Interaction / Collaboration

#### SOAHS:

Organizing seminar/Conference/Workshop in collaboration with industry and build up social relationship with industries through this platform

- Exploring the opportunities of internship with industry
- Build industry relationship through parents and alumni
- Inter-organizational arrangements for pursuing collaborative R&D and Joint projects

#### SOLS Manipal

Promote industry collaborations

#### Dept. of Stats:

The Department conducts Executive Education Program in Biostatistics for associates of Novartis Healthcare Pvt Ltd., Hyderabad

GSK, Bangalore give cash awards and medals to the two best outgoing students of M.Sc Biostatistics

### **MCODS Manipal**

The college is actively involved in collaboration with various dental related companies which resulted in several publications and community based oral health programs. At present, the college organizes implantology course in collaboration with Nobel Biocare. In addition, several research activities and community based program are undertaken in collaboration with companies

Besides, student's hands on training has also been undertaken in collaboration with companies.

### **MCON Manipal**

- Campus selection opportunity given for various hospitals for recruiting the students.
- Faculty and students have opportunity to interact and collaborate with other institution and hospital during national and international conferences / seminars / workshops.

### **MCOPS, Manipal:**

One industry institute interaction is planned every year for Industry interaction and collaboration. Usually during the month of February.

### **MCODS Mangalore**

- MOU with International University
- Staff and Student exchange programme

### **MIT Manipal**

- Continuous Increase in internship and placement for UG and PG programmes.
- Continuous Improvement in quality of companies visiting for internship and placement.

### **FOA Manipal**

Eminent and established practitioners in the field of architecture, interior design and fashion design from various parts of the country were invited to interact and have extensive individual discussions with students during various academic related activities (studio projects, thesis, dissertation, viva-voce examinations) conducted at various times in the academic year:

- Ar. Satish Desai, Ecumene Habitat Solutions Pvt. Ltd., Bangalore
- Ar. Deepta Satish, Dean, Srishti School of Design & Technology, Bangalore
- Ar. Ramani Hande, Ace Technocrats Pvt. Ltd., Udupi
- Dr. Harimohan Pillai, Thrissur, Kerala
- Prof. V. Ramprasad, Professor, Department of Architecture, NIT Trichy
- Mr. Gopal Bhat, Structural Consultant, A G Associates, Udupi
- Dr. Rama Subrahmanian, Professor & Head, Dept. of Architecture, Dayanandsagar College of Engineering, Bangalore
- Ar. Om Prakash Bawane, Bangalore
- Dr. Ashish K Rege, Professor & Principal, Goa College of Architecture, Panaji

- Dr. P P Anil Kumar, Professor and Head, Dept. of Architecture, NIT Calicut
- Ar. Girish Karnavat, Mangalore
- Dr. Naseer M A, Professor, Dept. of Architecture, NIT Calicut
- Mr. Deekshith Raj, Tangent Design Bureau, Mangalore
- Ms. Namrutha Kamath, Mummy and Me Ladies Boutique, Udupi
- Ms. Sonia Hegde, Mangalore
- Mr. Krishna Salian, Fashion Designer, City Girls Boutique, Udupi
- Ms. Shanthi Weronika Mohan, Fashion Designer, Wokhaal Boutique, Mangalore
- Prof. Satyaprakash Varanasi, Sathya Consultants, Bangalore
- Ar. Anand V M, Principal Architect, Anand & Associates, Bangalore
- Ar. Laxminarayana Bhat, Parinath Associates, Udupi
- Ar. Miji Mathew, Mangalore
  
- Twelve students of B.Arch. course attended the workshop by Biome Environmental Solution Pvt. Ltd at Bangalore on July 27 to August 2, 2014.
  
- Somany Ceramics Ltd., Mumbai organised lectures entitled “Flooring Technology and its Dynamics” for students on 26th August 2014.
  
- Shri. Tushar Mawale, General Manager – Urban Planning, Reliance NMSEZ, Navi Mumbai conducted intensive seminars for PG students of Urban Design & Development at FOA on 26<sup>th</sup> and 27<sup>th</sup> September 2014.
  
- Mr. Ravi Kakkar, Retd. Chief Architect, CPWD & Urban Design Consultant conducted seminar for PG students at FOA as part of Urban Design Studio on 30<sup>th</sup> September and 1<sup>st</sup> October 2014.
  
- Shri. Tanduveshwar, Vice President, Prestige Constructions, Bangalore conducted seminars at FOA for PG students in their Urban Design Studio and Sustainable Practices Studio, and for V Semester B. Arch. students on provision of building services in mixed use buildings, on 23<sup>rd</sup>, 24<sup>th</sup> and 25<sup>th</sup> September 2014.
  
- Mr. Harshad Bhatia, Senior Urban Design consultant & Academician conducted seminar at FOA for PG students on Urban Design & Development Theory on 9<sup>th</sup> and 10<sup>th</sup> October 2014.
  
- Mr. Saurab Popli, Professor at SPA Bhopal & Practicing Landscape Architect conducted seminars for PG students as part of Research Methods, Site Planning and Urban Design Studios 23<sup>rd</sup> and 24<sup>th</sup> October 2014 at FOA.
  
- Ar. Mili Majumdar, Director, Sustainable Habitat Division, TERI was invited to conduct a seminar for Third Year students on Green Building rating systems.
  
- Dr. Naseer M A, Professor at Department of Architecture, NIT Calicut gave a lecture for PG students on Transportation Facility Design on 31<sup>st</sup> October 2014 at FOA.

- Dr. K Mohan, Senior Professor at GITAM School of Architecture, Visakhapatnam conducted seminars for PG students on Research Methods, Urban Design Studio and Contemporary Architecture from 10<sup>th</sup> to 12<sup>th</sup> November 2014 at FOA.
- Shri. Tanduveshwar, Senior Vice President, Prestige Constructions, Bangalore gave a guest lecture for PG students on 18<sup>th</sup> and 19<sup>th</sup> March 2015 at FOA.
- Dr. Naseer M A, Professor & Head, Department of Architecture, NIT Calicut gave a guest lecture for the students on 28<sup>th</sup> March 2015 at FOA.
- Mr. Sandeep Joshi, CMD, Wheel of Innovation, Pune gave a guest lecture for the students on 27<sup>th</sup> March 2015 at FOA.
- Mr. Shankar Pal, Deputy General Manager, I/c Architecture and Planning, MENCON Ltd. Gave a guest lecture on 2<sup>nd</sup> April 2015 at FOA
- Ar. PVK Rameshwar, Shilanyas Design Consultants, Ahmedabad gave a guest lecture for students on 24<sup>th</sup> and 25<sup>th</sup> April 2015 at FOA.

### SOIS Manipal

All courses are started with inputs from industry for curriculum development. Industries have setup labs for teaching and learning. Industries have collaborated for offering mini-projects and internships. Industry experts visit institute to train the faculty and the students in the latest technologies on need basis. Industry experts participate in updation of curriculum.

### SOM Manipal

Guest talks by industry experts and Skype lectures by experts in different subjects

#### Dept. of Commerce:

- Academic Interface Program ( B.com Program) – Tata Consultancy Services
- BBM/B.Com Professional Course – Chartered Institute of Management Accounting & Association of Certified Chartered Accountants
- Centre for Excellence in Supply Chain – Confederation of Indian Industries
- Project for the Creation of Farmers Producer Organizations – National Bank for Agriculture and Rural Development
- Internship Tie ups – Goldman Sachs, Bangalore, Ernst & Young, Kochi, Canara Robeco, Bangalore

### SOC Manipal

Industry interactions by industry specialists, students sent on industry internships

### WGSHA Manipal

Faculty undergo refresher training in various hotels during the vacation period. Industry experts like the General Managers and Chefs are invited for Symposiums to give talks to our students. They are also invited as judges for various competitions. Our Placement Cell interacts with various Hotel Managers for campus recruitment and Industrial training

#### 6.3.9 Admission of Students

- Introduction of Common B.Tech Counselling for 3 centres Manipal, Sikkim and Jaipur

#### 6.4 Welfare schemes for

<b>Teaching</b>	Provident Fund & EDLI Scheme
	Gratuity
	Employee State Insurance
	Medicare Facility to employees
	Medicare Facility to employee dependent parents
	Group Term Life Insurance for social security of family
	Scholarship on course fee of employees children/spouse studying in Manipal University/constituent institutions
	Reimbursement of children educational expenses studying in Manipal Group schools/institutions
	Scholarship for Academy of General Education students studying in Manipal University
	SODEXO Meal/Gift vouchers
	MARENA Sports Facility
	Reimbursement of higher education fee of employees
	Incentives for excellence teaching & research
	Best Teacher Award
	Seed money for research
	Dr. TMA Pai Gold Medal for outstanding research
	Incentives for preparing e-learning materials
	Reimbursement of subscription fee (subject to limit) of one professional society
	Laptop facility to teaching staff
	Institutional accommodation facility
	interest subsidy on housing / utility loans
	Valley Club/Faculty Club facility
	Leave Travel concession
	Conference Facility - financial assistance for attending conference / workshops
	Employee Grievance Redressal Committee
	Sports & Cultural activities
Student Health Clinic	
Teacher Guardian scheme	

<b>Students</b>	Counselling Support System
	Student Grievance Cell
	Anti-ragging Committee
	Internal Complaints Committee
	Workshops & Awareness Programs
	Student Club Activities
	Yoga Classes

**6.5 Total corpus fund generated**

Rs. 2328.83

**6.6 Whether annual financial audit has been done**Yes  No **6.7 Whether Academic and Administrative Audit (AAA) has been done?**

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	Yes	ISO Certification agency M/s TUV Rheinland Pvt. Ltd. B'lore	Yes	Internal Quality auditors certification
Administrative	Yes	-do-	Yes	-do-

**6.8 Does the University/ Autonomous College declares results within 30 days?**For UG Programmes Yes  No For PG Programmes Yes  No **6.9 What efforts are made by the University/ Autonomous College for Examination Reforms?**

1. Registration for the examination, Generating hall tickets and sessional mark entry through Student Information System (SIS)
2. Valuation through On Screen Marking System (OSM) for all the answer papers of University examinations
3. Initialized the process for digital examination/evaluation through e-pad devices.

**6.10 What efforts are made by the University to promote autonomy in the affiliated/constituent colleges?**

1. Autonomy status has been given to few institutions like Manipal Institute of Technology, WAGSHA, MMMC etc.
2. Process has been started to provide autonomy status to other institutions wherever possible within a span of two years.

## 6.11 Activities and support from the Alumni Association

### **KMC Manipal**

Annual alumni meeting is held

Alumni meets are conducted at the department level periodically

Alumni visit departments and deliver guest talks

### **SOAHS:**

-Organizing annual alumni meet.

-Alumnae are invited as resource person to address students

-Distinguished alumnae are felicitated on occasion of the institution annual day.

### **SOLS Manipal**

Alumni are updated about activities and opportunities

### **Dept. of Stats:**

Alumni contacts are used for finding internship placements in various industries for M.Sc Biostatistics students.

Alumni are regularly invited to train the M.Sc Biostatistics students in soft skills

Alumni are also invited as examiners for Biostatistics exams of various UG and PG courses of the University

### **Dept. of Public Health:**

Alumni have been effective in placing students in reputed organizations.

### **MCOPS, Manipal:**

At least two alumni meets are planned in a year. One during the annual and awards day (in the month of February) and the other during the Indian Pharmaceutical Congress (In the month of December).

