



प्रज्ञानं ब्रह्म



INSPIRED BY LIFE

Self Study Report 2015

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Submitted to

**National Assessment and Accreditation Council (NAAC)
for Re-accreditation**



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The Mission of Manipal Academy of Higher Education (MAHE), a Deemed-to-be-University, is largely by its visionary founder, Dr Tonse Madhava Anantha Pai (Dr TMA Pai), is to provide a seamless access to education in:

Medical sciences, engineering, management, humanities and social sciences at an affordable cost by producing internationally distinguished scholars to serve the community at large.

The University mission is also to carry out research in frontal areas of these disciplines to keep abreast with latest developments in these disciplines.

The University also aspires to ensure that such an education serves the continuing educational needs of the society.

These aspirations serve to distinguish the University not merely in the high standards it has set but in the ways we provide services enables to differentiate ourselves from other institutions of higher learning. MAHE's vision is to transform MAHE into a World Class University. MAHE has long been distinguished for excellence in education. This has been defined by the high quality of teaching, hand on practical experience, meaningful research opportunities, the residential cosmopolitan university experience and the extracurricular opportunities such as intellectual, cultural, social and recreational activities. Our sustained effort to spread education within and outside country has borne fruit and University has established off shore international campuses of repute. University puts emphasis on offering diverse courses interdisciplinary education. The University also makes endeavor to foster interdisciplinary research by providing opportunities for excellence across the range of human knowledge. We take pride in the great distinction already achieved in just over a half a century and expect that the next fifty years hold even greater promise. In 2002, when the National Assessment and Accreditation Council (NAAC) accreditation was **not mandatory**, MAHE comprising of 13 academic units volunteered for assessment thereby displaying its strong commitment towards quality and excellence in higher education. At that time, the University was accredited with "B+" Grade.

The advancement of knowledge in higher education has made it extraordinarily competitive and institutions need to be dynamic to compete with each other. Success in that environment requires reflection, revaluation, evolution and changes to sustain the level of excellence and achievement for which MAHE is well known. We need to introspect and take a bold and fresh look to bring in new paradigm changes which enables to frame the University to frame new policies which enables us acquire new knowledge and discoveries which in turn can translate our action to improve human life. Our vision is not to predict the future of world class education, but to create it.

In the coming decades, optimal utilization of available human resources and creation of new talent will determine overall progress. Empowering our people - teachers, students, researchers and all university personnel is essential.

The most promising research today which is certain to yield dramatic improvements in human health lies at the intricacies between the disciplines of medicine, engineering and basic sciences. MAHE is an ideal place for the intensive multi-disciplinary collaborations called for by today's scientific community. In this context, it is imperative that knowledge is created, shared and applied:

- Created by world-class scholarship in teaching, research, and creative endeavors
- Shared through outstanding undergraduate, graduate, professional, and outreach programs
- Applied humanely to improve the quality of life for current and future generations.

The synergistic effect of multi-disciplinary exchange makes future prospects for translating new knowledge into novel approaches for the welfare of the community. There is a need to nurture an institutional environment which supports and encourages this type of interaction through leadership and a collaborative approach to discovery and innovation in education, research and alleviation of human suffering and preservation of health.

In the light of MAHE's outstanding expertise in education and research, its academic units embark on programs that promote discovery and scholarship through interdisciplinary collaboration, which will sustain an environment with intellectual diversity. The University has put in place collaborations with various stakeholders including alumni, researchers, industry and government. The University has taken several quality enhancement initiatives in all areas and with clear focus on the values professed by NAAC. Deficiencies identified by the NAAC peer team in 2002 have been addressed in the accreditation period.

MAHE was placed in 'A' category by MHRD on the basis of the report by the MHRD Review Committee in the year 2009. In its pursuit of excellence, MAHE has been winner of several prestigious awards such as

- ASSOCHAM National Education Excellence Awards 2014 – Won Best University Promoting Research award
- FICCI Overall Excellence award 2014
- Golden Peacock Award for Environment Management (2012, 2013 and 2014)
- Best Hostels in India Award - 2012
- International Asia Pacific Quality Award (Best in class 2008)
- Ramkrishna Bajaj National Quality Award Trophy (2007)
- Federation of Karnataka Chamber of Commerce and Industry (FKCCI) Export Excellence Award.

MAHE has been ranked:

- No. 13 in India and No. 181-190 in Asia by QS University Ranking ASIA 2014
- No. 85 by QS University Ranking BRICS 2014
- No. 9 in India and No. 914 in the world under "Medical and Health Sciences" field by URAP (University Ranking by Academic Performance) 2013-14 Field Ranking
- No. 1 in India and 695 in the World in University Web ranking 2014

- No. 1 Private Deemed University by THE WEEK – HANSA Survey 2014
- No. 3 among Top Private Universities in India by Careers360 University Ranking 2014
- No. 3 by SiliconIndia Top 20 Private Universities in India 2014 for MBA/Engineering courses
- No. 1 in India under the Sub Urban category by UI GreenMetric Ranking for Global Universities 2014
- No. 5 among private Universities in India by India Today (2013)
- Many of its constituent units have been ranked in the top 10 colleges in India in their own chosen field year after year
- First among the non-government universities in India by a Scopus-based study published by SCImago research group, Spain in 2012. This ranking was based on the total number of documents published in scholarly journals indexed in Scopus.
- No. 2 overall in India by UI Green Metric (Environmental Management) Ranking for world universities 2012.
- No. 2 among Medical Universities in India in a Times of India survey (2009).

MAHE has been certified for both ISO 9001:2008 and ISO 14001:2004 by TUV Rheinland for its compliance to the requirements of the standards for Quality Management System (QMS) and Environmental Management System (EMS).

Our present strength encompass diverse international campuses, specialized constituent units; skilled manpower, dedicated staff, state-of-art infrastructure and research and innovations. We are already regarded as an organization with an extraordinary academic excellence and international outreach. In the coming years, we have enormous potential to build upon these strengths and rise to even greater heights of distinction and service.

We have truly dedicated alumni and well-wishers, who are committed to support the university in its endeavour. Drawing from their inspiration and generosity, we have the capacity to significantly expand our intellectual talents. MAHE believes in moving forward in its quest to become a university that utilizes domestic and international diversity as competitive measures of excellence. MAHE shall make use of its cultural richness and be resolute in advancing inclusiveness, equity in its community and will work towards transforming itself into a global lead University.

In working towards this goal, Assessment and Accreditation by independent bodies like NAAC will be beneficial to identify “gaps and strengths” for improvement. Hence, we present this report in compliance with the requirements of the Assessment and Accreditation process of NAAC, one of the institution in the country that guides the higher educational institutions in their quest for excellence and to achieve the global standards and recognition.

Dr H. Vinod Bhat
Vice-Chancellor

Introduction

Dr TMA Pai (1898 - 1979), the founder of Manipal Group of Institutions, was a doctor, an educationist, a banker and a philanthropist, well-known for building the university-town of Manipal, Karnataka, India. MAHE, since its inception, has stood for the core values listed by NAAC. First and foremost, national development has been the essential guiding philosophy of our founder, who identified poverty, illiteracy and ill health as the three evils of the society and stressed on three vital aspects of development:

- Education
- Healthcare and
- Banking

The late Dr. TMA Pai's vision, perseverance and efforts culminated in establishing the first ever self-financed medical college through Public Private Partnership (PPP) in a remote rural setting. Kasturba Medical College (KMC), Manipal / Mangalore were started in collaboration with the Government by utilizing the Government Wenlock and Lady Goschen Hospitals as teaching hospitals at Mangalore. The PPP model started way back in 1950s continues even today, after 60 years, with consistent efforts and vision of current MAHE Chancellor Dr. Ramdas M Pai. Over the years, based on the success of this arrangement, the PPP model was successfully implemented at our off-shore campus in Melaka, Malaysia and yet another Group University at Sikkim. Beginning with KMC at Manipal in 1953 and at Mangalore in 1955, Dr. TMA Pai established Manipal Institute of Technology in 1957 and then went on to establish several colleges specializing in, dentistry, pharmacy, nursing, allied health sciences. These constituent colleges were successively affiliated to Karnatak, Mysore and Mangalore Universities. In 1993, in view of the academic excellence of this group of institutions, the Government of India granted "Deemed-to-be-University" status, as per section 3 of the UGC Act, to the Manipal Academy for Higher Education (MAHE). While Dr. TMA Pai established several institutions at parent campus in Manipal and off campus at Mangalore, his successor Dr. Ramdas M Pai has been instrumental in expanding the horizons of the educational activities of the University to its campuses at Bangalore, Melaka - Malaysia and Dubai.

Over the years, MAHE has developed into a multi-campus, multi-discipline University offering 272 programmes in 17 different disciplines in its nine constituent educational institutions and six schools located at its main campus in Manipal, off-campus at Mangalore / Bangalore and off-shore campuses in Dubai and Malaysia with an enrolment of 23,729 students representing 59 countries across the globe. With the experience gained from producing several thousand graduates and with excellent academic reputation earned over a period of time employing experienced faculty, excellent infrastructure, academic and clinical facilities, MAHE became an ideal educational hub.

Main factors that determine MAHE's success and popularity are:

- Inspired learning
- Conducive learning environment
- Innovative Industry oriented programs enhancing employability
- State-of-the-art Infrastructure
- Facilities for high end research
- Committed and experienced faculty
- Encouraging entrepreneurship
- Caring for Community concern by offering Merit cum means scholarships
- Opportunities for holistic development
- Operational excellence

With the expertise and experience gained over 60 years in the field of medical and professional higher education; MAHE positioned itself as a Global University and established campuses at Dubai and Malaysia. The University also entered into collaborations with various foreign universities. The top ten academic collaborations with foreign universities are given hereunder for information:

Sl. No.	Name of the University	Activities ongoing
1	University of Miami, USA	Student exchange under Study Abroad program (SAP) for a semester
2	Flinders University, Australia	Student and faculty exchange programs to start from 2014
3	Robert Gordon University, Scotland	Student Internship program in Sports mechanics offered for a semester
4	Queensland University of Technology, Australia	Student Exchange program – Engineering and Media students
5	Hochschule Bremen, Germany	Partners with MCES since establishment and supports in MA European studies program Student exchange at DES and international graduate center at Hochschule Bremen Faculty exchanges funded by DAAD and Erasmus Mundus
6	Lancaster University, UK	Student exchange program with MIT
7	University of Groningen, The Netherlands	Student Exchange program – University Medical Centre Groningen
8	Maastricht University, The Netherlands	Student Exchange program - medical
9	ESIGELEC, Rouen, France	Student and faculty exchange program with School of Information Sciences
10	University of Warsaw, Poland	Academic (student and faculty) exchange inclusive of research activities in respect of European studies.

There are several more such initiatives involving international universities, multinational companies and consultancy organizations.

Developing global competency was the core objective of Dr. TMA Pai, which was proved when the MBBS degree of Kasturba Medical College was recognized by the General Medical Council of Britain from the very first batch. By recruiting the best faculty members from all over the country, and entering into productive partnerships with overseas healthcare institutions, Manipal ushered in an era of collaboration in healthcare systems. Consequent to this, the Operation Eyesight Universal, Canada established its unit in Manipal from the year 1975.

Over the years, apart from developing academic reputation, MAHE has also reinforced the values of transparency and integrity in its operations, which has gone a long way in establishing credibility, not just in India but also abroad. MAHE has been quick in adopting and adapting modern technology, mainly in healthcare and digital information systems. This has become the role model for many other institutions of tertiary education in this country. For several decades, the Kasturba Hospital, Manipal, has been the most preferred tertiary care center catering to over ten million rural citizens from the relatively marginalized west coast of India.

The quest for excellence is evident from the recognition in the form of accreditations, awards and ranking of the University and its constituent units by independent agencies.

- Ranked No. 13 in India and No. 181-190 in Asia by QS University Ranking ASIA 2014
- Ranked No. 85 by QS University Ranking BRICS 2014
- 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” filed
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- ASSOCHAM National Education Excellence Awards 2014 – Won Best University Promoting Research award
- FICCI Overall Excellence award 2014
- Ranked No. 5 among private Universities in India by India Today (2013)
- First among the non-government universities in India by a Scopus-based study published by SCImago research group, Spain in 2012. This ranking was based on the total number of documents published in scholarly journals indexed in Scopus.
- No. 2 overall in India by UI Green Metric (Environmental Management) Ranking for world universities 2012.

- Award for Export Excellence and Best Hostels in Education Sector at India Today Aspire Education Summit 2012.
- Best Hostels in India Award - 2012
- Many of its constituent units have been ranked in the top 10 colleges in India in their own chosen field year after year
- Ranked No. 2 among Medical Universities in India in a Times of India survey (2009).
- MAHE is ISO 9001:2008 and ISO 14001:2004 certified by TUV Rheinland.
- Kasturba Hospital, Manipal, the teaching hospital of KMC Manipal is accredited by National Accreditation Board for Hospitals (NABH), and also AAHRPP accredited.
- NABL accredited laboratory at University Medical Centre, Mangalore
- Manipal Hospital, Bangalore (off campus) has been adjudged as the Best hospital in Bangalore for the last ten years.
- MAHE has won awards like Ramkrishna Bajaj National Quality Award from IMC RBNQA Trust, Mumbai for its focus on quality in education,
- Golden Peacock Award for Environmental Management, Federation of Karnataka Chamber of Commerce and Industry (FKCCI)

Criterion – I: Curricular Aspects

1.1 Curriculum design and development

“Inspired by Life” being the motto of MAHE, a very strong and homogeneous ‘Organization’ culture prevails at all operational levels. The Vision, Mission, Values, organizational leadership, commitment and involvement, total quality culture, societal orientation with - legal, regulatory and ethical compliance and the related issues reflect upon the prevailing MAHE culture developed through learning and upgradation of knowledge and skill for the past six decades.

Vision: Global leadership in human development, excellence in education and healthcare

Vision of MAHE has been implemented through following activities:

- Consistent focus on research, training and development of faculty members,
- Design and development of new academic programmes which are innovative in nature and are in demand globally
- Providing world-class state-of-the-art infrastructure facilities in the form of classrooms, laboratories, teaching hospitals etc., to facilitate administration/ implementation of its academic programmes.
- Providing facilities and opportunities for its students for all-round development, not only in the academics but also in co-curricular and extra-curricular activities including sports, arts and cultural activities.