### **FOA Manipal**

- Distinguished Alumnus and Practicing Architect Mr. Alex Jacob from Bangalore presided over the Orientation function on 26<sup>th</sup> July 2014 as Guest of Honour and expressed the importance and future scope in Architecture profession to the new admission batch students.
- Ar. Alex Jacob conducted an interactive workshop for the Third Year B. Arch. students at FOA on the design of mixed-use buildings on 26<sup>th</sup> July 2014.
- Eminent and established practitioners in the field of architecture, interior design and fashion design from various parts of the country were invited to interact and have extensive individual discussions with students during various academic related activities (studio projects, thesis, dissertation, viva-voce examinations) conducted at various times in the academic year:
  - Ar. Mohammed Nissar, Abuilding Lab, Mangalore
  - Ar. Rohit Menon, Bangalore

- Ar. Vijay Anand, Madurai
- Ar. A. S. Premlal, JLP Architects, Kochi, Kerala
- Ar. Vasudevan R Kadalayil, Director and Principal Architect, Ecumene Habitat Solutions Pvt. Ltd., Bangalore
- Ar. Prajosh Kumar, “Options”, Mangalore
- Ar. Sunil Nayak, Sunil Nayak Architects, Mysore
- Ar. Venkatesh Rao, Keystone Architects, Bangalore
- Ar. Ajay Appachu, Synectics Partners, Bangalore
- Ar. Sanjay Balan, Director - Design and Projects, RSP Design Consultants (India) Pvt. Ltd., Bangalore
- Ar. Vinod Cyriac, SPACE A.R.T., Kozhikode, Kerala
- Ar. Vijay Upadhyay B, Bangalore
- Ar. Sudhir Acharya, Hastha Constructions, Bangalore
- Ar. Dhanprakash, Abuilding Lab, Mangalore
- Ar. Sadanand Nayak, Architecture Plus, Mangalore
- Ar. Kanchana Pai, Red Earth, Manipal
- Ar. Arun Prasad, Arun Prasad and Associates, Architects and Planners, Coimbatore, Tamil Nadu
- Ar. Amith Shenoy, Amith Associates, Udupi
- Ar. Asif Mohammed, Mangalore
- Ar. Colin Pinto, Concept Evolve, Mangalore
- Ar. Ashok L P Mendonca, Mendonca Associates, Mangalore
- Ar. Deepak L A D’Souza, Architectural Consultant, General Corporation, Mangalore

The following Architectural firms headed by our alumni who have excelled in their professional practice have given our students the opportunity to do their internship with them:

- Abuilding Lab Architects, Mangalore – Ar. Mohammed Nissar & Ar. Dhanprakash
- Stapati Architecture, Planning and Interiors, Bangalore – Ar. Tony Joseph
- Alex Jacob Architects, Bangalore – Ar. Alex Jacob
- Guulshan Roy Architects, Mangalore – Ar. Guulshan Roy
- Amith Associates, Udupi – Ar. Amith Shenoy
- Ecumene Habitat Solutions Pvt. Ltd., Bangalore – Ar. Satish Desai & Ar. Vasudevan R Kadalayil
- Space A.R.T Architecture, Calicut, Kerala – Ar. Vinod Cyriac
- Mendonca Associates, Mangalore – Ar. Ashok Mendonca
- Synectics Partners, Bangalore – Ar. Ajay Appachu
- Gayathri & Namath Associates, Bangalore – Ar. Namith Varma
- J & I Architects, Kochi, Kerala – Ar. Joseph John

#### **SOM, Manipal:**

- Guest talks
- Help in Internship and Placement

**SOC Manipal**

Annual meet, internships and placements

**WGSHA:**

Activities and support from the Alumni Association: WGSHA Alumni relations department is a constituent of Manipal University Alumni Department. In the Institution an Alumni meet is organized every year after the Annual day. The Graduating batch and alumni from other years take part in the meet. Manipal University organizes Annual Alumni meet in the month of December. Alumni are invited to give guest lectures to various courses they also are invited to judge various competitions. Every year we have a Distinguished Alumnus Award given to outstanding Alumnus selected by the top management of ITC and Manipal University outstanding Alumnus selected by the top management of ITC and Manipal University

**6.12 Activities and support from the Parent – Teacher Association**

NA

**6.13 Development programmes for support staff**

1. Conduct Training & Development programs like workshops/seminars; Fire Safety etc.
2. Awareness programs like Gender Sensitization are conducted
3. Microsoft office training through certified consultant
4. Communication Skills through professional language teacher
5. Support for Sports & Cultural Activities

**6.14 Initiatives taken by the institution to make the campus eco-friendly**

Manipal University is a green campus with certification under ISO 14001: 2004 by TUV Rheinland. Continuous efforts are being put into monitoring and constant up gradation to meet the rapidly expanding infrastructure. Best practices and various initiatives have helped the University to develop an unparalleled ambience for students and residents from various countries.

Few areas where the University applies eco-friendly practices are

**Waste Water Management:** In order to treat waste water generated in the campus state of the art sewage treatment plants are installed with a capacity of 55 lakh liters per day. In addition, the distribution system for treated water has also been enhanced to ensure efficient reuse. Treated water is used for gardening and arboriculture reducing the burden on fresh water sources. Additionally grey water treatment plant treats feeds the flush system. Using recycled water lowers groundwater extraction costs and conserves on freshwater which can be used for domestic purposes. Sludge generated is dried and used as manure as soil remediation in the University gardens. Rain water harvesting is a

continuous activity being carried out every monsoon. Due to these initiatives MU has been able to plant and develop green cover in the entire campus.

**Raw Water Management:** Keeping in mind the growing urbanization within the campus and increasing demand for water, two approaches have been adapted: Firstly, harvesting rain water from roof tops of buildings and using the same for domestic purposes. RWH units are affixed to down take pipes of roof drains which are in turn connected to underground sumps. Secondly, diverting storm water drains and from roof tops to bore wells. In the case of the first, rainwater is collected from roof tops from existing down takes, connected to a common header and led to a trickling sand filter having individual filtering capacity of 10000 liters /hour. The filtered water is then channeled to a nearby sump and used for domestic purposes. More recently the new version of rainy filters are used.

**Solid Waste Management:** which consists of domestic waste, a part of which is composted using earth worms and rest are recycled, food wastes are sent to piggeries. Biomedical Waste, hazardous waste and e- wastes are segregated and disposed in a scientific manner to minimize impact on the environment.

**Lung spaces:** are constantly created across the campus by planting trees wherever possible. 8000 trees were planted in the last three years on campus. World environment day is celebrated on June 5<sup>th</sup> every year. All the members of the management, students and faculty engaged in a march past with placards carrying messages on environmental conservation. This culminates in a tree planting session where all heads of institutions participate.

**Air Quality:** In order to minimize the air emissions with in the campus, restricted entry of vehicles is in place. Emission testing center has been set up for staff and public which delivers services at subsidized rates. Ambient air quality is monitored in the campus, stack emission tests are also conducted in house to keep track of emission from all sources.

**Energy Management:** Various initiatives in the areas of power efficient air conditioning systems are constantly being undertaken for all new projects in the campus. As per MU guidelines hot water requirement in all hostels is met with solar energy. Presently the installed capacity is 3.9 lakh liters per day. Replacement with energy efficient light fixtures, pumps, equipment's and appliances is a continuous process.

**Criterion – VII****7. Innovations and Best Practices****7.1 Innovations introduced during this academic year which have created a positive impact on the functioning of the institution. Give details.****SOAHS Manipal**

Digital pedagogic approach

E-communication of academic activities for faculty

**MCODS Manipal**

Introduction of clinical club presentation for post graduate students evolved over the years and led to the upbringing of best clinical practices across the departments.

Seminars, group discussions and other related academic activities at the undergraduate level improved the competence level of the students

Student level conference (Ignite) being organized every year to provide an opportunity to the students to present research findings

Formation of student research forum (SRF) to rope in the students in the research activities of the college

Encouraging Participation of students at national level conference with financial assistance

Leadership training program is being organized every year for both students and faculty

Soft skill training for students

Posting of student at Tobacco cessation clinic

**MCON Manipal**

- Evidence Based Practice in the curriculum
- Geriatric Care research
- Meeting with the General body of students every year minimum of three times.

**MCOPS Manipal**

- Macro and micro academic management system
- Student information systems
- Online attendance/ marks
- Strict adherence to examination schedules
- Good teacher awards
- Award for audio visual aid for teaching

**MMMC Manipal**

The Department of Pharmacology, Melaka Manipal Medical College had organized first Pharma Triathlon, a three stage academic competitions for MBBS students on 14 November 2015. M-FIRE, MMMC Faculty Initiative for Recreation and Empowerment was inaugurated in September 2015 and has various sub groups working towards enriching the work experience. M –ECO club, an environmental conscious club was inaugurated in June 2015 and as part of club activity- Planting saplings at End-point, Skit

competition with environmental theme for BDS students and Car free day for MMMC faculty (October 3, 2015) were carried out.

## **MCOADS Mangalore**

1. Indigenous Patient Management System (PMS) and Orthodontic Patient Management System (OPMS)
2. Online student and staff feedback
3. Smart Identity Card for students and staff

## **MIT Manipal**

- Slotted time table
- Open electives

## **FOA Manipal**

Innovative approaches have been introduced & practiced in teaching, learning, evaluation and administration system:

- Participatory learning process
- Inter professional interaction
- Factual situations
- Transparency
- Flexible academic scheduling
- Mentoring faculty & Students
- Decentralization
- Holistic development

## **SOM Manipal**

New online database (Capital line) procured for research in economics and finance. Learning Management System implemented for all courses.

## **SOC Manipal**

RTI filing drive initiated

## **SOIS Manipal**

- Industry Sponsored labs
- Industry standard hardware and software laboratories
- Opportunities to work on industry defined mini-projects
- Opportunity to study abroad
- The industry linkages and practical oriented curriculum
- Regular workshops and invited talks from faculty, engineers and researchers on current trends to improve skill sets.
- The program and subjects are updated frequently (once in six months) based on industry feedbacks.
- Internship support for getting 10-12 months internship in an industry for second year.
- Bridge course (C program, exploration of hardware & software available) for the first semester students

- Industry proposed - Mini-project and seminar in each semester for all the students.

### WGSHA Manipal

•Student / Faculty Research: The college has established the Centre for Excellence in Hospitality and Tourism Research (CEHTR) to focus on research, consultancy and continuing professional development initiatives in the area of hospitality and tourism management within the college. Extensive involvement of faculty and students in research projects demonstrate continual quality improvement in all its academic and co-curricular activities to achieve global competency through research

•WGSHA is the only college in India to offer Sommelier programme from the International Sommelier Guild (ISG) with its two levels of wine fundamentals certifications. This is also integrated with the existing F & B curriculum of BHM and BA in Culinary Arts. International faculty representing ISG, train the students in this global certification which adds value to our students learning

•Skills training for unemployed youth from the local community are imparted through Manipal City & Guilds as our CSR initiative. Many short term courses in hospitality are offered as part of the programme

Community Outreach Programme: The programme conducted in Padukere Beach and Hirebettu School enable d the student to involve in social activities. Student Empowerment for Environmental Development (SEED) started in the academic year 2016, conduct activities like seminars, workshops, awareness camps etc.

### SORM Bangalore

Demonstration of chick embryo culture within a shell and in shell less model to understand development

Demonstration of beating cardiomyocytes derived from mESCs

## 7.2 Provide the Action Taken Report (ATR) based on the plan of action decided upon at the beginning of the year

Please refer Q. no. 2.15 of Part A

7.3 Give two Best Practices of the institution (*please see the format in the NAAC Self-study Manuals*)

Best Practice # 1

#### 1. Title of the Practice

Online Entrance Examination

#### 2. Objectives of the Practice

Lends transparency to the Examination Process and Valuation

Attendance sheet with Photo identity and Biometrics recording eliminates malpractice like impersonation

Photo and Signature on Hall Ticket authentication

Flexible scheduling makes it student-friendly (candidate can choose his centre, date and time of examination)

Instant real time score

Announcement of Rank list within 24 – 48 hours after the last session of examination ends.

Multiple centres for examination

Open counselling

Question and answer analysis

Error free unbiased Evaluation

Instant generation of automated Merit List

Less stressful to the student

Improves the image of the university

Online systems are recognized progressive and trendy

Ensures opportunity to a greater number of aspiring candidates

### 3. The Context

University (University) has seen all round development over the years with a large number of courses being offered in diversified areas such as medicine, engineering, pharmaceutical sciences, communication, management, allied health sciences, information sciences, hotel management, geopolitics, nursing and cultural studies. There is absolute transparency in the fee structure, admission procedures, administrative systems, and such other matters, which ensure the highest standards in the conduct of all academic programs. All professional courses run by the University are recognized and approved by the respective regulatory bodies. All processes, which directly affect the education system, are considered key value creation processes by the University. For example, entrance examinations, admission procedures, assessment of students' performance, University examination systems and, designing of products and services etc., are treated as key value creation processes.

University has rich experience in conducting flawless and smooth examinations on a massive scale, which has been acknowledged and appreciated by other universities and institutes of repute. For instance, IIM, Bangalore, invited us for sharing our expertise when they were contemplating outsourcing of the CAT examinations.

Based on feedback from different stakeholders and as a part of continuous improvement process, University has adopted the system of online entrance examination. In this direction, it is availing select services of an external agency for conducting its entrance examinations. The chosen service provider has demonstrated both credibility and a blemish-less track record. The service provider was chosen after a rigorous selection process that demonstrated their administrative capability in conducting the online examination process.

Prior to 2005, the system of conducting online entrance examination was non-existent in India. For the first time, University introduced the system of online entrance examinations for its postgraduate aspirants of all the professional courses in the year 2005. University has the unique distinction of implementing

online entrance examinations for almost all of undergraduate and postgraduate programmes of the University.

#### 4. The Practice

**Describe the practice and its uniqueness in the context of India higher education. What were the constraints/limitations, if any, faced (in about 400 words)?**

Please refer **Annexure 1** for details

#### 5. Evidence of Success

The introduction of online entrance examination has reinforced objectives of University through its innovative strategy and quality management features, such as

Strict adherence to quality management of the online entrance examination process that reduces defects and cycle times in support functions, thereby reinforcing effective and efficient use of available resources.

Quality management of entrance examination also helps University to deliver unbiased, value based, customer centric and customer friendly needs in admission procedures

Online entrance examination aligns and enhances efforts of University for ‘attracting talent’ and meeting societal needs of aspirants

The trend of performance improvement has been evaluated by some indicators such as the number of applications sold and the number of candidates applying for undergraduate and postgraduate entrance courses. The trends in these aspects, from the year 2010, have been very encouraging. These trends have been shown in the **Annexure 2**. On introduction of online entrance examinations, a significant improvement in performance level in terms of sale of applications has been registered. There has been a 20.71 per cent increase in the sale of applications in 2014, compared to the previous year.

The linkage of result measures to certain organizational performance requirements can be seen from the following perspectives in University.

- Elimination of risk from physical movement and exposure of classified materials including the question papers
- Cost equivalent to the person-days lost from deploying University officials/faculty members for examination duty
- University enjoys the privilege of becoming the first to introduce a customer centric system of conducting the entrance examination
- University’s objective of establishing a global presence is reinforced by providing international students an opportunity to take online entrance examination in their respective countries

- Demonstrable improvement in revenue generation through the sales of application forms and prospectuses
- Reduction in expenditure in the conduct of entrance examinations. The conventional system required the deployment of University officials and members of the teaching faculty with hoards of stationery material to distant examination centres throughout India

Please Refer **Annexure 2** for more details

## 6. Problems Encountered and Resources Required

The Online Entrance Examination process has been a seamless one without any significant problems encountered. Few Minor issues have been tackled appropriately as and when they occurred without impacting the process delivery.

Please Refer **Annexure 1** for Resources required implementing the practices.

Best Practice # 2

### 1. Title of the Practice

Promoting Research through Directorate of Research, University

### 2. Objectives of the Practice

Vision:

To nurture and promote research activities of global standards

Mission:

To instil and promote research in all streams of scientific disciplines, thereby improving output in terms of innovation, technology, intellectual property and publications

Objectives:

- To facilitate research collaborations
- To facilitate good quality research programmes with national and international grants
- To provide expertise and training to investigators, researchers and PhD Guides
- To facilitate research publications
- To support patent filing activities and Technology Transfer

### 3. The Context

Directorate of Research was established in University from June 2012 to facilitate, nurture and promote research in all the constituent units of University and to foster Research collaborations with other campuses of the Manipal Group.

### 4. The Practice

**Planned Activities by Research Directorate (Health Sciences/Technical) – University**

1. Orientation, training and awareness programme to Heads of Institutes (HoI), Heads of Departments (HoD), PhD guides and co-guides, investigators, researchers and doctoral committee members. The topics suggested for orientation shall include Grant writing, research methodology, patent filing, scientific writing and editing, statistics, Industry-Institute Interaction. Similar orientation training programmes may be extended to research scholars of University, whenever required

Sr. No.	Name of Faculty	Topic	Date	Place	Number of Participants
1.	Dr. Raghuvir Pai	Opportunities and approach for grants and funding for research activities	3 Nov 2012	MIT, Manipal	50
2.	Dr. Manohar Pai MM	Innovation, IPR and Patents			
3.	Dr. N Udupa	Ethics in Research			
4.	Dr. Raghuvir Pai	Opportunities and approach for grants and funding for research activities	5 Nov 2012	MCOPS, Manipal	100
5.	Dr. Yogendra Nayak	How to Publish in Journals? How to present in conference?			
6.	Dr. M K Unnikrishnan	Research and Publication Ethics			
7.	Dr. N Udupa	Ethics in Research			
8.	Dr. Manthan D Janodia	IPR and Patents			
9.	Dr. N Udupa	Ethics in Research	7 Nov 2012	KMC, Mangalore	100
10.	Dr. Manthan D Janodia	IPR and Patents			
11.	Dr. Yogendra Nayak	How to Publish in Journals?			
12.	Dr. M K Unnikrishnan	Research and Publication Ethics			
13	Dr. Neeta Inamdar and European Union Representatives	European Union's Seventh Framework Programme (FP 7)	25 Sep 2012	Counseling Hall, manipal.edu	50
14.	Dr. M K Unnikrishnan	How to prepare a winning research proposal	22 Jan	MCOPS, Manipal	100

			2013		
15.	Dr. Usha Y Nayak	Bio CARE	22 Jan 2013	MCOPS, Manipal	100
16.	Dr. Vidhu Sankar Babu	DST Fast Track Application	22 Jan 2013	MCOPS, Manipal	100
17.	Dr. Srinivas Mutalik	DBT Fast Track Experience	22 Jan 2013	MCOPS, Manipal	100
18.	Dr. M Surlivel Rajan	ICMR Concept Note	22 Jan 2013	MCOPS, Manipal	100
19.	Dr. Nandakumar and Mr. Anoop Kishore	Fast Track Scheme Application	22 Jan 2013	MCOPS, Manipal	100
20.	Mr. Sampath Kumar	DST Fast Track Funding	15 Mar 2013	MIT, Manipal	100
21.	Dr. (Mrs) Vidhu Sankar Babu	DST Fast Track Funding Experience	15 Mar 2013	MIT, Manipal	100
22.	Dr. NandaKumar and Dr. Rekha Shenoy	Preparing Budgets for a grant	15 Mar 2013	MIT, Manipal	100
23	Dr. K. Satyamoorthy.	Research grant opportunities in the area of Health Sciences	April 19, 2013	KMC, Mangalore	100
24	Dr. Anand R	Ethics in Clinical Research			
25	Dr. Sreekumar Nair	Importance of Statistical Interpretation of Research Investigations	April 27, 2013	MCOPS, Manipal	100
26	Dr. P.G. Shivananda	Effective mentorship and supervision of Ph.D. candidates			
27	Dr. K Satyamoorthy	Guidelines and policies for Ph.D. supervision			

28	Dr. K L Bairy	Ethics in research.			
29	Dr. C Mallikarjuna Rao	Ethics in publication.			
30	Dr. Shyamala Hande	Manipal university guidelines for Ph.D. guides and doctoral committee members.			
31	Dr. Raviraj Adhikari	Registration protocol, presentation and screening of Ph.D. candidates			
32	Directorate of Research	Summer School	June 3- July 2, 2013	MCOPS, Manipal	140
33	Directorate of Research	Organization of Manipal University Students Research Forum	November 14, 2013	Interact, Manipal	150
34	Dr. M. K. Unnikrishnan	Introducing Interdisciplinary Research	January 17, 2014	Interact, Manipal	100
35	Dr. G Jagadish Adjunct Prof. MCOPS, Manipal	Planning, Executing and Publishing Research Projects	February 11, 2014	MCOPS, Manipal	100
36	Dr. Raviraja Adhikari	Interdisciplinary Research	February 19, 2014	Interact, Manipal	100
37	Dr. P. D. Gupta Adjunct Professor MCOPS	Search and Research	March 10, 2014	Interact, Manipal	100
38	Directorate of Research	Manipal Research Colloquium -2014	April 11-12, 2014	Interact Manipal	600
39	Directorate of Research	Student Research Poster Competition (SRPC 2014):			

40	Dr. Arun Kumar Chawla	Availability of various Australian fellowships and scholarships	June 5, 2014	Interact Manipal	100
41	Dr. Arun Kumar Chawla	Availability of various Australian fellowships and scholarships	June 7, 2014	KMC, Mangalore	100
42	Directorate of Research	Summer Training 2015	June 16- July 12, 2014	Interact, Manipal	240
43	Dr. Lakshmi Sundar	Knowledge Sharing in Scientific Research	August 12, 2014	Interact Manipal	150
44	Dr. N Udupa and Dr. Raghuvir Pai	Introduction to Research Activities of Manipal University	August 14, 2014	Interact Manipal	150
45	Dr. Yogendra Nayak	Quality of Publications, Impact factor, Citation, H-index, University Ranking etc.			
46	Dr. Manthan D 47Janodia	Research and Intellectual Property Rights			
47	Dr. Rekha Shenoy	Funding Opportunities and University Grant Proposals.			
48	Dr. N Udupa and Dr. Raghuvir Pai	Introduction to Research Activities of Manipal University	August 16, 2014	KMC, Mangalore	150
49	Dr. Yogendra Nayak	Quality of Publications, Impact factor, Citation, H-index, University Ranking etc.			
50	Dr. Manthan D Janodia	Research and Intellectual Property Rights			
51	Dr. Rekha Shenoy	Funding Opportunities and University Grant Proposals.			
52	Mr. Srinivasan	Informative session on introduction to plagiarism	August	Interact,	150

	Acharya	and understanding of the plagiarism software and its reports	25, 2014	Manipal	
53	Mrs. Shantala Pai.	Manipal University Press editorial services			
54	Mr. Srinivasan Acharya	Informative session on introduction to plagiarism and understanding of the plagiarism software and its reports	October 18, 2014	KMC, Mangalore	100
55	Mrs. Shantala Pai.	Manipal University Press editorial services			
56	Dr. Manohara Pai M.M.	Innovation, Incubation and Entrepreneurship	October 21, 2014	Interact, Manipal	100
57	Directorate of Research	Pre-Conference workshop in "Computational Methods for Interdisciplinary Research"	December 15-16, 2014	MIT, Manipal	70
58	Directorate of Research	International Conference on Computational Methods in Engineering and Health Sciences	December 15-16, 2014	MIT, Manipal	100
59	Dr. G Jagadish, Senior Advisor, USFDA and Adjunct Professor, MCOPS, Manipal	Publication in International Journals and Excellence in writing research for publication	December 29, 2014	Interact, Manipal	150
60	Dr. Srikanth Prabhu	Computational sciences in Healthcare	January 10, 2015	MCOPS, Manipal	90
61	Dr. Raviraja N S	Scope of Regenerative Medicine and Stem Cell Research	January 16, 2015	MCOPS, Manipal	110
62	Prof KSV Baliga	Self-Development through Translational Analysis			

63	M/s Ajay D Pillai and his associates	Awareness program on Wellcome DBT fellowship.	February 11, 2015	Interact, Manipal	150
64	A K Balaji and his Associates on behalf of M/s R K Deewan and Company	Patent awareness camp	February 16, 2015	Interact, Manipal	125
65	Directorate of Research	Transcendence 2015	February 26, 2015	MCOPS, Manipal	150
66	Directorate of Research	Manipal Research Colloquium -2014	April 6-7, 2015	MIT, Manipal	600
67	Directorate of Research	Student Research Poster Competition (SRPC 2014):			
68	Mr. Khilesh Chaturvedi	Workshop on Effective Proposal Writing for faculties	May 28-29, 2015	MCPD, Manipal	60
69	Dr. K Ramnarayan	Inauguration and overview of the program	May 30, 2015	Seminar Hall, MIT	125
70	Dr. Raghuvir Pai	Research at Manipal University			
71	Dr. ShivanandaBhat	Scopus and Web of Science			
72	D. N Udupa	Research Grants			
73	Dr. Rekha Shenoy	Publishing in Scientific Journals			
74	Mrs Shantala D Pai	Publishing with Manipal University Press			
75	Dr. Yogendra Nayak	Impact factor and Citations			
76	Dr. Manthan D Janodia	IPR and Copyrights			
77	Dr. Rekha Pai	MU/MIT Library and Digital Repository			

78	Mr. Ben Sakker Kelly and Dr. Arun Chawla	Endeavour Scholarship and Fellowships in Australia	June 5, 2015	Interact, Manipal	150
79	Mr. Ben Sakker Kelly and Dr. Arun Chawla	Endeavour Scholarship and Fellowships in Australia	June 5, 2015	KMC, Mangalore	100
80	Mr. Alok Poundrik and Mr. Basha Kodidela	Training session of M/s Thomson Reuters(web of science group)	June 26, 2015	Interact, Manipal	150
81	Directorate of Research	Summer Training - 2015	June 15- July 4, 2015	Interact, Manipal	125
82	Dr. P D Gupta	Recent Trend of Research in Biotechnology	July 9, 2015	MCOPS, Manipal	100

#### Workshops /Training Programs organised by research department

Apart from this to encourage faculty members in constituent units to pursue high quality research the Research Directorate with the support from Research Committee has prepared new Guidelines for Research Incentives and Awards. (Refer Annexure 3)

The Directorate also tracks Research grants through Unique Tracking Number (UTN). Details of the same are given in Annexure 4.