Monitored at various levels by:

- Board of Studies
- Academic Senate
- Academic and administrative Heads meetings
- Use of several measurable parameters, semi -annual evaluation of performance in Management Review Meetings.

Academic programmes offered by MAHE are specifically designed and developed to fulfil the vision and mission of the university and at the same time taking into account the changing needs of various stakeholders namely students, industry and the society and at the same time adhering to Regulatory requirements. All programmes offered at MAHE are self-financing programmes. In the year 2014-15, MAHE offered 272 different programs at undergraduate, post graduate and Ph.D levels including multidisciplinary doctoral programs. The year 2014-15 witnessed an enrollment of 6394 students out of which as many as 61.4 per cent were from outside Karnataka. Eight per cent of these were non-resident Indians or foreigners, representing 59 different nationalities. The University maintains

Student-teacher ratio as per the guidelines of the different regulatory bodies including UGC in all its constituent units.

MAHE has a systematic process for design, development and validation of curricula. Before starting a new programme, a preliminary meeting is held by to assess the feasibility of the programme which is followed by formation of the Board of Studies. Board of Studies consists of both External members and internal faculty. External Members of Boards of Studies include academic and industry experts who contribute dynamically in updating the curricula on periodic basis within the ambit of regulatory guidelines. This ensures that the programmes offered take care of industry requirements thereby assuring employability.

Postgraduate curriculum is designed in such a way laying emphasis on Research Projects wherein internship projects involve significant use of research methodology and addition to existing body of knowledge. After approval of curricula by Board of Studies, the same is presented to academic senate for final approval and ratification. MAHE complies with all guidelines of the regulatory bodies like Medical Council of India (MCI), Dental Council of India (DCI), All India Council for Technical Education (AICTE), Indian Nursing Council (INC), Pharmacy Council of India (PCI), Rehabilitation Council of India (RCI), Council of Architecture (COA) etc., in developing/restructuring curricula for the respective academic programmes offered in its constituent units.

In case of medical education, University firmly believes that knowledge should be based on scientific principles, and students should have developed appropriate learning and clinical skills and professional attitude. MAHE believe that its students should be competent to practise medicine safely, ethically and effectively under supervision, while undergoing further vocational training to become independent practitioners. The internship programme has a major component of community medicine and public health. The other components of internship help the students to achieve the problem solving ability, attain required skills and attitudes of a basic medical practitioner, and fulfil the educational objectives, thereby meeting the final goals and objectives of medical education.

Medical students are oriented towards research by involving them in ICMR projects. Important behavioural and social issues are included in the curriculum at various levels. Students are taught ethical guidelines with emphasis on the three basic principles of medical ethics:

- Respect for person
- Beneficence and
- Justice

The department of forensic medicine addresses the medico-legal issues and provides appropriate knowledge and training. Modernization and enhancement of all services are carried out through total quality assurance and management system.

Manipal Institute of Technology, another major constituent unit of MAHE has undertaken reforms in their curriculum by allowing options, like

- Open elective
- Programme elective and
- Extensive 8th semester practice school / project work / internship completely devoted to developing industrial linkages / project work culture. This has improved the employability of students.

Industry Driven programmes of School of Information Sciences (SOIS)

SOIS offers programs in consonance with the requirement of the Industry and incorporates their inputs to be in tune with contemporary trends in the respective specialization and future academic goals. For example:

#	Domains / Programme	Curriculum development
1	Medical software	GE
2	VLSI design	Started with Synopsys. Continuously reviewed and updated by Synopsys, Whizchip
3	Embedded systems	1. Smart Yantra 2. NXP semiconductor
4	Embedded wireless technology	NXP semiconductor
5	VLSI system design & verification	Whiz chip technologies
6	Computing technology & virtualization	VMware

Biotechnology finishing school

Quality manpower is the key factor for the growth of the industry and hence country's economy. MAHE institutions strive to create pools of skilled manpower equipped with necessary quality employable skills to make them industry-ready. Towards achieving the quality standards in employability, Government of Karnataka has recognized 13 institutes across different disciplines to set up biotechnology finishing schools with diverse specialized areas. In this connection, School of Life Sciences, has been identified as one of the finishing schools and was sanctioned with a grant of one crore rupees by the government of Karnataka, to further strengthen the already existing state-of-the-art laboratory facilities.

Similarly, all our constituent units have industrial / institutional linkages which contribute to the quality of curriculum leading to the employability of the students.

1.2 Academic Flexibility

There are two types of programmes (UG and PG) offered by the university

- A) Courses with core and elective options
- B) Courses with all subjects as core subjects

Certificate / short term courses are offered at UG/PG level in the constituent units / hospitals as value additions to the regular programmes offered by the university

Certificate / short term programmes are offered in modular form. Some non-credit courses are offered in modular form in some of the constituent units.

Under the credit based system, students of all UG and PG programmes have to accumulate prescribed number of credits to be eligible for the award of the degree. Credit transfer facilities are available based on MOUs with partner universities. In case of engineering programmes, at the beginning of second year (or third semester), an option to change the branch is available to candidates who fulfil the eligibility criteria. The four Universities under the Manipal group having technical programs facilitate the student mobility and electives which enrich their learning process both in curricular and co-curricular activities.

University has a cell headed by a Deputy Director to look after the issues related to the foreign students' admissions. Apart from this there are student bodies like International Association for the Exchange of Students for Technical Experience (IAESTE) and Association internationale des étudiants en sciences économiques et commerciales (AIESEC) which facilitate international student exchanges. Also the 'Study Abroad Program' facilitates international students to study at MAHE campus. MAHE has signed MOUs with several foreign universities for student exchanges. The twinning programme offered by Melaka Manipal Medical College (MMMC) attracts a large number of Malaysian students. The university is successful in offering dual-degree programmes through its constituent institutes, schools and departments in collaboration with universities abroad. The programmes provide opportunity for students to have an experience to go through higher education systems in India as well as abroad. To supplement face-to-face classroom sessions, students have the opportunity to listen to international experts/speakers/faculty members through video conferencing/webcasting mode, which is arranged by respective constituent units from time to time.

Presently MAHE has the following:

- Annual system: 84 per cent programmes in Health Sciences
- Semester system: 16 per cent programmes in Health Sciences. 100 per cent programmes in Engineering and Management
- Trimester system: MBA programme
- Interdisciplinary programmes are offered in Engineering, Information Sciences, Allied Health sciences, Life sciences and Public Health

The institution conducts various on-going continuing education programmes for students, faculty and practicing professionals.

The large number of programmes offered by the University in various disciplines makes this campus truly multidisciplinary in academic perspective. The students live in an

environment of academic tolerance, mutual respect for diverse learning philosophies, and curricular diversity nurtured by a multifarious talent pool. Curricular diversity has been the hallmark of MAHE campus. MAHE is working towards offering Choice-Based Credit System in its academic programmes and action plan is being developed for the same.

1.3 Curriculum Enrichment

All existing programmes are reviewed at least once a year, based on the feedback from the stakeholders, and updated by Boards of Studies (which meet at least twice a year) of the respective programmes.

Curriculum changes, as permissible by relevant statutory bodies, are implemented after their approval by the Academic Senate.

Certificate/short term programmes are offered at UG/PG level in the constituent units/hospitals as value additions to the regular programmes offered by the university.

During the last four years, a total number of 80 programmes were introduced, which are either

- Inter-disciplinary in nature or
- Programmes in emerging areas

1.4 Feedback System

MAHE has evolved a mechanism for constantly evaluating its courses and resources through a diverse array of feedback systems.

- Feedback is taken from Faculty of national and international repute who are members of the Boards of Studies and Academic Senate, about the curriculum during board of studies meetings and in academic senate discussions.
- Feedback is collected from students on faculty teaching / curriculum and analyzed. Inputs are used in Boards of Studies meetings.
- Feedback about curriculum is collected from faculties during faculty meetings and inputs from the same are used by Boards of Studies in updating the curriculum.
- Feedback is taken from class-committees in some of our constituent units regarding the course / learning process and their enhancement.
- Feedback from External examiners' in some of the programmes.
- Feedback from Alumni and employers helps in reorienting the University towards emerging needs of an ever-changing world.

The curriculum development process involves verification and validation to ensure that it meets the requirements of the stakeholders.

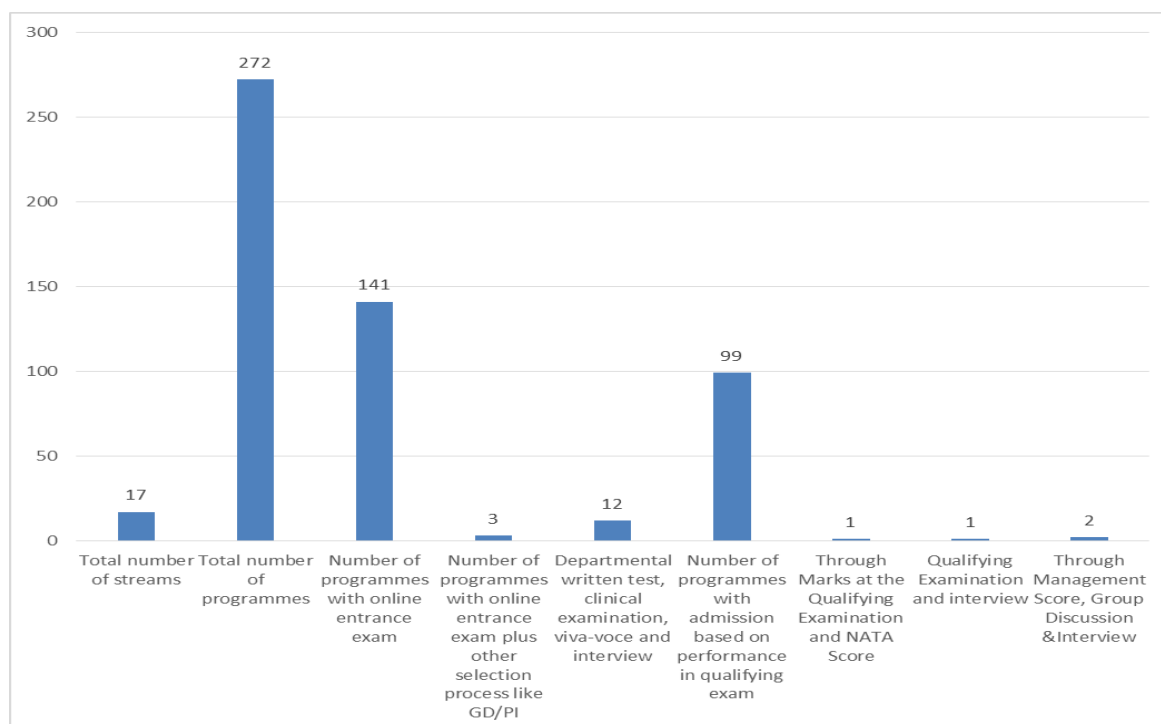
Criterion – II: Teaching-Learning and Evaluation

2.1 Student Enrolment and Profile

University has a systematic strategy for promotion of its activities to attract the best students from all over the country (national admissions) and different parts of the globe (international admissions). MAHE disseminates the information about its courses by giving wide publicity through different media.

MAHE disseminates its information by using different media such as print media, television and radio, in addition to conducting contact programmes in schools, road shows, career guiding fairs and educational exhibitions. Such activities, not only draw attention of prospective applicants and their parents/guardians to the diverse opportunities available on the campus, but also offer them a chance to make informed decisions in career options. Admissions for programmes offered at constituent units of MAHE are centrally coordinated by university admissions office.

All stages of the admissions process are transparent from stakeholder point of view. Transparency is maintained in the entire process of admission through a dynamic, interactive and constantly updated website. Following is the overview of the programmes offered by MAHE:



After completion of admission cycle every year, the admission process is reviewed in different forums like

- Board of management meetings
- Executive committee meetings
- Head of institutions meeting and
- Management review meetings of integrated management system

Outcome of the deliberations in these forums and decisions taken therein has resulted in

- Increased number of applicants
- Wider student base
- Improved quality of students admitted (improving cut-off ranks)
- Better representation of students from across the country

Admission process has shown continual improvement over the last few years:

- With more efficiency, effectiveness, transparency and flexibility in terms of execution.
- Identification and rectification of the minor issues, if any, from time to time has resulted in improving the online entrance examination process. This has helped MAHE to reach a stage of “nil operational problems” and has improved the transparency of the entrance examination and admission process.
- Conducting of the entrance examination on time, declaring the results within 24 hours of completion of last scheduled examination and the counselling process have been made more efficient with the use of technology.
- Feedback is collected from parents regarding their experience about the admission process and the suggestions are incorporated.
- With the experience gained over the years, the University has started “online multicentre counselling” for its undergraduate engineering programmes in order to facilitate the process.
- To attract meritorious students from economically weaker sections, MAHE has introduced merit-cum-means scholarships. 5% of seats in major streams are provided with these scholarships. Candidates admitted to MBBS programmes within the first 500 ranks and BDS, B Tech, B Pharm programmes within the first 1000 ranks are eligible for merit-cum-means scholarships of the university.
- These scholarships are in addition to the scholarships provided by ITC, AICTE, GE, NXP, scholarships for Konkani-speaking students, Academy of General Education students, scholarship for nursing students, Kadambi scholarship, Maulana Azad national scholarship ...etc.
- A total of Rs 21.03 crore was spent in the year 2014-15 for offering the merit-cum-means scholarship.

Student Profile – MAHE

All admissions are made on merit basis only. However the state government does admit students based on the reservation policy of the state for the seats earmarked for the state government in the medical programmes.