### 5. Evidence of Success

**Refer Annexure 5**

### 6. Problems Encountered and Resources Required

There were no problems encountered in centralizing monitoring and promotion of Research in Health Sciences, Technology and Management through the Directorate of Research. In terms of Human Resources, Directorate of Research is headed by Director Research (Health Sciences) and Director Research (Technology and Management) with suitable supporting physical infrastructure, IT support, staff and coordination from various constituent units and central libraries.

#### Melaka campus

1. IDEAL Consortium – assessment mechanism – as illustrated in Annexure II
2. Cochrane Initiative – as illustrated in Annexure III

### Dubai campus

1. Outcome Based Teaching & Learning
2. Four Schools conducted International Conferences and one school conducted a national conference:

School of Life Sciences organised the conference titled “Current Trends in Biotechnology” An international conference of Life Science Research & Development” from 18-19, March, 2015

School of Engineering & IT organised the conference titled “Manipal International Conference on Technology Management (MiCTM 2015)” from 25-26 March, 2015

School of Business organised the conference titled “EXPO 2020: Management Perspectives” on 9 April, 2015

School of Design & Architecture organised the conference titled “International Symposium “– One day event where Published Research on a particular area of Architecture & Design is presented during the 2<sup>nd</sup> week of May 2015

School of Media & Communication organised the conference titled “Media: Consumption, Gratification, and Impact” in April, 2015

### 7.4 Contribution to environmental awareness / protection

Awareness is given to staff and students on the need for conservation and measures undertaken. During World environment day students from nearby schools carry out the green march along with placards depicting current issues like global warming, Ozone depletion etc. The heads of Institutions along with the top management and students engage in a tree planting session. This culminates in a formal address by the Universities top management and Institutional Heads.

Trainings are given to all staff members on key aspects like Hazardous / Biomedical / other waste management, University objectives of reduction in paper, water and power consumption etc.

### Melaka campus

The continuous practice of the following - constant reminder for staff to reduce wastage of electricity when not in use; reading over and over again before finally printing if printing is to be done at all; the use of soft copies rather than hard copies; the use of IT technology over many processes – application for leave, e-learning for both staff and students; planting of trees within both campuses – Melaka and Muar; prevention of littering by provision of adequate litter bins.

### Dubai Campus

#### Lectures by Experts:

- Session by Samir Bagdadi, Architect, India was organized on “Sustainability in Design “on 16<sup>th</sup> March, 2015
- Session by Globcom to understand the sustainable energy system for water saving in Landscaping was organized in March 2015
- Session by Chaitanya Kulkarni, LEEDs Consultant was organized to understand LEEDs rating and sustainable solutions on 3<sup>rd</sup> April 2015

**Field Visits:**

- Manipal University has organised field visits to support and promote a culture of water and electricity conservation:
- WETEX Exhibition – An annual visit to the WETEX Exhibition at the Dubai Convention Club was organised for students
- Visit to Masdar Institute was organised for Students of Architecture on 31<sup>st</sup> March 2015

**Registration for the Sustainable Campus Initiative by Environmental Agency Abu Dhabi**

- Students attend the Green Youth Majlis session in Abu Dhabi on January 28<sup>th</sup>, 2015.
- A short briefing session about the Green Campus Audit and Sustainability Action Project was attended by the team
- Ms. Reem Al Soodi and Ms. Anupama Chaudari, from EAD visited Manial University Dubai to interact with the students on 16<sup>th</sup> April 2015

**Competitions:**

On Campus Initiatives:

- Green Bucket Challenge competition was organized which included Competition for eco canvas, create best out of waste.
- Competition for Digital Poster
- Waste Collection Drive

**Awareness through Social Media:**

We promote conservation through our Facebook conservation page and university website. Facebook link - - <https://www.facebook.com/pages/MUD-Conservation/1421095844814105?ref=hl>

**Sustainability Action Project:**

Interaction with Office at Dunia, at Dubai International Academic City. Dunia Finance office approached by the team gave insights on green initiatives for office environment. The Team then approached Mashreq Bank and in co-ordination with Ms. Hensa Bhatia participated in the "Give and Gain" charity event and interacted with employees at Mashreq Bank to spread awareness. A survey was conducted by the team at the event, in order to evaluate their current sustainability status. Survey results were analyzed and documented. The project is still ongoing.

**Student Initiatives and Projects**

Project: Air conditioning system with ground source heat exchanger by School of Engineering & IT.

Project Team:

Dr.S.V. Kota Reddy, Academic President, Manipal University Dubai campus, Anil Babu, Assistant Professor, School of Engineering & IT, Sumathy Ayausamy, Assistant Professor, School of Engineering & IT Student Team- Clifton Arokiyaraj, Gaurav Naik, Soham Shukla, Barath Masamsetty, Kevin Alexander

**AWARD FOR SUSTAINABLE CAMPUS INITIATIVE: BEST SUSTAINABILITY ACTION PROJECT: Environmental Agency Abu Dhabi**

Manipal University Dubai is announced as Runners up of the Best Sustainability Action Project 2015. Manipal University, Dubai campus won the “Best Green Campus Audit 2015” and “Runner up Sustainability Action Project 2015”, organised by Sustainable Campus Initiative (SCI) by Environmental Agency - Abu Dhabi, which was supported by Ministry of Higher Education & Scientific Research, UAE and sponsored by Borogue .

The event was held on 30<sup>th</sup> September 2015 at Jumeirah Etihad Towers, Abu Dhabi. The Universities which participated in the Sustainable Campus Initiative include American University of Sharjah, Petroleum Institute, Higher College of Technology Womens College, Zayed University, New York University, UAE University, Khalifa University, Abu Dhabi University and many others.

**7.5 Whether environmental audit was conducted?** Yes  No

Yes. MAHE is ISO 14001:2004 certified institution and hence, regular Environment Management System internal audit is being conducted by in house certified internal auditors and once in a year an audit is conducted by the certifying agency - M/s TUV Rheinlnad Co. Pvt. Ltd. Bengaluru

**7.6 Any other relevant information the institution wishes to add. (For example SWOT Analysis)**

SWOC Analysis					
1	Curricular Aspects	Strengths	Weakness	Opportunities	Challenges
1.1	Curriculum Design and Development	<p>Strong Curriculum Design and Development Process.</p> <p>Syllabus updated on periodic basis based on inputs from different stakeholders.</p>		Further strengthening of curriculum development process by more industry-academia collaborations	Restrictions imposed by the Regulatory bodies like MCI, DCI etc.
1.2	Academic Flexibility	Open electives, Practice schools	Different examination / evaluation patterns for the programmes	Implementing Choice Based Credit System	Constraints from Regulatory bodies / operational difficulties in implementation
1.3	Curriculum Enrichment	Curriculum is enriched by involvement of inputs from various stakeholders		More collaborations with academic / industry in identifying relevant inputs	Curriculum developed by regulatory bodies may have time lag in implementing the dynamic changes required
1.4	Feedback on Curriculum	Feedback collected at various levels from different stakeholders in the process	Capturing feedback from alumni is in the developmental stage. Efforts are in progress to implement their valuable inputs	Avoid redundancy	
2	Teaching Learning and Evaluation	Strengths	Weakness	Opportunities	Challenges
2.1	Student Enrolment and Profile	Diverse student profile involving several states in India and 59 other countries		Recession in Europe / US encouraging students to study in India	Growing number of educational institutions

						universities in India
2.2	Catering to Diverse Needs of Students	Strong infrastructure and necessary support services to cater to the curricular, co-curricular and extracurricular needs of students			Student diversity helps in identifying new locations for campus expansion and also helps marketing team to tap these markets to increase student base	
2.3	Teaching Learning Process	Strong academic processes, which are reinforced with continual improvements, identified through periodic audits				Rigid framework of some of the regulatory bodies
2.4	Teacher Quality	Faculty with blend of industry and academic experience with strong research outputs			More opportunities for innovations in pedagogy.	Since the university is located in a semi urban location, attracting and retaining faculty is a challenge
2.5	Evaluation Process and Reforms	Strong and Robust Evaluation Process.  Double valuation with a provision for third valuation. Timely declaration of results			PhD registration and evaluation process is undergoing several reforms, which can lead to high quality research output.	Getting external examiners in some specified areas
2.6	Student Performance and Learning Outcomes	Well defined learning outcomes implemented through hands on training and multidisciplinary projects evaluated	Implementation of the process in all streams.			

			through the demonstration of skills and knowledge acquired in the teaching learning process.			
<b>3</b>	<b>Research, Consultancy and Extension</b>	<b>Strengths</b>	<b>Weakness</b>	<b>Opportunities</b>	<b>Challenges</b>	
3.1	Promotion of Research	University has established the Directorate of Research to nurture and promote research activities of global standards. Research is encouraged through attractive incentive and awards' scheme and also by integrating it as a requirement for promotion to higher designations	The full benefits of Research facilities are yet to be realized, specially the inter-disciplinary research.	Availability of PhD guides in all major streams	Attitude of the funding agencies towards self-financing universities	
3.2	Resource Mobilization for Research	Research Directorate encourages constituent units to apply for research grants under different schemes.	Being self-financed university, there are limitations in allotting large budgets for research activities. Inadequate commercialization of patents.	Opportunities are available to apply for research grants from different agencies / institutions.	Attitude of the funding agencies towards self-financing institutions.	
3.3	Infrastructure for Research	Excellent state-of-the-art infrastructure in the form of high-end research	Lack of optimal utilization of high-end research facilities.	More research grants can be attracted.	Maintenance and calibration of these high end equipments is a	

			equipment / machinery is available.			major challenge
3.4	Research Publications and Awards	MAHE has been ranked number one among private universities for its research publications output by a Spanish agency. Faculty members have won several awards for best paper/poster presentations in conferences in India and abroad High scopus and H index rating.	Limited high impact publications	Several opportunities for publications are available in journals with high impact factors. More awareness and efforts from faculty can lead to more research output in the form of highly rated publications		
3.5	Consultancy	Availability of expertize to extend consultancy services. Attractive scheme to promote consultancy in the University.	Under marketing of the Consultancy services.	Opportunities for consultancy can be explored with different models.		Geographical disadvantage.
3.6	Institutional social responsibility and extension activities	Strong involvement of management, faculty, staff and students in several social responsibility projects and extension activities.	Limited financial resources.	Opportunities for the students for the holistic development.		Negative perception about the private organization
3.7	Collaboration	Several MoUs with industry / academic institutions in India/abroad in diverse areas of research.	Limited translation of MoUs into implementation.	Several more opportunities are available to collaborate with industry / academic institutions in India / abroad.		Restricted freedom due to the regulations.

4	Infrastructure and Learning Resources	Strengths	Weakness	Opportunities	Challenges
4.1	Physical Facilities	State-of-the-art infrastructure to support academic, research, administrative, curricular and extracurricular activities.  ICT enabled classrooms		To increase the number of programs and research activities.	Growing demand for air-conditioned and other sophisticated facilities in hostels, classrooms etc.
4.2	Library as Learning resource	Well-equipped library with excellent collection of text books, reference books, journals, periodicals and digital subscriptions / databases.  Availability of e-learning facilities.	Under -utilization of the facilities created.	To create more digital facilities in terms of e-books and e-learning applications.	Storage space and discontinuing the hard copies.
4.3	IT Infrastructure	Strong IT infrastructure support with excellent backup facility.  All faculty members are provided with individual laptop computers.	Underutilization of web mail facility.	To go for paper less administration.	Financial implication for upgrading the software at a frequent interval. Requirement of sophisticated Data security system
4.4	Maintenance of Campus Facilities	Outsourced		Improved efficiency with cost reduction.	Supervising the outsourced agency.
5	Student Support and Progression	Strengths	Weakness	Opportunities	Challenges
5.1	Student Mentoring	Strong mentoring/course	Disconnect between the	Student involvement in	With growing student

		and Support	lling support at institution level and University level monitored by the Director - Student Affairs	decision making and implementing. Lack of optimal utilization of counselling facility by students	decision making process for better acceptance.	strength and also with raising expectations from parents, it may require more training for the counsellors to handle complex situations.
	5.2	Student Progression	Students get excellent opportunities for pursuing higher education in India and abroad. High profile companies visit University campus for recruitment and providing internship opportunities	Higher level of coordination between constituent units can bring more synergy into placement process	Increased interaction with industries for improved employability. Increasing the post graduate training programs.	Location away from metro cities is a big challenge for placement process
	5.3	Student participation and activities	University and its constituent units conduct several extracurricular and co-curricular activities including sports with extensive participation by the students.	In some of the programs the “academic demands” hinders student participation in other activities	Students from parent campus, off campus and offshore campus get opportunities to meet each other. Off campus and Offshore campus students get a chance to see the parent campus at Manipal.	Organizing common events are becoming increasingly difficult with increasing student strength and to fix the schedules to match the academic calendar.
<b>6</b>		<b>Governance, Leadership and Management</b>	<b>Strengths</b>	<b>Weakness</b>	<b>Opportunities</b>	<b>Challenges</b>
	6.1	Institutional vision and leadership	All constituent units are focused on University vision. Strong leadership		With expansion in the form of off campus and offshore campuses, there	

			supports the progress towards achieving the vision		is an opportunity to groom leaders at parent campus for suitable positions at the other campuses and also sharing of resources and rationalizing the same.	
6.2	Strategy development and deployment	University has well-structured governance system, which develops long term and short term strategies and enables their effective implementation	Financial constraints.	University experience in developing campuses / institutions in national and international level is a knowledge asset in developing and deploying future strategies for expansion	With changing regulations from national and international regulators, it becomes difficult to standardize strategies across campuses	
6.3	Faculty empowerment strategies	Balance of centralized and decentralized approach in decision making to ensure adequate empowerment of faculty	Reluctance to own the decision making process	Faculty empowerment has encouraged a culture of entrepreneurship in University	With growing diversity of disciplines, standardization becomes very difficult and impracticable	
6.4	Financial management and resource mobilization	Self-financed programs delivered at optimal cost. Availability of competent and experienced faculty members as per regulatory requirements	Not able to attract significant endowments	To attract more research grants, consultancy work and better commercialization of patents.	Increasing cost of education and availability of competent and qualified faculty may prove to be a challenge in future	
6.5	Internal Quality Assurance	University is ISO 9001:2008 certified for	Storage and retrieval of data during the	Strong documentation maintained as a	To comply with the frequently changing	

		System	Quality Management System (QMS) & 14001:2004 for Environmental Management System (EMS). Central Quality & Compliance (Q&C) cell at MAHE to monitor quality and compliance at constituent units through periodic audits. Environmental Cell to monitor compliance to various legal and statutory requirements	transitional phase from paper to digital information system	requirement of this system will help in continual improvement and application for various accreditations and ranking especially with University focusing on placing itself in the list of top globally ranked universities	regulations
<b>7</b>		<b>Innovations and Best Practices</b>	<b>Strengths</b>	<b>Weakness</b>	<b>Opportunities</b>	<b>Challenges</b>
7.1	Environment Consciousness	University has won Golden Peacock Award for Environmental Management System .It stands second in India among Universities as per UI Green metric ranking. University is ISO 14001:2008 Certified by TUV Rheinland	Even though the University has been certified for Environmental Management System, still there is a long way to go in terms of making each and every employee environment conscious	Compliance to requirements of EMS has led to rationalizing of resources like paper, electricity and water and with growing student strength this becomes very critical, as every unit of resource saved is equivalent of resource created	To fulfil the expectations of the Pollution control Board.	
7.2	Innovations	University has several examples of innovations in its processes, which includes the process of	Effective implementation of the innovations	With availability of multi-disciplinary faculty members, more innovative	Effective implementation of multi-disciplinary approach for better	

			examination, counselling, infrastructure development, environmental management, teaching-learning etc.		projects can happen in the university and the same can be shared with its off campuses and off shore campuses.	outcomes
7.3	Best Practices	University is winner of several awards as an acknowledgement of its Best practices	Sharing of Best practices across constituent units need to be more vibrant	Availability of several forums at national and international level to showcase best practices and further build the Manipal brand		

### Melaka campus

The strategic plans are focussed in 5 areas:

- (i) EDUCATIONAL PROGRAM – primarily to harmonise the curriculum structure, content, delivery and assessment (covering the continuous and exit/ascension evaluation at every stage/phase of the programme) with requirements of the National Accreditation Board and the Malaysian Medical Council and secondarily to align the college programme with the local public medical schools.
- (ii) COLLEGE SELF-EVALUATION – to undergo planned self-evaluation towards developing efficiency in the College general and academic administration.
- (iii) ACADEMIC COLLABORATION – to enhance current academic collaboration with partner hospitals and health facilities and expand to new facilities subject to approval from relevant authorities.
- (iv) QUALITY IMPROVEMENT INITIATIVES – to strive continuously for improvement and enhancement on current available infrastructure and teaching facilities.
- (v) HUMAN RESOURCE DEVELOPMENT – to reorganise the human resource towards an effective management of teaching-learning delivery in the College

### 8. Plans of institution for next year

#### Quality objectives

Excellence in education, health care and research leading to a place in the top 100 Universities in Asian Rankings

## I. Enhancing Academic Reputation:

### I. Quality of intake

#	Quality Objective	Target
1	Cut off ranking at admission level	Better as compared to previous year
2	Diversity of Students (This objective will be changes as Diversity of Applicants from next MRM onwards)	Better representation as compared to previous year
3	Increase in number of applications, National and International	Higher as compared to previous year
4	Student Ratio UG: PG: PhD benchmarked with top Universities in the world	

### 2. - Academic

#	Quality Objective	Target
1	Declaration of results on time	Within a month of conduct of exams
2	Conduct of exams as per academic calendar	As per calendar
3	Student attrition rate	Reduce as compared to previous benchmark
4	Enhance Student Progression	
i.	Percentage of eligible students progressing to higher levels	Improve compared to previous benchmark
ii.	Percentage of eligible Students placed.	5 % increase every year over the previous 3 years average
5	Number of students involved in social responsibility projects and extension activities	Improve on previous benchmark
6	Graduation rate	% of students completing the programme on time, target can be 1% better than average of previous three batches
7	Introduction of new programmes	At least 20 new programmes compared to previous year

**3. Service delivery Process:**

#	Quality Objective	Target
1	Student feedback of faculty	Minimum of 3 on a scale of 5
2	Student feedback on infrastructure	Minimum of 3 on a scale of 5
3	Student feedback on academic program	Minimum of 3 on a scale of 5
4	Patient feedback on services	Minimum of 3 on a scale of 5
5	Faculty student ratio as per statutory and regulatory requirements	As applicable

**II. Enhancing Research Output:**

#	Quality Objective	Target
1	Number of papers presented in National and International conferences per faculty	At least one
2	Number of publications in National and International, Indexed journals with impact factor per faculty (indexed by Scopus)	Minimum 5% increase every year
3	Enhance Quality of Publication	
a	Increase in Average Journal Impact factor by 0.2 every year.	By 0.2 every year
b	Increase in Average H index by 2.0 per author every year.	By 2.0 per author every year.
4	Amount of research grants received	5% increase every year
5	No of patents applied for	At least one patent more than the previous year
6	Number of Ph D registrations	At least 5% increase every year
7	Number of faculty with Terminal degrees.	Increase by 5 % every year

**III. Increasing focus on Internationalisation**

#	Quality Objective	Target
1	Number of International students in UG and PG programmes	5% increase

2	Number of incoming and outgoing exchange students in UG and PG programmes (includes IAESTE, AIESEC, Study Abroad programmes, interns etc.)	10% increase
3	Number of Collaborations with Foreign Universities	At least 10 per year
4	Setting up of Alumni Centres abroad	At least five by end of 2015
5	Number of International faculty	Increase by at least two per year
6	Transnational mobility of faculty	At least 10 per year

#### IV. Enhancing Employer Reputation

#	Quality Objective	Target
1	Number of companies participated in campus placements	5 % more than previous year
2	Number of Fortune 500 companies participating in campus placements	5 % more than previous year
3	Percentage of Alumni Registered with University	From existing 8.3% to 50% by end of 2015
4	Number of Industry Collaborations	At least 5 per year
5	Setting up Alumni Chapters in India	At least five by end of 2015
6	Organising Alumni reunions	At least one by all institutions by end of 2015

#### V. Training

#	Quality Objective	Target
1	Ensure continual enhancement of knowledge/skills of teaching faculty	Attend at least one professional development programme and a minimum of 10 hours of training every year
2	Ensure continual enhancement of knowledge/skills of non-teaching staff	To be provided with at least 2 hours of training every year

#### Environment objectives

#	Environment Objectives	Target
1	Reduction in per capita electricity consumption	6% reduction year on year for the next 3 years
2	Reduction in per capita potable water consumption	2% reduction year on year for the next 3 years

3	To be ranked within the top 20 Universities globally under the suburban category in the UI Green metric World University Ranking by 2017.	Top 20 ranking by 2017

### **Melaka campus**

#### **Faculty of Medicine:**

I) Further enhancement of Educational Environment via fine-tuning of Academic Teams, the increasing use of Moodle and other e-learning platforms among students and faculty

II) Promotion of research competency among faculty – Faculty Development workshops in both quantitative research and systematic reviews.

III) The Institution is in the process of ensuring the Instructional shift would be integrated fully into the curriculum. The Instructional Shift shall further improve the delivery of medical education on the following accounts –

- Students would have to pay attention to the assessment mechanism beginning from Semester 6 onwards. In the current curriculum, the end of postings for the Semester 6 programme is not taken into account as part of the continuous assessment of the P2S1 examination. However, the proposed curriculum would immediately place all end of postings in the Semester 6 programme as vital component of the continuous assessment.

- Both main examinations which are the P2S1 and the P2S2 examination would finish a semester earlier. Standards and components of the examination would remain exactly the same apart from the absence of clinical long case examination from both the proposed P2S1 and P2S2. The P2S1 is scheduled at the end of Semester 7 while the P2S2 examination would have the schedule at the end of Semester 9 (both exams – 1 semester earlier)

- The Semester 10 examination would have Portfolio evaluation. The use of Portfolio shall allow higher competencies of students such as communication skill, ethics and professionalism to be assessed

- The presence of the IDEAL software would make it easy for blueprinting purposes

- Outcome Based Education shall be the main focal point of all teaching learning activities which include teaching methodologies and assessment mechanism

- OSCE examination which would be the mainstay of clinical examination in P2S1, P2S2 and Exit Exam would have higher validity with the requirement of standard setting via Borderline Regression Method

- Long Case which have been reported as having reliability issues would be relegated to end of posting examinations in semester 6 to 7. Observation of these long cases during the postings would strengthen the validity and reliability issues of long case examinations.