Categories	2011		2012		2013		2014	
	Male	Female	Male	Female	Male	Female	Male	Female
SC*	7	3	6	6	7	3	6	6
ST*	0	1	1	2	0	1	1	2
OBC *	18	9	7	21	18	9	7	21
General	3098	2186	3019	2256	3098	2186	3019	2256
PG-others (NRIs/foreigners)	60	41	61	57	60	41	61	57
UG-others (NRIs/foreigners)	307	141	336	188	307	141	336	188
Total	2112	2606	3357	2406	2112	2606	3357	2406
Grand total	4718		5763		5896		6476	

The University analyses the data related to the demand to admission ratio every year after the admission process is over. The results of analysis are discussed in Management Review Meeting conducted in the second part of the year. An overview of such analysis is given below:

Admission details – 2014			
	Number of applications	Number of students admitted	Demand ratio*
UG	99235	4065	1:24
PG	22353	1980	1:11
M.Phil.	131	20	1:7
Ph.D.	493	44	1:11
Certificate	210	189	1:1
Diploma	59	57	1:1
PG diploma	30	25	1:1
DM/MCH	94/82=176	8/6=14	1:13

* rounded off to nearest whole figure

2.2 Catering to diverse needs of students

All constituent units of the university begin the academic year for fresh students with an orientation/induction programme of one to two days which includes a formal inauguration by a reputed personality in the respective discipline followed by introductory talks by senior university officials such as Pro Chancellor, Vice-Chancellor, Pro Vice-Chancellor or the Registrar. The inauguration is followed by presentations by different university officials regarding hostels, sports, library, student affairs and matters related to academics. Students are provided with a handbook covering all particulars including facts and figures about the University, syllabus, examination, hostel, library and rules and regulations of the concerned constituent units.

Bridge/Remedial programs are offered as per the requirements of the programmes of the constituent units. In case of slow learners, faculty members from constituent units continuously monitor the performance of students under their counselling/teacher guardianship and take remedial actions wherever required.

Faculty members of respective subjects identify advanced learners and

- Provide them with additional learning opportunities in the form of mini projects/assignments
- Designate them as preceptors to guide the juniors
- Involve them in research activities including conference presentations and paper publications
- Involve them in co-curricular activities and
- Promote extra-curricular activities etc.

2.3 Teaching-Learning-Process

Based on the academic calendar prepared by the constituent units and duly approved by the university, the faculty members of the respective subject(s) prepare lesson plans covering learning objectives, number of sessions, session-wise coverage, internal assessment particulars, reference books to be prescribed and submit the same to the HOI/HOD for approval. Post approval, the lesson plans are informed to the students and classes are scheduled accordingly.

Regulatory councils by and large decide the framework of the learning processes. Within the broad limits of this framework, University has introduced various innovative learning processes. **The objective of the University is to make a student ‘life- long learner’.** For this it is expected that the learning process should be student centric. This is achieved by incorporating student centric learning process in the curriculum. These include:

- Presentations
- Quizzes
- Mini projects
- Group discussions

- “Desktop research”
- Preparing research papers
- Seminars
- Problem solving exercises
- Self-directed learning etc.

University encourages the constituent units to invite experts/people of eminence to deliver lectures/seminars for students. Intra/inter institutional participation is encouraged.

University also appoints adjunct faculty members, who are normally industry stalwarts or academic experts, on a contract basis with renewal in every two years, for teaching specialized subjects.

Faculty members and students are encouraged to use e-learning tools in their education process. Libraries have digital databases and subscription to online journals and periodicals. Various software applications such as SPSS, SAS etc., are used for analytical purposes. Students have opportunities to listen to international faculty/scholars through video conferencing facility available with University. Apart from this, students are encouraged to use various e-learning resources available with libraries.

As a part of continuous assessment process, students are given, several activities, which are time-bound such as assignments, presentations, seminars, mini projects, class-tests, quizzes that extend their learning activity beyond classrooms and convert the same into 24x7 learning places.

Faculty members from each constituent units act as teacher guardians, counsellors and mentors for the students allotted to them from their respective institutions. They meet the students on a defined frequency and document the same. The same is reviewed in class committees/faculty meetings for any necessary actions.

Constituent units deploy several innovative approaches/methods/practices to improve the learning process. These approaches/methods /practices help in augmenting the traditional forms/methods of learning and provide holistic education to the students thereby enhancing their learning experience. Impact of such practices is captured through the student feedback about the faculty members, course and their overall experience in the programme. In recognition of faculty members’ efforts in deploying innovative approaches in teaching, constituent units provide ‘Good Teacher Awards’.

Few examples of how University encourages creativity and nurtures scientific temper are given below:

- Base of Pyramid (BOP) Chair organises ideation workshop for students.
- Technology Business Incubator (TBI) conducts competitions focused on generating innovative ideas on annual basis and the most innovative ideas are supported by venture capitalist for funding, and Incubation Centre at MIT provides infrastructure support.

- Melaka Manipal Medical College (MMMC) organizes ‘Mould your Microbe’- an innovative way of expressing the thought process.
- “Inspire programme” organised by School of Life Sciences (SOLS) for encouraging students at 10+2 level to take up further education in science domain.
- TECHTATVA organized by Manipal Institute of Technology (MIT) once a year - provides a platform for students not only from MIT but also from different parts of the country to display their innovative talents in the field of technology.

In addition, the university encourages and supports students to participate in various academic conferences for presenting research papers. Each student is eligible for a financial support of Rs 5000 during the tenure of his/her academic programme. Student projects are part of learning programmes wherever the prescribed syllabus by the respective statutory bodies or respective boards of studies makes it mandatory as a part of the programme.

The university has well qualified pool of human resources meeting the compliance requirement of statutory/regulatory bodies. All full-time faculty members have been provided individual laptops with internet facility, which facilitates preparation of computer-aided teaching/learning materials.

Libraries are equipped with digital databases, subscriptions to online journals/repositories which enable faculty members to prepare learning material using latest information. There is a full-fledged Audio visual Department in the university, which assists the faculty members in preparing the self-learning e-materials.

Feedback system is in place to evaluate the faculty members in the duration of the course. The feedbacks are reviewed by concerned HOI/HoD and informed to the faculty member for remedial measures to be deployed if required.

In addition, at the time of course completion, students give feedback on the academic programme and various support services of the University. These feedbacks are reviewed at the university level during the annual meetings conducted by Director - Student Affairs and the suggestions are incorporated into the processes, wherever applicable.

2.4 Teacher Quality

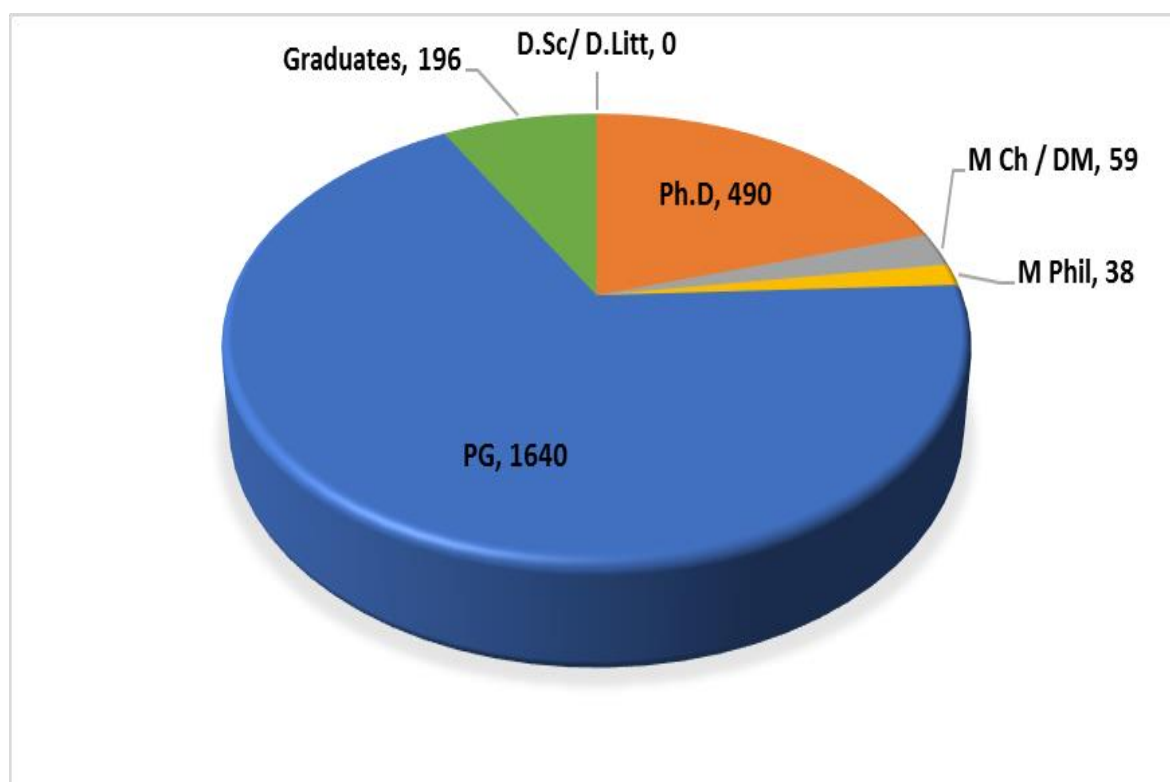
MAHE has been a pioneer in attracting academic staff from all over the country right from the beginning. Its robust HR policy facilitates retention and also helps University to recruit the committed and knowledgeable academicians from all over the country.

Before the beginning of any academic year, HOI reviews the teaching and non-teaching staff requirements based on new courses/programmes courses introduced, additional intake and statutory requirements etc. and communicates the same to the HR department for initiating the recruitment process. HR department looks at the availability of these resources within the constituent units and if not available, arranges to recruit the required faculty.

Individual institutions organize required workshops/training programmes to the faculty members to understand the changing trends and reorient them towards the same. Manipal Centre for Professional and Personal Development (MCPD) assists the institutions in organizing such programmes. All newly joined faculties will undergo induction training along with other necessary training programmes/workshops.

Overview of Faculty Details for Manipal, Mangalore, Bangalore, Dubai and Melaka Campuses

Permanent teachers as on Dec. 31, 2014									
Highest Qualification	Group - A		Group - B		Group - C		Group - D		Grand Total
	Female	Male	Female	Male	Female	Male	Female	Male	
D.Sc/ D.Litt	0	0	0	0	0	0	0	0	0
Ph.D	55	140	69	130	22	49	6	19	490
M Ch / DM	2	23	0	21	2	11	0	0	59
M Phil	0	1	4	7	7	8	5	6	38
PG	115	175	145	202	221	331	230	221	1640
Graduates	0	2	3	8	6	10	108	59	196
Grand Total	172	341	221	368	258	409	349	305	2423



Group	Designations
Group - A	Professor /Additional Professor/Associate Professor - Sr.Scale
Group - B	Associate Professor/ Selection Gr Lecturer/ Assistant Prof-SI Grade / Reader
Group - C	Assistant Professor / Assistant Prof-Sr Scale / Senior Resident /Reader(Dental)/Senior Gr Lecturer
Group - D	Lecturer / Assistant Professor / Speciality Medical Officer /Assistant Prof. on contract/Assistant Lecturer/Tutors /Junior Resident

University prefers to ensure permanent academic faculty on its rolls with commitment to continuation of teaching activities.

To provide specialised inputs in specific areas, constituent units appoint adjunct/visiting faculty. Few institutions have eminent personalities as Emeritus professors.

Emeritus, adjunct and visiting professors		
Emeritus	Adjunct	Visiting
8	131	0

From 1950's Manipal has been recruiting the faculty from all over the country without any prejudice to Religion, Region, Sex, Caste etc. and even today the same policy continues.

- University encourages faculty members to attend workshops, symposia, training programs, and conferences at national and international levels by granting special casual leave and providing a financial support of Rs 50,000 / 75,000 per faculty per year towards expenses related to the same.
- Faculty members are encouraged to publish their research output in journals, periodicals, magazines etc, for which they are rewarded. Incentives are provided to faculty members based on the accumulation of points in the form of cash or sponsorship for attending international conference, registration fees and travel expenses etc.
- MCPD also conducts training sessions on different aspects of 'teaching learning process and professional development'.
- Directorate of Research conducts workshops, seminars on research orientation, application process for research grants, information about research grants from various sources etc., to encourage faculty members to take up research.
- Sabbatical leave, short term /long term fellowship leave provision is available in case a faculty member would like to relocate to another place in pursuit of research/ higher learning.

- University encourages institutions to organize conferences/international conferences by providing logistics and infrastructural support.
- Faculty development programmes are conducted in specialized areas to train the faculty members and update them in their respective domain.

A number of faculty members have been recognized at various levels within the country and outside for their contributions to the learning process and research.

The following table highlights faculty achievements from the year 2011 to 2014. For details of the award kindly refer Annexure 2.8a:

#	Institutions	No. of awards/recognitions received
1	Kasturba Medical College, Manipal	72
2	School of Allied Health Sciences, Manipal	22
3	School of Life Sciences Manipal	17
4	Dept. of Statistics, KMC Manipal	2
5	Dept. of Public Health,, KMC Manipal	3
6	Manipal College of Nursing, Manipal	20
7	Manipal College of Pharmaceutical Sciences, Manipal	52
8	Melaka Manipal Medical College, Manipal	24
9	Manipal College of Dental Science - Mangalore	7
11	Manipal Institute of Technology. Manipal	44
12	Department of Atomic and Molecular Physics, MIT Manipal	7
13	School of Management, MIT, Manipal	1
14	Department of Commerce, SOM Manipal	4
15	Department of Geopolitics & International Relations	5
16	Welcomgroup Graduate School of Hotel Administration, Manipal	5
17	School of Regenerative Medicine, Bangalore	3
	Total	288

As indicated earlier, the University encourages specific academic developmental programmes for its faculty members. The following Table provides the details of such programmes organized in the last four years:

Academic staff development programmes	Number of faculty			
	2011	2012	2013	2014
Refresher courses	441	383	441	416
HRD programmes	37	43	67	52
Orientation programmes	102	119	98	80
Staff training conducted by the university	108	116	215	275
Staff training conducted by other institutions	44	56	87	137
Summer/winter schools, workshops, etc.	760	690	721	817

Constituent units of the University update the curriculum keeping the focus on requirements of statutory bodies and the different stakeholders. Academic development programmes (curriculum development, examination reforms) are implemented in a cycle for four years for UG and on an annual basis for PG. A total of 82 programmes were organised by MCPD since its Jan 2012 till Dec. 2014. The centre also collects feedback on its programmes and uses the same for continual upgradation of its programmes.

University has supported mobility of faculty members between universities. Several faculty members have gone on deputation to various universities in India at all levels including senior administrative positions.

2.5 Evaluation Process and Reforms

Over the years, University has initiated several reforms in the Examination system. MAHE Examination system is a role model for other Universities. Some of the reforms are listed below:

- Question papers bank
- Coding of answer sheets
- Central valuation
- Double valuation (including a third valuation)
- OMR valuation of MCQs
- Scheme of answers
- Continuous internal evaluation
- Adherence to the examination schedule and announcement of results
- Digital valuation of answer scripts (In process of implementation)
- Onscreen marking system
- Online Degree verification system

The University follows a fixed time schedule for declaration of results varying from 10-30 days after the conclusion of examination depending upon the course, the system of valuation and the number of students. Almost all results are declared within stipulated time period.

University has an exemplary evaluation process in place which has transparency inbuilt into and ensures that there are no stakeholder grievances. Confidentiality is enforced through various fool-proof measures which are in place at all levels of the examination process.

University has partially integrated examination platform for pre and post examination processes. ISIS - Integrated Student Information System is used, where by candidate list and internal assessment mark lists are entered and generated by the respective institutions using this. Hall tickets are also generated and printed through ISIS. Results are being uploaded into ISIS once results get published from Registrar of Evaluation (ROE) office.

Reforms in PhD evaluation process:

- Introduction of Doctoral Advisory Committee (DAC)
- Introduction of course work
- Mandatory research publications by the candidate
- Introduction of guidelines for submitting list of examiners
- Timeline for evaluation
- Anti-plagiarism policy

University has a robust mechanism in place to address different types of examination related grievances:

- Errors in the question papers (spellings, omissions, etc.)
- Out of syllabus questions in the question paper
- Queries about results
- Malpractice committed by students
- Correction of student name

Over the years, University has identified continual improvement opportunities aimed at streamlining the operations at the office of the Registrar – Evaluation. These have improved operational efficiency and effectiveness of the conduct of examination. Listed below are a few such efforts:

- Access controlled to restricted areas
- Installation of CCTV cameras
- Movement register of staff

- Record of login activities
- Double verification of entries by different individuals
- Document Management System (DMS) is adopted by the University in the year 2010. Since then all student related documents of the Examination Cell have been stored in the digital format.

2.6. Student Performance and Learning Outcomes

At the time of introducing any programme, the attributes of the graduates are articulated. These are reinforced subject-wise through learning objectives and by defining parameters for continuous assessment. Feedback from companies recruiting the students, alumni, outgoing batch of students help in monitoring the effectiveness of implementation and provide inputs which are discussed in the board of studies meetings and incorporated in the curriculum.

The programmes offered by the constituent units have clearly stated learning outcomes which are informed to the students through handbook or through course/subject plans. HOI/HOD ensures that the stated learning outcome of the academic programmes offered in their institution/department is made aware to all staff through periodic meetings.

Constituent units collect and analyze the data on student learning outcomes in the form of exam results, student feedback, alumni feedback and recruiting companies' feedback and capture the details required for further refining of curricula and pedagogies. In addition, feedback from external examiners is also elicited in some programs.

New technologies deployed by the University in enhancing student learning and evaluation include the following:

- E-learning
- State-of-the-art classrooms
- Online attendance/student feedback
- Student computing
- Faculty computing
- Library system

Criterion – III: Research, Consultancy and Extension

3.1 Promotion of Research

Research has been a priority for Manipal Group of Institutions right from the beginning, more so after being conferred the status of a deemed-to-be-university. Over the years, with persistent efforts from the management and the faculty of the University, there has been a substantial rise in the publications, doctoral degree awards, and research grants received from various funding agencies.

University has the following committees/directorates to formulate policy(ies) for facilitating, promoting, monitoring and tracking research.

A) University Level

1. Scientific Advisory Committee
2. Research Committee
3. Directorate of Research (Health Sciences and Technical)
4. PhD Protocol Approval Committee: basically responsible to approve the PhD protocols. There is a gradual increase in the number of protocols approved. The following Table highlights the same:

Area	2012	2013	2014
Health Sciences	105	117	108
Technology / Management / Humanities	68	64	49

5. PhD Core Committee approves the Guides. Following Table indicates the number of approved PhD guides in the University as on 31-12-2014:

Area	Number
Health Sciences	563
Technology/ Management / Humanities	470

6. Intellectual Property Advisory (IPA) Board
7. Research Funding Facilitation Cell
8. Ethics Committee

B) At constituent units level

1. Institutional Research Committee (IRC)
2. Doctoral Advisory Committee (DAC)
3. Ethics committee

University encourages research in all its constituent units. It has taken several steps to improve the quality and quantum of research activities. For furtherance of research, the University provides the following facilities:

- Establishing of Dr. TMA Pai Endowment Chairs (20 nos.) of Rs 10 lakhs grant each to attract and nurture the best talent in research and education
- Research Scholarships for full-time PhD scholars
- Seed money for initiating preliminary research activities
- Research incentive for publications in journals
- Considering the research performance, in terms of publications, during faculty member grading / promotions
- Financial assistance to attend / present papers at conferences
- Providing grants for Post-doctoral research work to be undertaken by the faculty members
- Special Academic Allowance for those having doctoral qualification
- Best Research Paper/Poster Awards

Pro-active mechanisms adopted by the University to facilitate the smooth implementation of research schemes/projects are:

- Advancing funds for sanctioned projects
- Providing seed money
- Simplification of procedures related to sanctions/purchases to be made by the investigators
- Autonomy to the principal investigator/coordinator for utilizing overhead charges
- Timely release of grants
- Timely auditing
- Submission of utilization certificate to the funding authorities

In addition to the above, recently University has established a Directorate for Research with two directors one for Health Sciences and the other for Technical / Management/ Humanities etc. with the following objectives:

- Facilitate research collaborations
- Facilitate good quality research programs with national and international grants
- Provide expertise and training to investigators, researchers and PhD guides
- Facilitate research publications

- Support patent filing activities and technology transfer

The Directorate has conducted 82 programmes aimed at facilitating and encouraging Research. Interdisciplinary research is encouraged among constituent units of University and also in collaboration with national/international institutes/industries. Currently the Directorate of Research facilitates, encourages, monitors and tracks such initiatives.

To boost the research activities in the University, the Directorate has planned to start the following Research related centers:

- Center for Bioethics
- Centre for Community Oncology
- Centre for Integrative Medicine and Research (CIMR):
- Technology Transfer Office

Following are few initiatives in Inter disciplinary Research:

A) Manipal Multidisciplinary Developmental Research Centre (MMDRC)

MMDRC encourages research focused on development; emphasizing interdisciplinary approach. The central theme of research under this Centre is Ecology and Sustainable Development, a philosophy that University has committed itself for a long time. Scholars from different streams like medicine, engineering, management, geopolitics, media studies and cultural studies work together on research projects relating to sustainable development.

B) Manipal Centre for Clinical Research, Manipal (MCCR)

Manipal Centre for Clinical Research (MCCR) was established in 2010 to augment clinical research at the University. This centre has two divisions one at Manipal and the other at Mangalore.

C) Base of Pyramid (BoP) Chair

University has set up a BoP Chair which encourages and monitors projects undertaken in collaboration with multi-national companies like Phillips, Nokia etc., targeted at the requirements of rural population at an affordable cost.

D) Manipal Advanced Research Group (MARG)

The Manipal Advanced Research Group (MARG) was formed in early 2006. Conceived as a specialized academic Centre of Excellence built on a strong foundation of basic science, one of the primary goals is to incubate and grow new research projects in the fundamental sciences and interdisciplinary areas through innovative schemes and research programmes.

E) Medical Imaging Research Suite (MIRS)

Philips and University have jointly started the programme on Clinical Competency Development (CCD) to focus on development of Smart Examination Imaging Tools (SEIT) using Open source imaging tools like TCI/TK, ITK/VTK.

F) Central Instrumentation Facility

The Innovation Centre at MIT Manipal has set up a state-of-the-art Central Instrumentation Facility (CIF) in order to support multidisciplinary research areas including Material Sciences, Biotechnology, Organic photovoltaic, Nanotechnology and other emerging frontier areas of research.

G) International Training and Research in Environmental and Occupational Health (ITREOH)

This project, a collaborative effort between the University of Alabama at Birmingham (UAB) and three universities in Asia, viz., MAHE in India, University of Kelaniya (UK) in Sri Lanka and the Aga Khan University (AKU) in Karachi, Pakistan, funded by the National Institute of Health (NIH)-Fogarty International Center, is a training programme

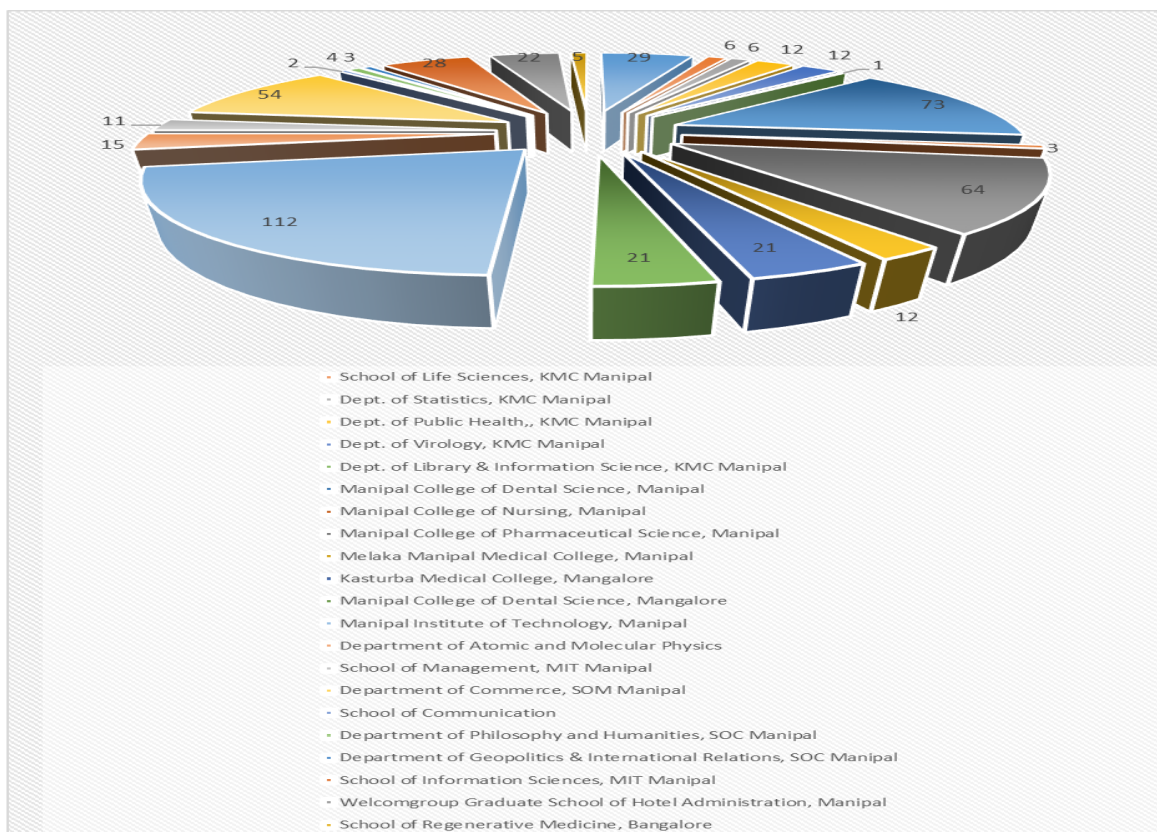
H) Department of Atomic and Molecular Physics

Department of Atomic and Molecular Physics (DAMP) focusses on advanced research and teaching in the vast area of atomic and molecular physics consisting of ultra-fast phenomena in atoms and molecules, light matter interactions, optics and quantum electronics, condensed matter physics, nanophysics and nuclear physics.

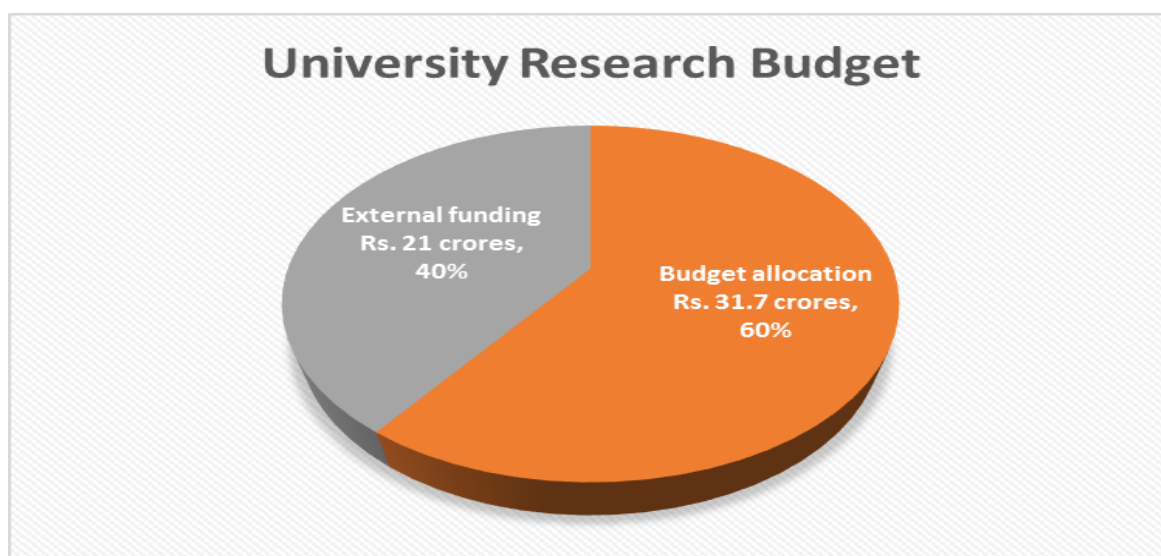
I) Department of Virus Research

The Department of Virus Research (DVR) was established in 2010, to augment the diagnostic virology capacity and to enhance research activities at the University. It is a regional reference laboratory for influenza virus for the southwestern states of India and a grade-1 Virology network laboratory established by Indian Council of Medical Research (ICMR), Department of Health Research, Government of India.