- Question bank would be higher (15000+ questions) with the presence of IDEAL question bank

**Faculty of Dentistry:**

1. Introduction of a tool for assessment and evaluation of professionalism (soft skills)
2. Introduction of Portfolio in formative assessment
3. Encourage innovation and original research utilizing the available data.
4. Introduction of Postgraduate certificate course in endodontics

**Dubai campus****Academic Initiatives:**

- Course material in the form of presentations on course website from all faculty members
- Pedagogy modification -Introduction of new technology in class room teaching
- SLCM Implementation for all Academic activities
- Implementation of Online feedback system for all Schools
- MeritTrac for paper assessment
- Implementation of Edunxt for all the Schools in some selected areas
- Student Exchange and Multicity program
- Development of full- fledged course website
- Continuing Modification of pedagogy
- Starting of new UG, PG and Ph. D. programs
- Starting new certificate and short term training programs
- Faculty exchange program
- Enhancing student exchange program
- Enhancing lab and research facilities

**Quality Improvements:**

- Focus on FDPs for effective teaching and research activities
- Individual faculty development program Initiative
- Encourage faculty members to register for Ph. D.
- Effective usage of Turnitin software for detecting plagiarism
- Effective use of EBSCO software research data base
- Enhancing the support for R & D activities
- Introduction of entrance test to improve the quality of student intake
- Recruitment of faculty members with terminal degree
- Focus on FDPs for effective teaching and research activities
- Individual faculty development program Initiative
- Continue to encourage faculty members to register for Ph. D.
- Enhancing the support for R & D activities

**Research & Development Activities:**

- 50 papers in International Journals
- At least one external project funding for each School
- One national/International conference to be organized by each School
- 5 Books/Chapters/ authored or edited by faculty
- 75 papers in International Journals
- Focus on obtaining external project funding for each School
- Focus on national/International conference to be organized by each School

- Focus on the Books/Chapters/ authored or edited by faculty

## Student Affairs:

- Focus on student health and safety.
- Establishment of more clubs to encourage extra - curricular activities.
- MAESTRO awards.
- PULSE an in house student year book.
- Student exchange program
- International study tours
- Inter college festivals

Name: **Dr. Pradeep Kumar G.**

Name: **Dr. H Vinod Bhat**



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*Signature of the Coordinator, IQAC*

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*Signature of the Chairperson, IQAC*

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## ANNEXURE 1

**Implementation of Online Entrance Examinations**  
**Presentation on Administration of Online Entrance Exams**  
**The Proactive role played by Manipal University**

**Introduction:**

Online testing is recognized all over the world as the most efficient delivery system for assessment. However, overwhelming infrastructural constraints, limited reach as well as difficulty in monitoring have limited the scope of this mode of delivery in India.

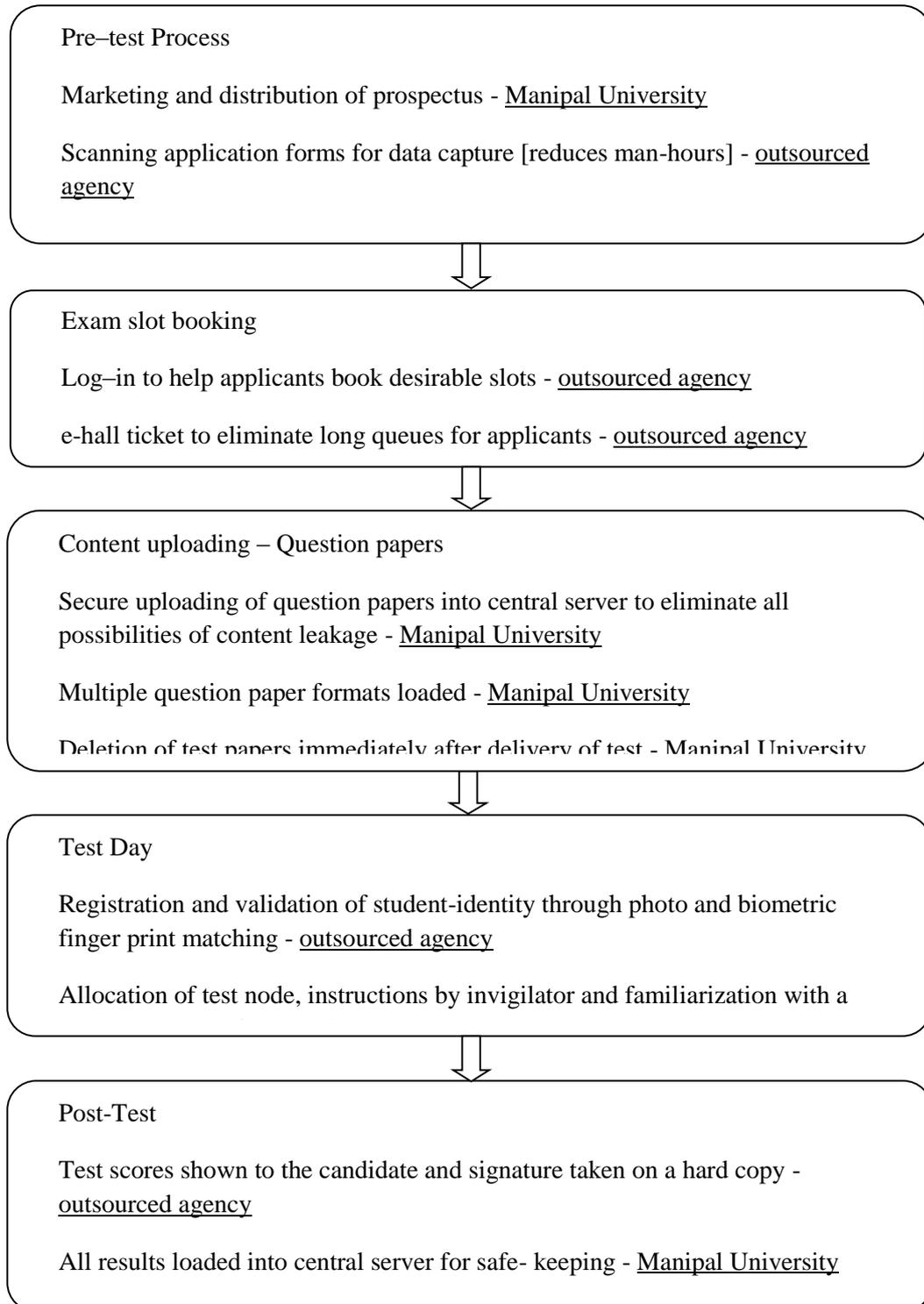
Building process-efficiencies while ensuring client satisfaction in established systems has been the premier agenda for assessment companies. On the other hand, Manipal University's efforts have primarily been focused on delivery mechanisms.

**Benefits to Manipal University**

- **Scientifically designed and validated tests** – The process ensures the right filter for assessments and reduces the cost of a bad validation.
- **Updated, quality testing content** – The large content bank of questions can ensure that each candidate gets a different set of papers. This will prevent leakage and ensure quality of the question paper.
- **Online Test Delivery Capability** – With its Online Test delivery software, the service provider equips MU with the ability to manage and administer tests on candidates online, thereby improving the process and reducing inefficiencies.
- **Cycle time reduction** – The scores accurately reflect the candidates' performance and helps MU to screen large pools of profiles more efficiently, faster and with greater precision.
- **Reduced Logistics** – It will reduce the administrative load on the Controller of Examination.

### The Typical Online Entrance Examination Process and its ownership

- *Marketing and distribution of prospectus*



## Features of Online Entrance Examination

Lends transparency to the Examination Process and Evaluation

- The Test Score is displayed on the test screen enabling the candidate to know his/her scores before he/she leaves the Test Centre. This system is universally appreciated by candidates and parents.
- As there is no manual intervention, possibilities of human error and personal bias are eliminated.

Attendance Sheet with Photographs makes sure that chances of malpractices are addressed.

- The attendance sheet has the candidate's photograph that was submitted along-with the application. In addition to this, **Biometric identity checks through fingerprint matching completely eliminate the possibility of impersonation.** Only enrolled candidates can appear for the test. Biometric identification is performed once again at the time of admission for final confirmation of identity

Candidate's Photograph and Signature on Hall Ticket

- The photograph and signature, obtained from the application form, are printed [not glued] on the Hall Ticket. Unlike glued material, printed photographs and signatures cannot be altered/ substituted. Ascertaining the identity of the candidate is therefore easier and tamper-proof
- Exam is scheduled at the candidate's convenience: As the exams are individualized, the candidate can opt for a place, date and time of his/her choice. Such flexible scheduling permits a larger number of candidates to appear for the exam. Flexible scheduling eliminates the possibility of Manipal Entrance Test clashing with other entrance examinations.
- These facilities are greatly appreciated by candidates and parents and are being viewed as progressive.

Merit List Generated Instantly

- Conventional systems spend a great deal of time and effort in preparing a reliable rank list. Online examinations have the advantage of a digital database which is amenable to easy processing. A rank list is generated instantly and accurately without any scope for error or confusion. No time is lost in the process.

Online Assessments – a less stressful experience for the candidate

- Students use a mouse to select the right answer, which is a lot easier than pencils. Colour coding helps candidates to identify questions that have been left out, go back and answer them.
- There is no question of any candidate being favoured with extra time because the beginning and end of each test is regulated from the common control room

### Error and Bias-Free Evaluation

- There is complete transparency and no need for a re-evaluation
- Better choice for the University

Candidates sitting next to each other receive different question paper sets. This eliminates attempts of copying.

Whenever a problem crops up, the system can identify the candidate who faced the problem. Once resolved, the candidate can continue with the test from the point where it was interrupted. The results are also archived, so that candidates and supervisors/invigilators can reach them at any time. All this reduces the administrative workload, generates faster results, and increases student satisfaction.

### Other Benefits

Eliminates the need for

1. Printing of Question Papers and Answer Sheets
2. Employing security personnel because there is no chance of leakage of question papers
3. Transportation and storage

### The Control Room run by Manipal University

The Control Room is the nerve centre for the conduct of an Examination. The server which delivers the Question Papers will be housed in the Control Room.

The main activities that will be managed from the Control Room are:

1. Managing the Question Bank
2. Access to the Test Booking System
3. Synchronizing the starting and ending of each test with each Test Centre, delivering Question Papers as and when required
4. Downloading Student Responses.
5. Archiving Data

### *The primary considerations of a Control Room*

- ***Deploying software to deliver secure assessments:*** Although many issues can be addressed within a physical environment, software features are also used to ensure that assessments are delivered in a secure way. The following are the features found in the software solution:
  - ***Authoring secure assessments:*** There are many safeguards that can be taken during the assessment authoring process to help protect the security of the

assessment. One of the most popular methods employed is shuffling the order of the choices. The questions are also delivered in a random order themselves.

- **Encrypted communications:** The majority of computerized assessments are now delivered via the Internet or an Intranet. It is important that communications between the browser and server are encrypted. The test software application uses encryption that allows the browser and web server to encrypt their communication. This means that anyone intercepting the communication will not be able to read it.
- **Scheduling assessments:** Users have the option to select the date, time and the location where they would like to take the test. This is achieved through a software application hosted online.

### **The Test Centre (handled by outsourced agency)**

Assessment centres are controlled environments set up as per MU norms. This means that candidates can rely on fair conditions under which to take the assessment.

High-stakes assessments must offer a consistent environment that is free from distractions together with some form of monitoring by an invigilator. The greater the rigor that is expected, the more expensive an assessment will be to deliver. The physical environment, technology, monitoring standards and authentication methods for delivering an assessment are stipulated by the sponsoring organization that owns the assessment.

**Physical Environment:** Centres chosen are enclosed rooms without access to trespassers. Rooms are quiet and free from distractions, well-lit and with a comfortable ambient temperature. Computers should be separated from one another by acoustic partitions and the equipment should offer similar operation, accessibility options and performance. Candidates should not be able to print or capture the assessment content and should be prevented from accessing resources, such as web pages, that might unfairly assist them during the assessment process.