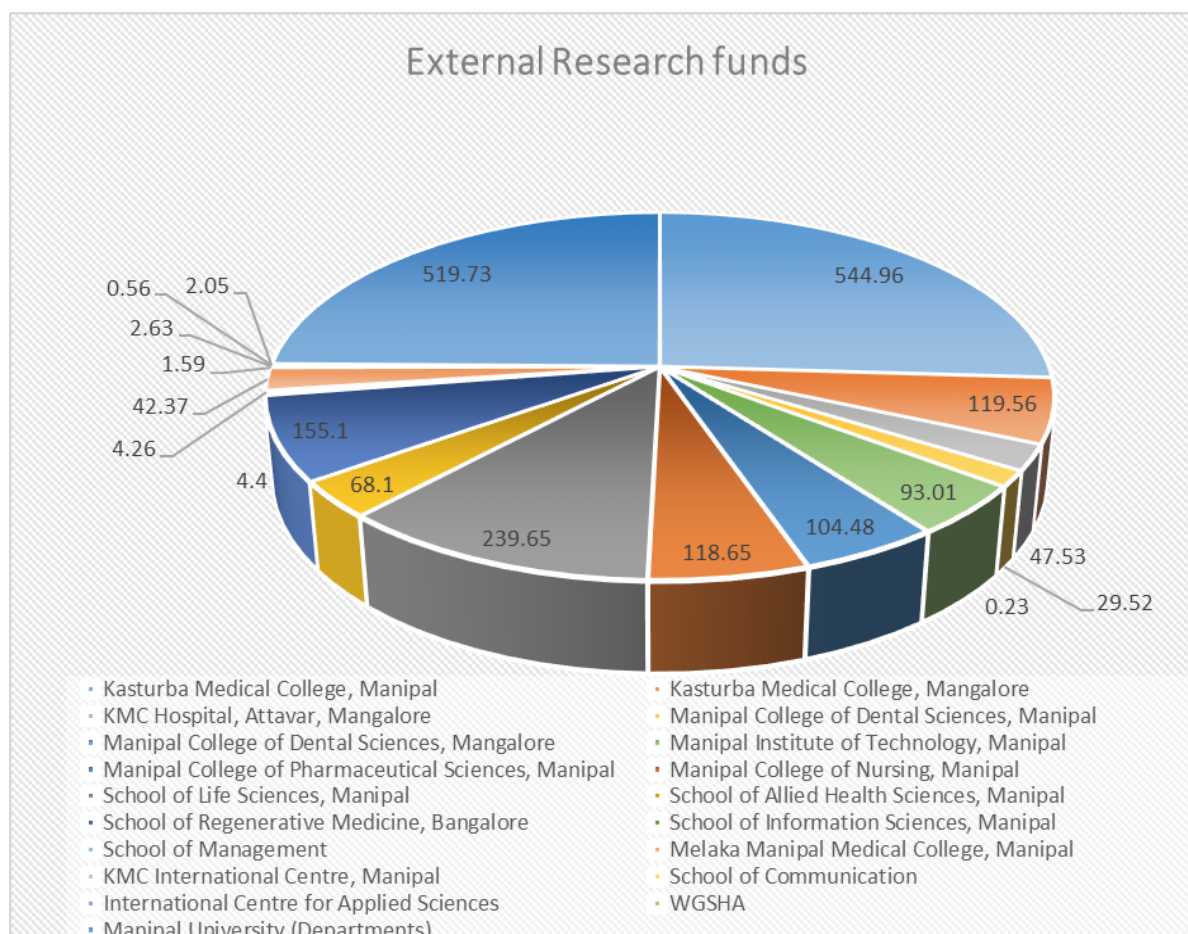
Workshops conducted to promote Research culture: Total 554 Workshops/ Training/ Sensitization programs were conducted between year 2010 and 2014.



Research Budget: As indicated earlier, University encourages and allocates substantial amount of budget to support research activities. During the year 2014-15, the University has allocated Rs. 31.70 crores towards the research. In addition, the University received research grants to the tune of Rs. 21 crores from various external funding agencies. Thus the total amount available for research activities had been about 52.70 crores.



External Research funding: Total 21 crores



Conferences

University encourages all its constituent units to organize conferences. During the year 2014 a total of 75 conferences were organized by the various units of the University. The details are as follows:

Sl. No.	Constituent Colleges/Institutions and University Teaching Departments	Conference Conducted		
		Regional	National	International
1	Kasturba Medical College, Manipal	5	4	7
2	School of Allied Health Sciences, Manipal	1	2	0
3	School of Life Science Centre, KMC Manipal	0	1	2
4	Dept. of Lib & Info Science	0	1	0
5	Dept. of Statistics	0	0	1
6	Dept. of Public Health	0	0	1
7	Kasturba Medical College, Mangalore	5	4	0

8	Manipal College of Dental Sciences, Mangalore	0	1	0
9	Manipal Institute of Technology, Manipal	0	5	3
10	Faculty of Architecture, Manipal	0	1	3
11	Dept. of Atomic & Molecular Physics	0	1	1
12	Dept. of Geopolitics & International Relations	0	1	0
13	Dept. of Philosophy & Humanities	0	2	0
14	School of Information Science, MIT Manipal	0	1	0
15	School of Regenerative Medicine, Bangalore	0	2	21
16	Dubai campus	0	0	0
17	Melaka Campus	0	0	0
Total		11	25	39
Grand Total		75		

Student participation in research projects

UG students are encouraged to do short term research projects with ICMR. Following table details their participation:

Year	2012	2013	2014
KMC Manipal	19	21	10
KMC Mangalore	49	47	35
Total	68	68	45

All research projects need clearance from the Ethics Committee of the University / Institution. There is Standard Operating Procedure for the functioning of this committee and guidelines for submission to the committee. University funded projects, bioavailability and bioequivalence studies, and clinical trials at KMC Manipal and Mangalore go through the University Ethics Committee for clearance.

Clinical trials are undertaken in collaboration with pharmaceutical industry and Clinical Research Organizations (CROs). 190 clinical trials have been conducted in the last three years. In addition, Manipal College of Pharmaceutical Sciences had 40 research projects in collaboration with the pharmaceutical industry during the last 3 years.

3.2 Resource Mobilization for Research

MAHE mobilizes funds for its research activities through internal and external resources. In the year 2014-15, the University allocated around Rs. 31.70 crores from its budget for research activities whereas the University received Rs. 21 crores from the external funding agencies. Thus, the total resources mobilized for research was about Rs. 52.70 crores which is inclusive of research projects sponsored by the industry / corporates to the tune of about Rs 1.15 crores.

The University encourages research by its students. The full time PhD scholars are paid a stipend of around Rs. 17,000/- per month on an average for a period of three years. They are also provided with financial assistance to the tune of Rs. 25,000/- during their PhD tenure to present their research work at conferences outside Manipal. Health Sciences PGs are provided up to Rs. 10,000/- to support their thesis work. Students are provided a one-time financial support of Rs. 5000/- during the tenure of their course to attend and present their research project/paper in any conference outside Manipal

Innovation Centre in MIT holds various events like seminars, competitions to encourage innovative ideas in engineering and health sciences.

Directorate of Research monitors patent registration and award. The constituent units of the University were awarded 15 patents and another 40 are pending. Details are as follows:

#	Institution	Patents Awarded	Patents filed
1	Manipal College of Pharmaceutical Sciences, Manipal	08	06
2	School of Allied Health Sciences, Manipal	01	02
3	School of Life Science, Manipal	01	08
4	Manipal College of Dental Sciences, Manipal	00	06
5	Manipal Institute of Technology	04	17
6	Kasturba Medical College, Manipal	01	01
	Total	15	40

3.3 Infrastructure for Research

University provides financial support in the form of grants to its constituent units to establish state-of-the-art research infrastructure. The following Table provides the research facilities created at the various constituent units of the University:

#	Constituent Unit/Dept/Centre	Particulars of Activities/Equipments
1	Innovation Centre, Manipal Institute of Technology	Scanning Electron Microscope and EDS X-Ray Diffraction System UV-VIS Spectrophotometer

		<p>Ion Chromatography System H-NMR setup Nuclear Magnetic Resonance Atomic Force Microscope Advanced Composite Laboratory Vibration test rig</p> <p>These are available as a part of Central Instrumentation Facility (CIF) at MIT. University has invested Rs 10crore in creating the state-of-the-art facility for the benefit of the researchers and innovators.</p>
2	Department of Virus Research, KMC, Manipal	<p>State-of-the-art virus diagnostic and research facility including Tissue culture and Virus isolation facility Real time PCR Nucleic Acid Sequencing</p>
3	School of Life Sciences(SOLS)	<p>Molecular Biology Laboratory Mammalian Cell Culture Laboratory Microarray Laboratory DNA Sequencing Laboratory Flow Cytometry Laboratory Mass Spectrometry Laboratory. Imaging Laboratory Microbiology Laboratory Atomic Absorption Spectrometry Laboratory HPLC Laboratory Radioisotope Laboratory. Biophysics Laboratory Common Instrumentation Laboratory Tissue Culture Facility: Animal House Facility Animal Tumour Facility Irradiation Facilities Genetic Toxicology and Analytical Facility Bioinformatics Lab Computer Lab. Cluster Facility Manipal Computational Biology Interface (MCBI Plant Biotechnology lab Green House Facility Confocal Microscope facility</p>
4	Dept. of Atomic and Molecular Physics (DAMP)	<p>Raman Spectroscopy Lab LIF and PAS Lab HPLC-HIF Lab Raman Tweezers Lab</p>

		<p>Femtosecond Lab Laser Spectroscopy Lab Academic Lab</p> <p>Three academic laboratories; General Photonics Laboratory, Advanced Photonics Laboratory – I and Advanced Photonics Laboratory – II had been established for the training of MSc (Photonics) and PG Diploma Students. These laboratories along with research laboratories will provide students very wide exposure and in hand experience in dealing with optical instruments, sensitive and delicate optics, Lasers (Low-High Power), Various optical and spectroscopic techniques with applications. The experimental sets up installed in various laboratories are listed below: General Photonics Laboratory (first semester) Advanced Photonics-I (second semester) Advanced Photonics-II (Third semester)</p> <p>LIBS –LIF Lab Common facilities</p> <p>Besides Academic and Research Laboratories, there are many instruments accessible for all the researchers/students.</p>
5	Manipal Advanced Research Group(MARG)	Instrument: MC-IRSES

- University has created a Directorate of Research to assist / monitor the research activities and act as an information resource center to cater the needs of the researchers. Please refer **criteria no. 3.1.3** for details.
- To support researchers, Health Sciences and Technology Libraries provide online full text databases, online journals of various publishers, e-books, *etc.*
- e-Prints, an online repository collects, preserves and disseminates in digital format the research output created by the faculty members, students, and other staff. It enables the constituent units to deposit their pre-prints, post-prints and other scholarly publications using a web interface that organizes these publications for easy retrieval. While the ePrints@mu repository can be accessed by anybody, submission of documents to this repository is limited to the University community only. ePrints@mu repository is running on GNU e-Prints.org software, a freely distributable archive system available from eprints.org, ePrints@mu repository complies with the Open Archives Initiative (OAI) framework allowing publications to be easily indexed by web search engines and other indexing services.

Central Instrumentation Facility (CIF)

There is a CIF at MIT Innovation Centre. This facility has been established at a cost of Rs. 6 crores and is made available to all faculty and research scholars both from MAHE and external institutions.

To address special challenges of research, the University has two specialized centers.

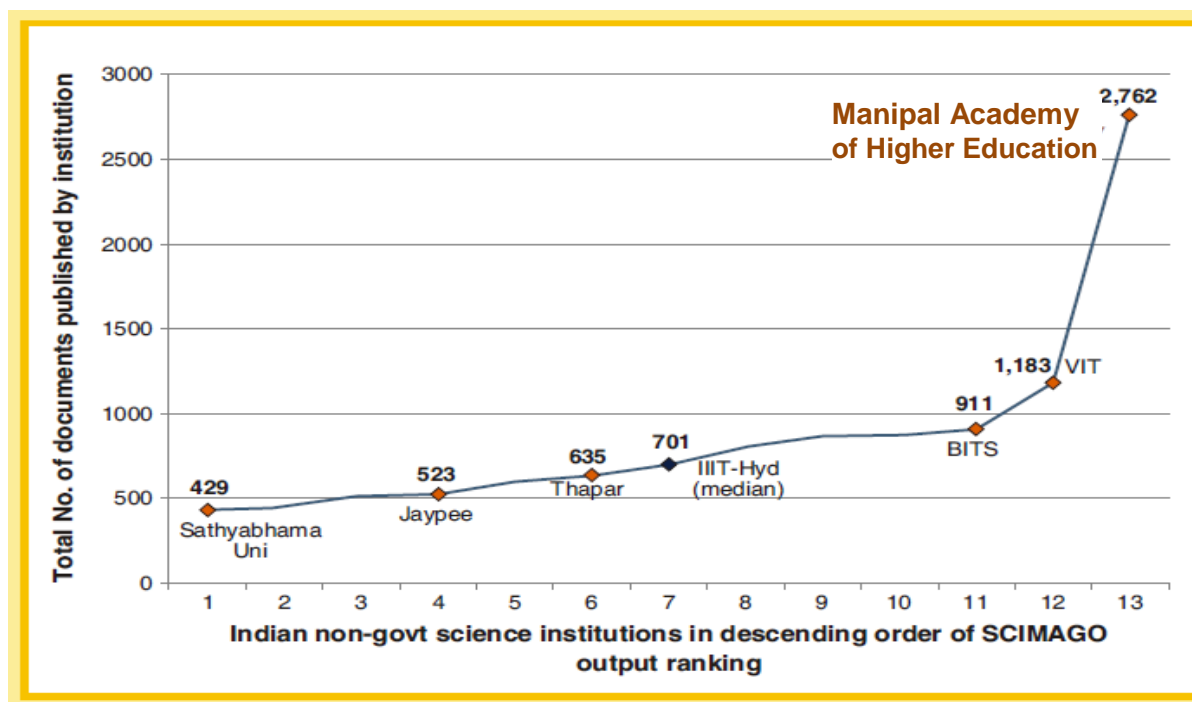
1. AICTE Sponsored Quality Improvement Programme (QIP) Cell at Manipal College of Pharmaceutical Sciences (MCOPS).
2. AICTE Sponsored Quality Improvement Programme (QIP) Cell of Mechanical Engineering and Civil Engineering Departments at MIT.

Centers of National Recognition: Some of the constituent units of the University have been recognized as research centers by the National agencies:

- School of Life Sciences (SOLS) is recognized by the Government of India as a Centre of Excellence in Pharmacogenomics under its TIFAC-CORE programme.
- The Department of Radiobiology and Toxicology of SOLS is recognised as Centre of Excellence for Radiation Bio-dosimetry by the Atomic Energy Regulatory Board (AERB), Government of India – this being one of three centres within India.
- Department of Virus Research, KMC, Manipal is a regional reference laboratory for influenza virus for the southwestern states of India and a grade-1 Virology network laboratory established by Indian council of Medical Research, Department of Health Research, and Government of India.
- Technology Business Incubation at Innovation center, MIT has been recognized by Dept. of Science and Technology, Govt. of India.

3.4 Research Publications and Awards

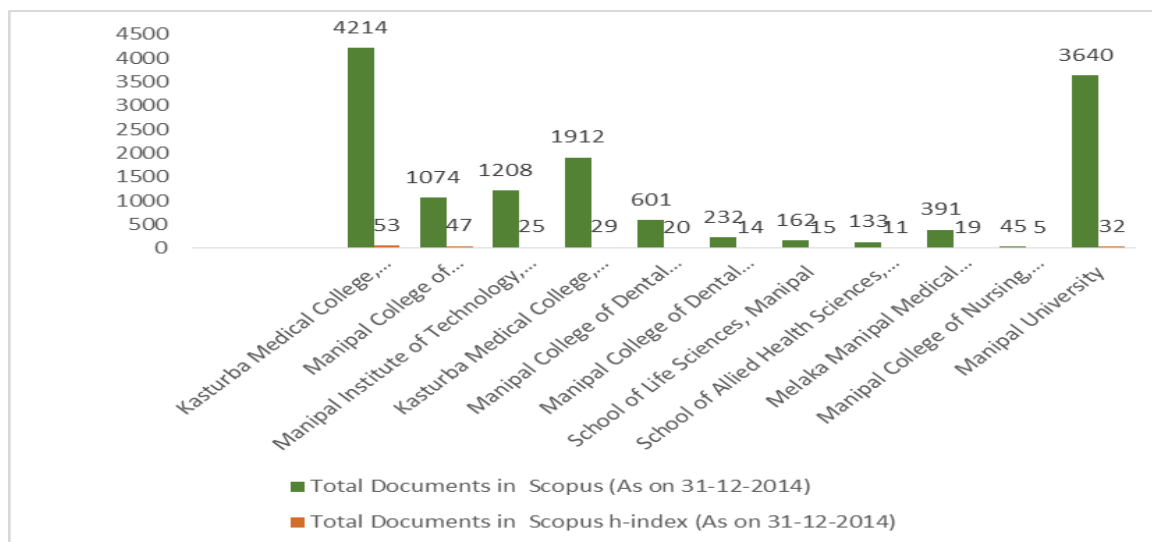
University encourages publications by its faculty in reputed journals. Number of papers published in peer reviewed journals in 2014 (national/international) was **2440**. University is ranked 1st among the non-government universities in India by a Scopus based study published by SCImago research group, Spain (<http://www.scimago.es/index.php>) in 2012.



Overall among all Universities (Government and Non-Government) in India, MAHE is ranked 19th in India in 2012 which has improved significantly from 55th in 2010.

SCOPUS Analysis – Year 2014

#	Institution	Total Documents in Scopus (As on 31-12-2014)	h-index (As on 31-12-2014)
1	Kasturba Medical College, Manipal	4214	53
2	Manipal College of Pharmaceutical Sciences, Manipal.	1074	47
3	Manipal Institute of Technology, Manipal	1208	25
4	Kasturba Medical College, Mangalore	1912	29
5	Manipal College of Dental Sciences, Manipal	601	20
6	Manipal College of Dental Sciences, Mangalore	232	14
7	School of Life Sciences, Manipal	162	15
8	School of Allied Health Sciences, Manipal	133	11
9	Melaka Manipal Medical College, Manipal	391	19
10	Manipal College of Nursing, Manipal	45	5
11	Manipal University	3640	32
	Total	13612	270



- 184 faculty members from different streams and constituent units serve on the editorial boards of several reputed National and International journals.
- 224 faculty members and 215 students from constituent units have been recipients of awards /recognition for their contribution to research.

Interdisciplinary Research

Manipal Multidisciplinary Developmental Research Centre (MMDRC) focuses on Research /Development emphasizing interdisciplinary approach. Scholars from different streams like medicine, engineering, management, geopolitics, media studies and cultural studies work together on research projects relating to sustainable development.

MMDRC Projects

1. Assessment of Photosynthetic Efficiency in Orchids to Manage Greenhouse Effects
2. Fundamental study of the use of water and environmentally sustainable water-based Lubricants in multiple axial groove journal bearings
3. Development of bio-degradable natural fiber composites from locally available materials
4. A Study on factors influencing incidence of cancers in Udupi district through population based cancer Registry
5. Spatial and Temporal Variability of the Water Chemistry and Microflora of Swarna River and its Estuary

Research Awards

University has constituted following awards to recognize and encourage excellence in research

➤ **Dr TMA Pai Gold Medal for outstanding research**

Dr. TMA Pai Centennial Gold Medal for Outstanding Research is presented for the best research work done by any of the faculty members during the year.

➤ **Dr TMA Pai Endowment Chairs for research**

University will annually provide Rs 2 crores to establish 20 Endowment Chairs to be named after the Founder the late Dr. TMA Pai. These Chairs will be in different disciplines in the University and each chair will be valued at Rs 10 lakhs per annum.

➤ **Best Research Poster award:** Annually the University awards the “Best poster presentation” by its PhD scholars

Research Publication Incentives

University encourages research and recognizes the achievements of the faculty, at various levels, state / national / international. Following incentives are given for faculty scientific and research publications.

Points are awarded for:

- Published papers
- Books / chapters in books
- Patents granted

These points can be encashed / accumulated and used for financial support to attend international conferences as per the norms of the University.

3.5 Consultancy

University has a policy in place on Consultancy and Clinical Trials. This policy defines the benefits to the Principal Investigator and Co-Investigators.

University has a Director - Industrial Liaison and Placements, who coordinates with industry for placements, internship, consultancy etc.

Technology Business Incubator (TBI) is a new initiative of the University for nurturing and developing innovation and entrepreneurial skills among its faculty members and students. It is one of the 54 TBIs funded by NSTEDB, DST, and Government of India to promote innovation driven start-ups in Udupi District, established in 2010.

The Practice School at MIT also facilitates industry-institution interaction

Consultancy services are provided in the broad streams of

- Engineering,
- Health Sciences,

- Communication and
- Management.

In 2014, revenue generated from engineering and other consultancy is about Rs 27 lakhs

In addition, some of our consultants have served as advisors / consultants to various governmental and non-governmental organizations for effective implementation of various healthcare policies and national health programmes.

3.6 Institutional Social Responsibility (ISR) and Extension Activities

University is fully aware of its social responsibilities and contributed for the community well-being in different forms. University also encourages its students and faculty to participate in social activities and help the needy.

Student activities:

1. Volunteer Services Organization (VSO)

Volunteer Services Organization (VSO) was initiated by University to provide an opportunity to students to serve the society. VSO undertakes projects which cover community, organizational and soft skills avenues. Projects are also planned in collaboration with the clubs/organizations of the constituent colleges of University and executed with the support of the University.

2. H.O.P.E.S (Health organization for public education by students)

It is a non-profit organization of KMC, Manipal which brings together medical students and uses their knowledge to educate the common man about the value of various health and hygiene measures. Initiatives are taken up targeting the various voids in our society concerning the lack of knowledge about various diseases widespread amongst us. To assess the impact and effectiveness of our initiatives, detailed analyses are carried out after completion and reports are made regarding the same.

3. Social Welfare Committee

The Social Welfare Committee (of KMC) constitutes the philanthropic wing of the Student Council. The proceeds from the fund raising programmes organized by Student Council are used for funding the education of poor children, to families suffering from HIV infections for their treatment. Besides this, the funds were also utilized for the treatment of a physically handicapped infant; a part of the fund was also kept aside for the Thalassaemia Fund. At the start of each year a programme is held for the cancer patients admitted to Kasturba Hospital on the occasion of World Cancer (Awareness) Day. As a part of the outreach programme medical camps are conducted free of charge in association with the staff of Kasturba Medical College. Those who are found to have any health problems are then referred to the hospital for further evaluation and treatment. Recycle drives are also a common feature in the list of activities

4. Apart from the above student body AIESEC undertakes several initiatives such as:
- **Project Umang 2.0** - is an issue-based project that is run in local committee, which deals with children's education and development.
 - **Project One World** - The main intention of this project is to get as much of the world on a single platform as possible. Apart from the normal curriculum of schools and colleges, it is vital to have awareness of certain issues for an all-round development of one's personality and imbibing cultural tolerance in oneself. Interaction with interns from different countries is the best exposure a young mind could get to understand different cultures.
 - **Project - Helping Hands** - Project Helping Hands is an issue-based project that is run in local committee whose objective is to help the inmates at the partner NGOs realize the value of their lives and help living it to the fullest.
 - **Project Microfinance** - The project is aimed at providing the interns experience about rural India and their financial problems. The Project is a platform to provide an external approach to Microfinance initiatives with ideas from the interns through workshops and seminars.
 - **Project Genesis** - The main objective of this project is to promote awareness, compassion, education and support to make each day count in someone's life.
 - **Impact Week** - Impact Week is a seven day event, aims at creating an impact on their local reality on various social issues and forums.

University activities

1. **Health Insurance scheme**- To help the below the poverty line people, the University devised various health insurance schemes like, Manipal Arogya Surksha card, Manipal Arogya card, which entitles the individuals to have cashless healthcare at Manipal group of hospital within the stipulated times. The university spends about Rs 16 crores annually on this projects.
2. **Rural Maternity and Child Welfare Homes (RMCWH)** – with sole objectives extending maternity and child welfare in remote areas, University established 7 RMCWHs around Udupi district. These centers provide maternity care and immunization to children free of cost. University spends about Rs. 1 crore per center per year.
3. **Health camps** – various departments of medical and dental colleges organize health camps at different locations in a radius of 100 kms from Manipal. The individual requiring identified individual requiring hospitalization are referred to hospitals wherein they require subsidized treatment.
4. **Poor patient fund** – with a view to help the economically weaker section of society to have quality healthcare, the university established a poor patient fund. Any contribution to this fund by public is equally matched grant by university.

5. **ASARE** – an organization that runs a home for differently abled individuals is supported by the university.
6. **Hombelaku** – is a facility created and supported by university to take care of mentally challenged individuals on a long term basis. The facility is looked after by the department of Psychiatry of KMC, Manipal.
7. **Merit cum means scholarships** – to ensure an inclusive growth, the university created merit-cum-means scholarships. 5% of the students admitted to the various programs are provided with this scholarship. In the year 2014-15, the university spent about Rs 21.03 crores towards this scholarship.
8. **Emission testing facility** – the facility created at MIT is extended to all vehicles (not only faculty, students of the university but the general public including auto-rickshaws) at the subsidized rate, which would help in pollution control.
9. **Disaster support** – university extended its support by sending teams to different location whenever there is a natural disaster and provided the healthcare to the needy.
10. **Rural development projects** – the university provides financial support in organizing training programs, undertake research activities of an NGO, Bharatiya Vikas Trust (BVT), that is engaged in empowering rural public.
11. **Green Manipal** – university extends all supports to the surrounding public to ensure that there is green Manipal. This support has resulted in the university getting “Golden Peacock Award” for the environment management for the past two years.

Involvement of the Community in the out-reach activities

- Involvement of the community is ensured by interaction with local NGOs, village heads and organizing the outreach activities in association with them.
- Association of Community Pharmacists of India (ACPI) carries out various community related activities in association with pharmacies and constituent units of MAHE. Every month-end health check-up camp is organized by ACPI for benefit of the community.
- Local NGOs like Lions, Rotary, Jaycee Clubs are involved in organizing various health camps by the medical, dental and nursing colleges.

Awards for extension activities and/contributions to social/community development

Chancellor, Dr. Ramadas M Pai has received the following awards for his contributions to social / community development activities during last four years:

- **Padma Bhushan** Award for his notable contribution in the field of education, healthcare and literature

- Formally given the honorary title of **Datuk** by the Melaka Government for his notable contribution to higher education in Malaysia
- In recognition of his significant contribution to medical education in the Caribbean, Dr Pai has been appointed by the Govt. of Antigua & Barbuda as that country's **first Honorary Consul General in India**
- **Golden Peacock** Award for lifetime achievement

University has won the following awards:

- Ranked No. 13 in India and No. 181-190 in Asia by QS University Ranking ASIA 2014
- Ranked No. 85 by QS University Ranking BRICS 2014
- Ranked No. 1 in India and 695 in the World in University Web ranking 2014
- Ranked No. 1 Private Deemed University by THE WEEK – HANSA Survey 2014
- ASSOCHAM National Education Excellence Awards 2014 – Won Best University Promoting Research award
- FICCI Overall Excellence award 2014
- 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” filed
- Ranked No. 3 among Top Private Universities in India by Careers360 University Ranking 2014
- Ranked No. 3 by SiliconIndia Top 20 Private Universities in India 2014 for MBA/Engineering courses
- Golden Peacock Environment Management Award successively for the year 2012, 2013 & 2014
- Ranked No. 1 in India under the Sub Urban category by UI GreenMetric Ranking for Global Universities 2014

3.7 Collaborations

University is privileged to have several academic and research collaborations with universities across the world in US, UK, Australia, Netherlands, Germany, France, Canada, New Zealand etc., in the areas of health sciences, engineering and technology, life sciences, social sciences and physical sciences. The collaborations primarily provide opportunity for undergraduate as well as postgraduate students of MAHE to pursue twining programmes and dual Masters programmes respectively in the partner universities. Vice versa, the collaborations are also encouraging students from the partner universities, to attend short term internships or one semester in regular programmes at MAHE. In

addition, it is encouraging exchange of faculty members, as well as joint research programmes.