**Technology Environment:** Assessments should be delivered on consistent and comparable technology. Screen sizes, processor speeds, and network connections do not have to be the latest and greatest but they do need to be comparable.

**Secure browsers:** One of the key recommendations is to ‘lock down’ computers that are being used in assessments to keep users from accessing other applications and websites while assessment is in process. This lockdown is usually performed via a secure browser, and prevents candidates from printing, capturing screens, accidentally exiting the assessment, viewing source, task switching, etc.

The secure browser is effectively authenticated by the server to prevent spoofing by technically competent cheats.

**Monitoring:** Assessment centres are monitored (or proctored/invigilated) in a number of ways. Candidates should be in an environment that permits constant visual monitoring. This is achieved directly by a person in the room or via video surveillance equipment. The

control room has access to every single candidate's computer in every single Test Centre during the entire course of the examination process

**Authentication:** It is important to confirm that the candidate taking the test or exam is truly the person authorized to do so. This is done by confirming a candidate's identity via a photographic i.d. provided by the Manipal University. Biometry system helps to confirm the candidate's identity both at the time of the test and later, if selected, during the admission.

**Professionally controlled centres:** Professionally controlled centres provide a very consistent and highly controlled environment where a candidate could expect to receive exactly the same treatment and receive the same experience, with minimum variation from one assessment centre to another. This consistency would start with the reception and continue through the assessment process to the time that they leave the premises.

## The Pre-Test Process

### *The Application Form*

The Application forms will be distributed by Manipal University. Application Forms have a unique Application Number which is to be used to book the exam slot.

### *Processing the Application Form*

The Manual/Paper Applications Received are scanned and the data captured into tables, Photographs and Signature saved as acceptable Picture Formats.

The Online and Offline (Paper/Manual) Application data are now merged

### *Data uploaded for Booking Exam Slots*

The Data is loaded on the OTBS (Online Test Booking System) from the Application Forms to enable students to book their slots for the Exam

Booking dates and exam centres mentioned in application form and website

### *The Test Booking Process*

#### **The Log In**

The Student uses the Login Details from the Application Form to log in

On Logging in, he gets to see the available dates and Centres for the Test he has applied for

Candidates choose the location, date and time of their choice

Only available slots will be shown

The OTBS can handle the load of 20,000+ concurrent Logins

### **The Hall Ticket**

- Once the Student confirms his choice a e-Hall ticket is generated
- The Hall Tickets will have the Photo and Signature of the Student on it
- Hall Tickets are emailed to candidate's email id
- Complete back-end support is made available using helpline: Seven days a week 12 hours a day.

### ***Question Bank and Delivering Examinations***

The service provider uses Question Mark Perception software for the Delivery of Online Entrance Examinations. The Key Features of this Software are:

- Easy question and assessment authoring
- Question banking by learning objective
- Deliver to browser, PDA, CD-ROM or paper
- Role-based security for multi-author environments
- Integration with other management systems
- Printing and scanning your assessments
- Instant feedback to enhance learning
- Secure delivery for high-stakes exams
- Workflow management
- On-demand results, reports and item analysis
- Randomize presentation of questions and choices
- Adaptive branching based on how questions are answered
- Twelve customizable reports
- Support for key standards for interoperability
- Year-round learning opportunities

### **Preparation**

The Questions are prepared by the Registrar of Evaluation (RoE) , Manipal University, and kept in a secure and confidential location as per the discretion of the RoE.

These Question Papers will in a format that is ready to be uploaded to the server.

### **Upload of Question Papers**

The RoE, Manipal University, directly uploads the Question Papers to the Server in each Test Location **using highly secured encrypted transmission online.**

This has to be repeated for every session as the Question Papers will be deleted from the Test Centre immediately after the delivery is over.

### ***The Candidate Validation Process on test Day***

#### **The Registration Process**

- The Student Information is downloaded to the specific test centres
- The Student presents the Hall Ticket and it is verified against the Picture and Signature on the server.
- In addition photograph and finger print of the candidate is taken.
- The information is saved on the Server, and later downloaded to the RoE for future reference.

#### **The Test**

- The Test Node is assigned by the Server. The node will be in the secure mode and all special/function keys are disabled.
- The student will occupy the allotted test node and be prepared for the test.
- After a general brief by the invigilator – the student logs in using his user name and password.
- The Instructions are displayed again

### ***After the test***

#### **Test Scores**

Test Scores displayed at the end of the test

The score sheet printed out and the signature of the student taken

#### **Post-Test Process**

After each session is completed, results are uploaded to the Main Server, the question papers are deleted from the local servers and reset.

The Test Nodes are reset and any papers and other working materials used are removed.

#### **Results:**

Merit list generated hours after all session are over. Various categories are taken into consideration. The Finger Print and Signature of selected candidates are verified again at the time of admission.

### **Pre-Test SOPs**

Creation of the Enrolment Database – not displayed for confidentiality and security reasons  
No formulas have been displayed for confidentiality and security reasons

**Reliability:** Reliability has two meanings. One refers to stability over time, the second to internal consistency. The service provider computes only internal consistency reliability as there are many factors influencing test-retest reliability.

The service provider computes different measures of internal consistency reliability and the details are given below:

**Split Half:** In split-half reliability, we randomly divide all items that purport to measure the same construct into two sets. Test is administered to a sample of people and calculates the total score for each randomly divided half. These two scores are correlated applying predetermined formula.

**Validity:** *Validity is defined as the degree of accuracy with which the test measures what it purports to measure i.e., to serve the purpose for which it was designed.*

**Content Related Validity:** Not displayed for confidentiality and security reasons

**Norms:** *A score of one is assigned for each question answered correctly. The total score would be the sum of all the questions answered correctly.*

Norms are set of scores from clearly defined samples. Norms are usually computed for a broad test; Norms can also be built for Domain tests.

Importance of standardization is that it gives test scores meaning and thus makes interpretation possible.

### **Norms help us:**

- a) To find out relative standing (score 15 is on 50 per cent)
- b) To provide comparable measures that permits a direct comparison of the individual's performance on different tests.

**Item Writing Guidelines:** Not displayed for confidentiality and security reasons

Some of the guidelines for item creation are as follows:

**Test items should:**

- Measure the required skill or information
- Focus on important, not trivial, subject area content
- Contain accurate information (including correct spelling)
- Be written an appropriate level of difficulty
- Be clear and concise
- Be bias-free

**Stem of Each Question:** Not displayed for confidentiality and security reasons

**Responses for Each Question:** Not displayed for confidentiality and security reasons

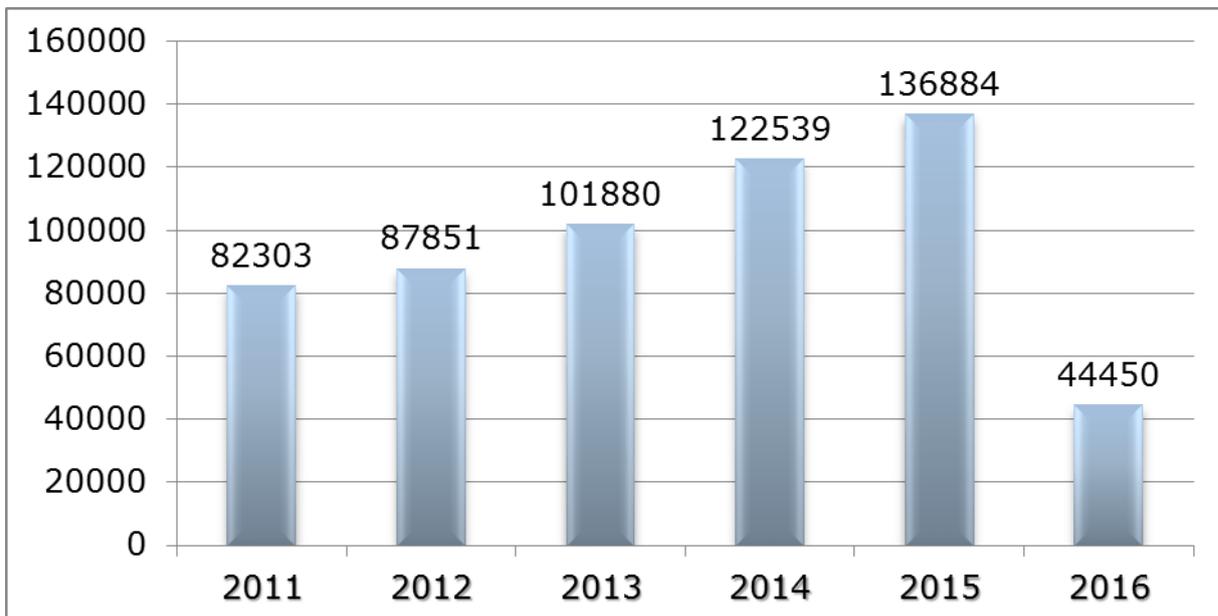
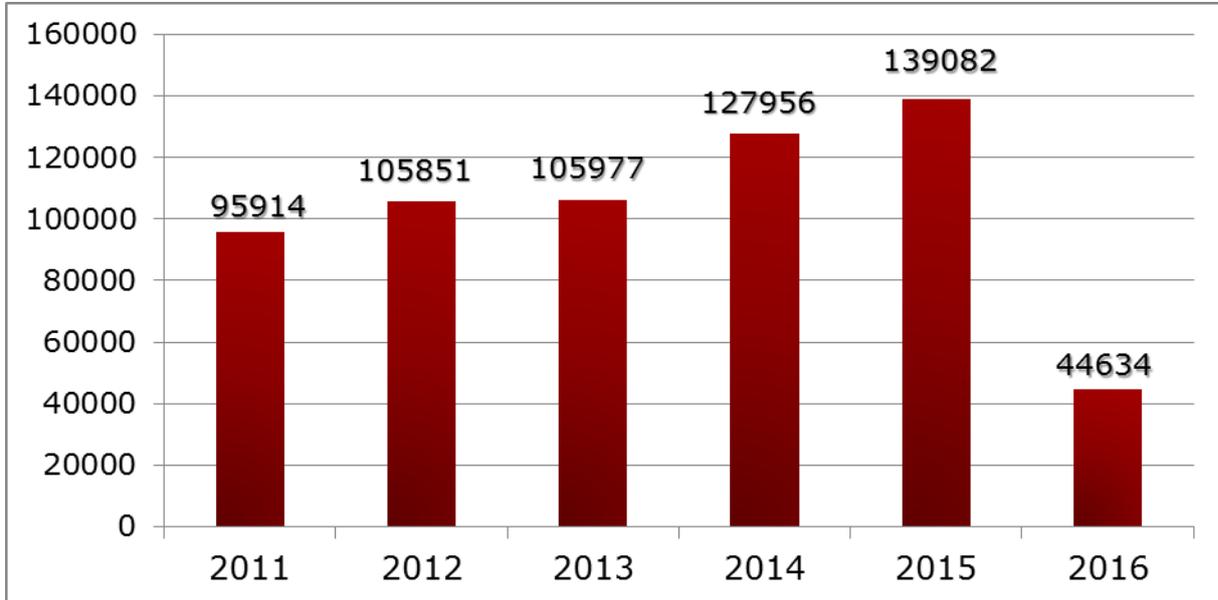
**Question Bank Size and Retirement of Questions:** Manipal University follows internationally accepted norms for question bank size and retirement of questions.

**Randomization Logic:** Not displayed for confidentiality and security reasons.

ANNEXURE 2

**Trend of Performance of Improvement**

**MAHE Admissions – Year wise Sale of Applications**



The significant increase in sale of applications and students appearing in entrance exams as seen in chart above indicates growing preference for professional courses from Manipal University.

**‘Incentive Awards for Faculty Research and Scientific Publications’  
(Under the policy “Incentives for Excellence in Teaching & Research”)**

**Revised guidelines from April 1, 2013**

**Objectives:**

- a. To improve the quantum and quality of research in Manipal University.
- b. To promote the publishing of papers in national and international journals of high repute with impact factor.
- c. To recognize research contribution of teaching faculty and research scientists working in Manipal University.
- d. To enhance research and innovation culture in Manipal University.