Engineering college has several collaborations with other universities, industries and various funding agencies resulting in benefits in terms of grants, academic support and facilitation in research. All these linkages promote the following:

- Development of robust curriculum meeting all stakeholder requirements
- Providing internship opportunities for students with leading corporates.
- On the job training for recruited students
- Faculty exchange and development with industry and Universities in India and abroad
- Collaborative research in developing areas
- Publications
- Consultancy in emerging areas
- Support for extension activities
- Student placements with reputed corporates

Institution-industry interactions have resulted in the establishment/creation of highly specialized laboratories/facilities in constituent units of MAHE. Few examples are:

Schneider Electric has sponsored a laboratory for Electric and Electronics Dept. of MIT

At SOIS, the following labs are established in association with industry

- Base of Pyramid (BoP) Lab in association with Philips
- AXIOM lab in association with Axiom Design Automation India
- MDN Lab in association with Manipal Dot Net
- Cerner Lab in association with Cerner IT Healthcare solutions
- Health Radar project with Nokia

Criterion – IV: Infrastructure and Learning Resources

4.1 Physical Facilities

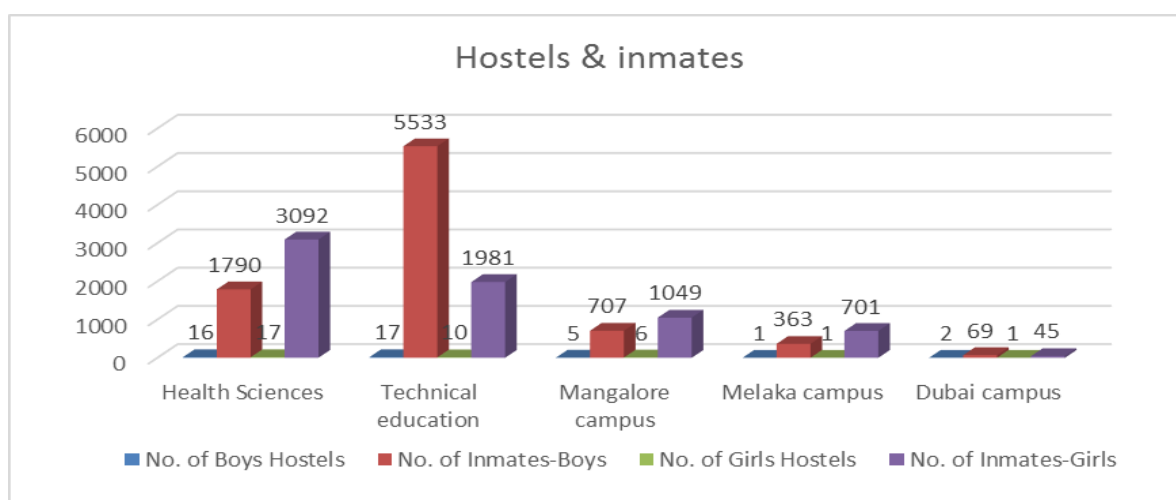
The Board of Management which includes the top management reviews the requirement in terms of physical infrastructure. Basically the University has adequate infrastructure. To create additional facilities / infrastructure required for new courses / programs, the following procedure is adopted:

- During the preliminary meeting held before starting a new course /programme, the infrastructure requirements are discussed.
- Additional requirements as projected by individual units are reviewed and approved keeping in mind the financial resources available; and the additional infrastructure is created.
- Through coordinated efforts between various constituent units, the available infrastructure is put to best use.
- There was an addition of 1,97,604 sq mtr of built up area in the form of academic blocks, sports/ hostel / healthcare / administrative facilities and staff quarters in the last 4 years. University makes sustained efforts to create physical infrastructure facilities for the faculty in terms of adequate research laboratories, computing facilities and allied services.
- Periodic reviews are conducted by the institutional heads for reviewing the existing facilities to the students and identifying the additional facilities required.
- Statutory requirements are also reviewed for compliance.
- Feedback collected from students and faculty forms an input in these meetings.
- There are enough research laboratories in the University which are made available to faculty members to carry on their research activities.
- Every department has computing facilities and every faculty is provided with laptops for various academic and research activities.
- Statistical Bureau of the University provides the required support for statistical analysis of the data generated in various research/academic activities

All new projects undertaken ensure the availability of barrier free facilities in terms of building access and utilities.

Students Housing

Location	Boys Hostels (nos.)		Girls Hostels (nos.)		Total (nos.)	
	Hostels	Inmates	Hostels	Inmates	Hostels	Inmates
Manipal campus						
a. Health Sciences	16	1790	17	3092	33	4882
b. Technical education	17	5533	10	1981	27	7514
Mangalore campus	5	707	6	1049	11	1756
Melaka campus	1	363	1	701	2	1064
Dubai campus	2	69	1	45	3	114
Grand Total	41	8462	35	6868	76	15330
Facilities available	<ul style="list-style-type: none"> • Cot, mattress, study table, chair and cupboard for each student • Uninterrupted power supply • Solar/electric-heated water facility, • Water cooler with filter • Common telephone • Common TV room • Common reading room • Hostel library • Gymnasium • Food court • Wi-Fi Internet facility • Night canteen • Mess facility • In-door games (carom, table tennis, chess etc.) 					



Medical facilities

Medicare is a hospital-based health insurance scheme offered by MAHE through its network of associated hospitals. It is instituted primarily for the benefit of students,

employees and employee's dependents. The pre-paid health plan assists in extending medical facilities for both in-patient and out-patient services for the entire family, subject to limits specified.

Sports and Cultural activities

The sports and cultural co-ordination committee with student representatives plan and conduct programs/events throughout the year. All sports facilities including state-of-the-art indoor sports complex (MARENA) are available to the students.

4.2 Library as a Learning Resource

MAHE has Libraries at seven different locations, five in Manipal, and one each in Mangalore and Bangalore with total area of 23,560 sq mts and 2818 seating capacity. These libraries have a collection of 257678 books, 1,259 journal subscriptions, 28 online databases and 14,131 online journals/books.

There are different Library committees for different locations. The composition of each Library Committee is as follows:

- Chairman - Head of Institution
- Secretary - Librarian
- Members - Heads of various departments
- Student representative – Invitee

The committee has taken up the initiative in collecting and development of e-Resources (Online journals, e-books and online databases) in particular, to meet the needs of the students and faculty.

Average numbers added during the last three years are:

- Books : 9289
- Non Print (Microfiche, AV): 3114
- Electronic (e-books, e-journals): 11654
- Special collections (e.g. textbooks, reference books, standards, patents): 73938

Tools deployed by the libraries to provide access to the collection include Electronic Resource Management package for e-journals, federated searching tools to search articles in multiple databases, library website, and in-house/remote access to e-publications.

ICT in library

Details	KMC MPL	KMC MLR	MIT MPL	WGSHA MPL	SOC MPL	SOM MPL	SORM BNG	Total
Automation	Yes	Yes	Yes	Yes	Yes	Yes	No	NA
Computers for public access	110	15	25	12	7	1	15	185
Printers for public access	5	2	1	1	1	1	1	12
Internet band width	1GB	2 mbps	10 mbps	1GB	100 mbps	1 GB	5 mbps	NA
Institutional Repository	Yes	Yes	Yes	Yes	Yes	Nil	Nil	NA
Content management for e-learning	Yes			Yes		No	No	NA
Participation in resource sharing networks/consortia (like INFLIBNET)			Yes		Yes	No	No	NA

Services available in University libraries

- Manuscripts
- Reference
- Reprography
- Inter-library Loan Service
- Information Deployment and Notification
- OPACS
- Internet Access
- Printouts
- Reading list/Bibliography compilation
- In-house/remote access to e-resources
- User Orientation
- Assistance in searching Databases
- INFLIBNET/IUC facilities

Library budget for 2014-15 of MAHE is about Rs 10.06 crores.

Library – A happening place

Besides the comfortable seating and reading environment, the libraries are well-equipped with modern facilities such as e-learning, access to internet and web resources including online journals and e-books. Libraries provide a growing range of databases available in electronic form on the campus network. All the library services have been automated on modern lines. The libraries have fully computerized its collection, which could be accessed through OPAC. The libraries are enabled with Wi-Fi technology and security systems with CCTV. Some of them have a separate audio-visual room, computer lab, group study area and private study area. The libraries have all the facilities for the students to learn. The Libraries are committed to provide a world class information support to its users. Libraries provide open access facilities which help easy access and use of library as a learning resource.

Feedback system for Library

A suggestion box has been kept near the entrance of the library to collect the feedback from the users. Also online feedback option is given in the library website to collect the feedback from the users. Student's feedback are being analysed and considered wherever applicable for the improvement of online access to e-resources, various library services, computer infrastructure and other infrastructure facilities of the library.

Library improvements in last 4 years

- Development of library webpage
- Addition of online databases/online journals/e-books
- Implementation of integrated search solution software
- Development of Institutional Repository using e-prints software
- Digitization of previous years' University Exam Question papers
- Installation of CCTV Cameras
- Replacement of P3 computers with Core2 Duo
- Plasma TV and LCD Projector

4.3 IT Infrastructure

University has a comprehensive IT policy with regard to IT Service Management, Information Security, Network Security, Risk Management, Software Asset Management, Open Source Resources and Green Computing

MAHE IT infrastructure includes the following:

Number of Systems with individual configurations

- Desktops: 6900
- Laptops: 2500 (faculty); 12000 (students)

- Printers: 2780
- Scanners: 200

Majority of the students admitted to the University are provided with a laptop as part of learning resource with a computer-student ratio of **1:1**. There are dedicated computing facilities such as centralized computing facility at MIT, computer labs at MIT, Architecture, SOM, WGSHA, Commerce, Communication, MCOPS and Life Sciences. Every location of the campus has internet facility, either wired or wireless.

All libraries of University have dedicated computer lab facility. MAHE has well connected Campus Network (LAN) facility with 1 GBPS/100 MBPS.

Data Center

MAHE has a state-of-the-art physical infrastructure for the data centre that matches the industry standards. This Tier II (N+1) DC, spread over 3000 sq.ft, will house the server and also the Network Operation Center (NOC), hosting University applications, e-learning portal, websites and host of other services.

Group Wide Connectivity (GWC)

Manipal has established a very strong and reliable VPN infrastructure connecting all Manipal Group of institutions in India and abroad with high-performance MPLS (Multi Protocol Label Switching) backbone - committed step to move towards "Digital University".

This solution will provide for high flexibility in not only adding new sites and location but also in adding new services like video conferencing, VoIP etc. Manipal GWC is highly secure, scalable and provides high uptimes with all the redundancies built into solution.

Wi-Fi Internet Services

The entire University campus is unwired with a two-layer secure wireless architecture - core and access network. This provides seamless connectivity across the entire campus and users can access the network from anywhere in the campus, both indoor and outdoor. The Wi-Fi mesh network is designed to provide wireless broadband internet services, branded as I-ON, to about 10,000 students on campus with the help of Motorola canopy equipment (access points and subscriber modules). This wireless infrastructure is being used to access all IP based services like, Internet, e-mail, e-learning and digital library, and this network has the capability to support value added services (VAS) such as IPTV, video conferencing, VoIP and any other converged multi-media services.

University has a structured plan to deploy and upgrade the IT Infrastructure and associated facilities at periodic intervals.

E-learning

- E-learning (Learning Management System) has been implemented for students of Basic Medical Sciences. The portal can be accessed using <http://elearning.manipal.edu>. The process has been initiated for creating the facility for clinical science subjects.
- The KMC, Manipal, KMC, Mangalore, MIT, WGSMA, SOC and Humanities Libraries have e-journal subscriptions and faculty members can access the resource through Campus Network.

To address plagiarism issues, University has subscribed to Turnitin Anti-Plagiarism Software. The faculty publications are validated through this software.

New technologies deployed by the university in enhancing student learning and evaluation

- Campus Wi-Fi connectivity
- Email ID to all Students in collaboration with Microsoft
- Student Portal
- Online Student Feedback
- On Screen Marking
- Online Degree Certificate Verification system

IT facilities available to individual teachers for effective teaching and quality research

- Laptop
- Email Id
- Internet Facility
- Academic Software packages in their respective discipline.
- Online Journals

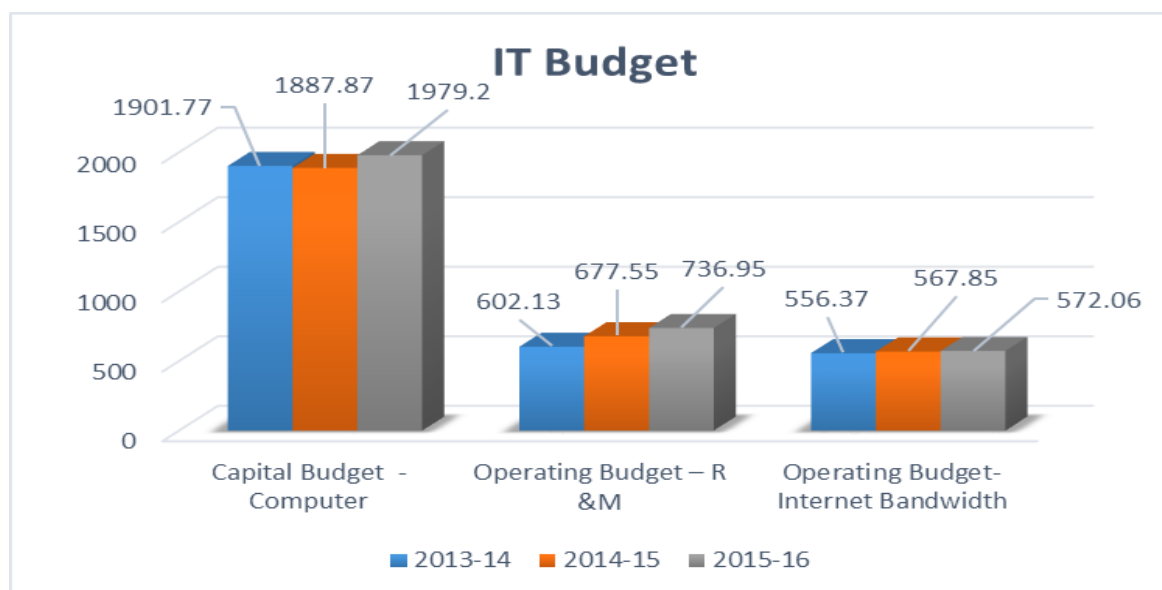
All the class rooms in the campus have LCD Projectors and internet connectivity. This will enable faculty members to conduct the classes and seminars effectively.

IT Maintenance

Comprehensive Annual Maintenance Contract support is been provided for computers and accessories by the vendors. University has provided space to vendors to setup the service center in the campus.

IT Budget

The details of Computer budget (in lakhs) for the financial year 2013-14, 2014-15 and 2015-16 are as per the table given below:



Campus Maintenance

The office of the Estate officer maintains the records of all establishments, land, building, equipments and other movable and immovable properties of the University. The entire maintenance of the campus including infrastructure is outsourced which is monitored centrally by the Director General Services through the Estate officer.

Following are some of the initiatives undertaken to improve the physical ambience:

1. Waste water management infrastructure has been created by setting up state-of-the-art Sewage treatment Plants to treat the sewage generated in the campus
2. Grey water treatment for reuse in flush system
3. Treated water is used for development of green cover across the campus
4. Rain water harvesting for ground water recharge and direct use
5. Energy management for reducing power consumption
6. Solid waste management by segregation into biomedical, hazardous and non-hazardous wastes
7. Vermicomposting of vegetable waste
8. Solar water heating for all hostels and few hospital blocks
9. Air quality monitoring
10. Arboriculture

The services are out sourced to an agency which has departments like Electrical Maintenance, Plumbing, Civil and Ancillary. University requirements are sent to the agency which are attended to by the relevant department. Review of this process is done on a monthly basis by the Director General Services, MAHE.

Equipment - especially medical related or laboratory related – An annual maintenance contract is entered into by the respective institution with the manufacturer through the Director Purchase. This ensures that proper maintenance is carried out.

Criterion – V: Student Support and Progression

5.1 Student Mentoring and Support

Following are the student support systems at MAHE:

1. Teacher Guardian Scheme: Each faculty is assigned 10 first year students. Faculty will visit their hostels regularly and keep constant touch with their wards and their parents.
2. Faculty Adviser Scheme: For students other than first year, faculty advisers are assigned for each section to support students in overcoming their difficulties. Faculty advisors will act as mentors in solving the grievance of students.
3. Mentorship Scheme: Keeping in mind the cultural background and special needs of the international students, a mentorship scheme will be in operation.

A professional counselor and teacher guardians help students in times of difficulties.

Academic mentoring involves:

- Tutor support for weak students: Teaching assistants help students in critical subjects in each department.
- Department of Continuing Education and Counseling: This department arranges various programmes, both curricular and co-curricular, for the benefit of students.
- Academic related technical clubs with faculty advisers: Many technical clubs like I.E, IEEE, SAE, Akshay Urja, Tech Ahoy, Cutting Edge etc. conduct academic related programs and competitions for the benefit of students.
- Providing time slots for students to interact with the faculty members

MAHE has a separate department named as Manipal Centre for Professional and Personal Development (MCPD), which conducts regular programs for personal enhancement and development for students and faculty.

In addition, training and placement department conducts programmes (every semester) for soft skill development and career path identification for students.

University publishes updated prospectus and each institution publishes the “Hand book” containing information on academic regulations, student regulations, hostel regulations, security rules, disciplinary measures etc.

Scholarships

Following are the various types of scholarships given to students at MAHE:

1. Merit cum means scholarships
2. AICTE scholarships
3. ITC scholarships
4. Teaching Assistantships
5. Scholarship for Konkani speaking students

6. Academy of General Education Students' scholarships
7. Scholarship for GATE qualified students
8. Kadambi scholarships
9. Maulana Azad National Scholarship scheme etc.

Merit-cum-means scholarships are awarded each year, in addition to scholarships to spouses and children of employees. Nearly Rs 21.03 crore was spent on such financial aid in the year 2014-15.

International admissions and students

University has an exclusive section headed by a Deputy Director for International Admissions, under Director Admissions, which deals only with the admission of foreign students and cater to their needs. To attract the foreign students, University participates in educational shows in various parts of the world and brings awareness, to the prospective students, of various courses being offered. Also through other media like website etc. details of admission process is provided to the prospective students, apart from the information on courses being offered.

University earmarks 15 per cent of the total seats for international students which include foreign citizens, PIO (Persons of Indian Origin) card holders, overseas citizens of India, Non- resident Indians (NRI) and NRI sponsored students.

Study Abroad Programme: University has initiated a multi-disciplinary programme for international students from various universities across the globe to showcase Indian culture and traditions, India's place in world affairs and the role of media and communication.

International Association for Exchange of Students for Technical Experience (IAESTE): To enhance technical and professional development and promote international understanding and goodwill amongst students, academic institutions, employers and the wider community and to develop global leaders by promoting a self-driven practical learning experience.

Association Internationale des Etudiants en Sciences Economiques et Commerciales (AIESEC) organizes student exchanges, workshops, conferences and industry interaction etc. In addition, University entered into MoUs with various foreign universities for student exchange programmes.

Student loan:

MAHE has signed an MoU with State Bank of India to provide scholar loans, exclusively for its students. These loans are up to Rs. 20.00 lakhs to the students of KMC Manipal/Mangalore and up to Rs. 7.50 lakhs to the students of MIT Manipal without any collaterals and Rs. 30.00 lakhs with collaterals in both cases and with reduced interest rates.

Student support services**Overseas students:**

- All support and assistance are provided for the registration of the foreign students at the SP office.
- Separate AC hostels are made available to them.
- International food court for multi-cultured cuisine has been established inside the campus.
- Overseas students are taught language and communication skills whenever necessary. Special coaching in specified subjects is provided to the engineering students.

Physically challenged/differently-abled students –

- Almost all the buildings have lift facility and all new buildings are constructed with ramp facility. Few buildings have been provided with toilets specially designed for differently-abled students.

SC/ST, OBC and economically weaker sections –

- Educational loan facilities are made available and University sponsored scholarships are provided to poor-cum-meritorious students.

Students participating in various competitions/conferences in India and abroad –**Competitions:**

- Financial assistance in the form of TA and DA is provided to all the students who participate in the Inter University Sports and cultural competitions.
- Special coaching is arranged free of cost.
- Track suits and uniforms are sponsored to the students representing University in outside competitions.

Conferences:

- Rs. 25,000/- is provided to PhD students for participating and presenting research paper in the conference.
- Rs 5000/- is granted for attending national conferences and the registration fee is refunded for attending International conference.

Health Centre, Health Insurance etc. :

All the students are covered under University Medicare (Health insurance) scheme. Out-patient and in-patient facilities are free up to the predefined limit at the University hospitals. Both Manipal campus and Mangalore campus have very good tertiary care hospitals. The University runs an exclusive student clinic even after the working hours

which enable the students to continue with their routine academic activities and attend to their health needs. In addition, an ambulance service is made available for emergency situation.

Skill development (spoken English, computer literacy etc.):

- Continuing Education cell conducts regular course on skill development. Technical clubs conduct course on Networking, MATLAB, C, C++ etc.

Performance enhancement for slow learners –

- Faculty advisors scheme to help the slow learners.
- Teacher Guardian Scheme and Counselor Support.
- Need-based counseling

Exposure of students to other institutions of higher learning / corporate / business houses etc. –

- i) For Medical College: - student exchange programme.
 - ii) For Engineering and pharmacy students: industrial training and internship. Details are provided in the reports of respective colleges.
 - Practice school concept is introduced where UG students take up their final semester project in an industry or institutions of excellence like IITs.
- PG students carry their one year project in an industry.

Publication of student magazines –

All the colleges publish annual magazines wherein students contribute their articles.

To name a few:

- Dhvani by MCON Manipal
- Signum Vitalis by KMC Manipal
- Zeitgeist by MIT Manipal
- Excelsior by MCOPS Manipal
- Impetus by SOAHS Manipal
- M.LIFE by MMMC Manipal
- Ink'D by KMC Mangalore
- Excelsior by MCODES Manipal

Apart from this, there are various clubs which will publish bulletins regularly in the form of E-letters, newsletters, like AM plus, Eurobuzz etc.

Policy for enhancing student participation in sports and extracurricular activities

- Special training/coaching will be provided free of cost for the students participating in sports and extracurricular activities.
- Attendance will be given to the students for the missing classes who are attending the extracurricular activities.
- Sports uniforms and track suits are issued to the students participating in Inter-college competitions/Inter university competitions.
- University competitions/any National level events etc. Financial support in the form of TA/DA will be borne by University for the participating students.
- University organizes annually its cultural extravaganza – UTSAV wherein the students of its constituent units participate and compete in different events like dance, music, extempore, skits etc.

Placement support

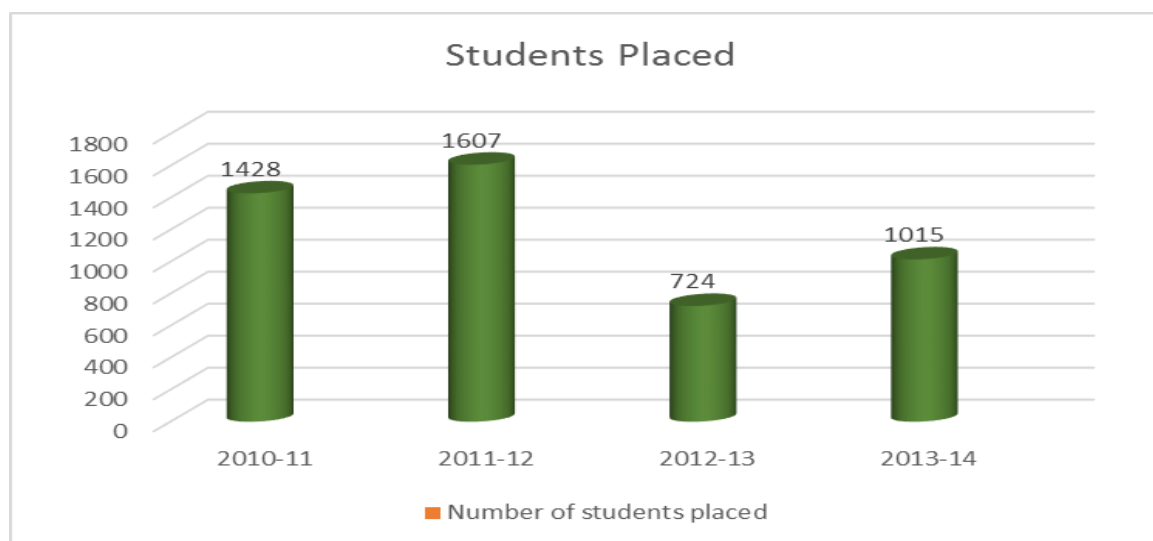
The University has a full time Director for Industrial Liaison and Placement who coordinates the placement activities.

Other than this, each institution has separate faculty coordinator for placement activities, who will arrange group discussions/mock interviews etc. for students by faculty and external experts.

This support has led to robust placement performance an example of which is seen in the engineering discipline:

Engineering

Year	Number of students placed	Major companies
2010-11	1428	Tata motors, ONGC and all the previous and many new: Total 73 companies
2011-12	1607	Total 84 companies
2012-13	724	Total 90 companies
2013-14	1015	Total 112 companies



Other disciplines like Information sciences and Pharmacy has also witnessed significant improvements in placement performance.

Alumni Cell

With the intention of strengthening alumni activity, institutional alumni cell has been set up in each unit of University. MAHE alumni affairs office has been set up with “STTAR” (Service, Teaching, Training, Administration and Research) as its core principles. The alumni portal will help both the University and the alumni to get in touch with each other. The alumni can get information about the University, fellow students, juniors, conferences, alumni meets, featured alumni, success stories of alumni using this portal.

The Alumni Centre is built with two important objectives.

- Increase in database of the alumni year on year
- Increase the number of guest lecturers/seminars by the alumni

The total alumni base for the year ended 2014 is 1, 12,655.

Alumni Cell has different modes of networking to keep in touch with MAHE alumni. It may be broadly divided as formal and informal methods.

Formal – Visit the alumni at various places, request them to fill up the proforma and update their profile, inviting them as guests for important functions, conducting alumni meet at various places and make them aware of the recent developments.

Informal – Sending greetings to them as a public relation activity through e-mail and letters, attending the functions of the alumni on invitation, collecting the press-release details related to our alumni and sending appreciations etc.

Grievance Redressal Mechanism

University has a grievance redressal mechanism as per UGC guidelines with provision for ombudsman.

Grievance committee for Sexual harassment has been constituted at University. This committee recommends appropriate action on grievances pertaining to sexual harassment from staff and students of University and the constituent units. The committee will submit the report on such grievances, if any, to the Vice Chancellor, for further action.

Anti-ragging Cell

University has a Monitoring Cell on Ragging comprising following officials as its members:

Director, Student Affairs, MAHE, Manipal	Chairperson
Deputy Director, Students (Health Sciences), MAHE, Manipal	Member
Deputy Director, Student Affairs (Technical), MAHE, Manipal	Member
Deputy Director, Student Affairs, MAHE, Mangalore Campus	Member
Chief Warden, MAHE, Manipal	Member
Chief Security Officer, MAHE, Manipal	Member
Associate Director, Student Welfare & Hostels, MIT, Manipal	Member
Chief Warden, MIT, Manipal	Member
Chief Warden, Mangalore Campus	Member
Heads of Institutions concerned	Member

Five cases of ragging were reported during the last four years 2011 - 2014. Enquiries were conducted and disciplinary actions were taken.

Feedback from stakeholders:

Feedback from all the stake holders like students, faculty members, parents, heads of institutions, industries visiting the campus for placement etc. are taken and based on this actions are taken to elicit cooperation of all stake holders to ensure overall development of the students.

5.2 Student Progression

The progression of the students is governed by the rules and regulations of the respective accrediting bodies. By and large, on an average 90% students complete their programme in the stipulated period.

PhD programme:

Details of Ph. D thesis submitted/accepted/resubmitted/rejected

Year	Submitted	Accepted	Resubmitted	Rejected
2011	68	68	**	Nil
2012	52	52	**	Nil
2013	66	66	**	Nil
2014	90	90	**	Nil
Total	276	276	**	Nil

** We do not have the data separately for resubmission as revision & resubmission are part of the evaluation process

5.3 Student Participation and Activities

- Inter-class cultural and sports activities at college level
- Inter-college cultural activities at the University level – USTAV has 31 events for the students to participate
- Inter-college Annual Sports Competitions are held in 13 events

Cultural Activities

- SPIC MACAY programmes
- GUNJAN – forum for artists and art lovers, which will organize chamber concerts of budding talents within the campus

Special drives/campaigns for students to promote heritage consciousness

Various festivals like Diwali, Dussera, Onam, Independence