**Revised Policy:**

1. The revised policy shall be effective from April 01, 2013 and will apply to only those publications and patents which indicate Manipal University affiliation.
2. The Directorate of Research, Manipal University will access the research papers published by the faculty of Manipal University with effect from April 01, 2013 and assign points as per the revised policy. The Directorate of Research office will work with the libraries of MU to access relevant data/information related to these publications.
3. Points accumulated till March 31, 2013 under the existing scheme will remain valid and should be utilized within the next 3 years (i.e., before April 01, 2016) as per the old policy. Unavailed points may be encashed on pro rata basis as per the old policy.
4. The evaluation form to be submitted for incentives is provided in Annexure I. The completed form should be submitted to the Directorate of Research, Manipal University after uploading the full paper/abstract in digital repository (eprints) of Manipal University.

**Points to be awarded for published papers:**

The following points will be awarded to first author and corresponding author.

1. Articles published in high impact journals (with an impact factor above 10). **24 points**
2. Original full paper/review article published in indexed national and/or international journals with an impact factor of 1 to 10. **12 points**
3. Original full paper/review article published in indexed national and/or international journals with an impact factor less than 1 or with no impact factor. **06 points**
4. Short articles/case reports/letters to editor in national and international indexed journals. **04 points**
5. All other authors will receive half the points awarded to first author and corresponding author.
6. No points will be awarded for papers published in non-indexed journals.
7. The papers to be considered for incentives should be published in the journals indexed by at least one of the indexing agencies mentioned in Annexure II.

As per Registrar, Manipal University circular Ref No-MU/REG/CIR-(T) Dt.-January 28, 2015 – Guidelines for “Incentive Awards for Faculty Research and Scientific Publications” has been amended as below.

### Amendments:

The first author and the corresponding author will be awarded points as per the details below:

1. Original full paper/review article published in indexed and/or international journals with an impact factor

0 to 1	:	06 points
> 1 to 5	:	12 points
> 5 to 10	:	18 points
> 10 to 20	:	24 points
>20	:	36 points

2. Co-authors will receive half the points awarded to first author / corresponding author.

This amendment will be with effect from April 1, 2015 i.e. only for research papers published on or after April 1, 2015.

### **Plagiarism and related issues:**

- It will be the responsibility of the authors to screen and scrutinize the manuscript for plagiarism and related issues before communicating with the journal.
- In case of complaints received on plagiarism and related issues, Manipal University will appoint a committee to investigate the matter and initiate appropriate action.

### **Points for books / chapters in book:**

1. For a book edited/written by the faculty of Manipal University.  
**12 points will be equally distributed among all editors/authors**
2. For one or more chapters contributed in a book by the faculty of Manipal University.  
**02 points will be equally distributed among all editors / authors contributed in the chapter(s). In any case, total points for distribution among editors / authors for a book shall not exceed 12 points**
3. No additional points will be awarded for contributing to additional chapter(s) in the same book or in its subsequent editions.

### **Points for patents granted:**

1. Points awarded for each granted patent(Indian or abroad)  
**18 points**
2. All the members indicated as inventors and co-inventors in patent granted will receive 18 points each.
3. The points will be awarded only to granted patents filed by faculty members of constituent units of Manipal University.
4. The certificate of patent should be submitted along with the evaluation form (Annexure I).

- Points will not be granted for pending patents.

**Research Incentives for points accrued on published papers/ patents/ books/ chapters in books:**

- For every 24 points accrued, a cash incentive of Rs.24,000 will be awarded.
- Revised scheme for the redemption of accrued points for participating in international conferences.

Category	Country/Region	Points required
Tier I	SAARC, SE Asian and Middle East countries	24
Tier II	Europe, Africa, Australia, New Zealand and other Asian countries (excluding countries mentioned in Tier I)	48
Tier III	North America, Central America, Latin America and Caribbean countries	72

- Only economy airfare and registration will be covered under this scheme. However faculty may avail accommodation charges and per diem allowance (double the rates as applicable to national conferences per day) from their annual conference entitlement.
- Faculty/research scientists who opt for international conference will not receive cash award.
- The incentives cited here can be availed by faculty appointed on post retirement engagement.
- All the backlogs pertaining to points/incentives will be maintained at the current locations (in KMC Manipal, MIT, KMC Mangalore) until April 01, 2016.
- The points accrued until March 31, 2013 should be redeemed before April 01, 2016 as per the existing research incentive policy.

**Annexure I:** Evaluation form for publication and patents

**Annexure II:** The journals in which the articles are published shall be indexed in any one of the following indexing agencies.

Chemical Abstracts Service, Directory of Open Access Journals, EBSCO Academic Search Complete, Intute, OAlster, Open J-Gate, Socolar, scholar, PubMed, CAS, Cinahl, Citebase, Current contents, Embase, Google Scholar, MEDLINE, OAlster, PubMed Central, Science Citation Index Expanded, SCImago, Scirus, Scopus, Zetoc, Thomson Reuters

**Records:**

Incentive

- Evaluation form submitted by faculty, together with copy of paper.
- Points allotted to each publication.
- Total points accrued by each faculty.
- Letters sent to HOI, when 24 points are accumulated by faculty.

**Unique Tracking number for Research Grant applications**

Ref: MU/REG/CIR  
Date: September 11, 2012

**CIRCULAR**

In an attempt to streamline the process of following up on applications for research grants by individual researchers/departments/institutions to various funding agencies – national and international; it is proposed to allocate a Unique Tracking Number (UTN) for all grant applications. The recommendations from the Directorate of Research are as follows –

1. The UTN will be a 7 digit numeral, where the first two digits are the institutional code as allocated by the Admissions Office, the next two digits represent the calendar year and the block of last three digits is a running, serial number, generated by the institution applying for the grant. Eg: If Dept of Chemical Engineering, MIT is applying for an AICTE grant and the Director, MIT is sending the application in November 2012; the first four digits of the UTN will be 0912. And if there have been 34 applications from all departments of MIT in the current calendar year, the UTN for this application will be 0912035.
2. All the institutions and departments will send a monthly compilation of proposals handled by them during the month to the Directorate of Research. The format of the monthly form will be sent by the Directorate in the next one week.
3. The database of all applications will be maintained in the Directorate until closure. An application may be approved in entirety by the funding agency, approved with amendments or rejected. The Directorate will track and follow up the proposal until the submission of the final report and utilization certificate to the funding agency.
4. UTN is an internal tracking mechanism and for use only in University/interdepartmental communications.
5. Generation of UTN will be mandatory from 01.10.2012.
6. The HoIs/HoDs who receive communications from funding agencies regarding application status are requested to keep the Directorate updated.

I request the cooperation of all the Heads of Institutions and Departments in implementing this new initiative.

**Dr. G. K. Prabhu**  
**Registrar**

To: - Heads of Institutions / University Teaching Departments / Research Centers of MU

Copy to: - Vice Chancellor | Pro Vice Chancellors, MU, Manipal  
Director Research (Health Sciences | Technical) – *for the needful*  
Director Finance, MU, Manipal

# Research Publications

Manipal University, Manipal is ranked 1<sup>st</sup> among the non-government universities in India



Manipal University is ranked 1st among the non-government universities in India by a Scopus based study published by SCImago research group, Spain (<http://www.scimago.es/index.php>).

SCImago Research Group, University of Granada, Spain, analyses the institutes based on the publications in Scopus database (for the last 5 years) and rank them as SCImago Institutions Rankings (SIR). SIR was started in the year 2009 and today they have 4 reports from 2009 to 2012. SIR 2009 World Ranking was the first report which ranked 2,124 institutions from 84 countries. SIR 2010 was published with additional features such as Regional ranking (RR), Country Ranking (CR) etc., and included 2,833 institutions around the globe. SIR 2011 Global Ranking published report had included more features with the target audience of policymakers, research managers, researchers, media and general public. SIR 2011 Global Ranking includes 3,042 institutions from the world with a unique feature, Specialization Index and Excellence Rate. SIR 2012 Global Ranking, was released last year includes 3,290 institutions from 106 countries.

There are 128 institutions from India, listed among the 3,290 world institutions and there are only 3 institutions listed in top 500. There are 18 institutions with the rank of 1000, 43 in top 2000, 100 in top 3000 and total of 128 among top 3268. The list includes the Government Organizations (GO), Higher Education institutions (HE), Health institutions (HL), Private institutions (PR) and Others (OT).

The Council of Scientific and Industrial Research (CSIR) being a group of 37 institutions spread across India tops the list with 21,671 publications (Figure 1). IISc Bangalore is the 2nd with 8,573 and IIT, Kharagpur is 3rd with 7,215 publications. These three institutions are among the top 500 global ranking [CSIR World Ranking (WR) 82, Regional Ranking (RR) 17, Country Ranking (CR) 1; IISc Bangalore WR 376, RR 80, CR 1; IIT Kharagpur WR 460, RR 99, CR 3].

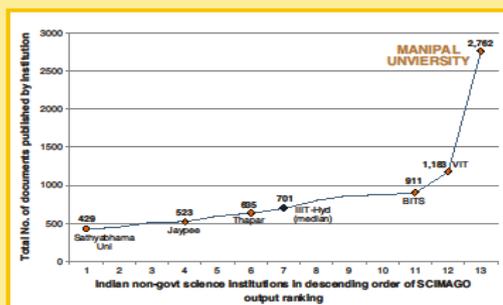


Figure 1: Output ranking: Non-govt. institutions [Total no. of documents published in scholarly journals indexed in Scopus]

Manipal University is ranked 19th in India, 271 in Asia region and globally ranked 1118 in publication output (Table 1). Among the non-government organization Manipal University is ranked 1st with 2,762 publications.

WR	RR	CR	Organization	Sector
82	17	1	Council of Scientific and Industrial Research	GO
376	80	2	Indian Institute of Science	HE
460	99	3	Indian Institute of Technology, Kharagpur	HE
536	115	4	University of Delhi	HE
553	121	5	Indian Institute of Technology, Delhi	HE
560	123	6	Indian Council of Agricultural Research	GO
600	131	7	Indian Institute of Technology, Madras	HE
602	132	8	All India Institute of Medical Sciences	HE
636	140	9	Indian Institute of Technology, Bombay	HE
649	144	10	Bhabha Atomic Research Centre	GO
681	150	11	Indian Institute of Technology, Kanpur	HE
737	165	12	Jadavpur University	HE
738	166	13	Banaras Hindu University	HE
856	198	14	Indian Institute of Technology, Roorkee	HE
859	199	15	Anna University	HE
946	224	16	Postgraduate Institute of Medical Education and Research	HE
963	231	17	Indian Council of Fundamental Research	HL
970	234	18	Tata Institute of Fundamental Research	HE
1118	271	19	<b>Manipal University, Manipal</b>	<b>HE</b>
1135	277	20	Aligarh Muslim University	HE
1154	285	21	Defense Research and Development Organisation	GO
1182	297	22	Annamalai University	HE
1204	307	23	Panjab University	HE
1250	325	24	University of Madras	HE
1258	327	25	University of Calcutta	HE

Table 1: SIR - 2012: TOP 25 Indian Institutes

Manipal University was not seen in SIR World Report 2009, but it was at 55th position in India [WR: 2115; RR: 528] in SIR 2010 Global Ranking. In SIR 2011 Global Rankings Manipal University was 36th in the nation, 425th in Asia and 1625th in the world. In SIR 2012 Global ranking, we are placed at 19th rank in nation, 271st in Asia and globally we are at 1118th rank.

Among the institutions of Manipal University the Kasturba Medical College (KMC), Manipal, has a Scopus h-index of 43, which is very high comparable to many of the Indian universities as per the reports of Department of Science and Technology (DST). Manipal College of Pharmaceutical Sciences, Manipal has a Scopus h-index of 36 and Manipal Institute of Technology, Manipal has 27. Manipal Life Sciences Centre, Manipal must have been part of KMC Manipal, according to Scopus and is not appearing in the list of Scopus.

Prepared by  
Dr N. Udupa  
Director - Research (Health Sciences), MU



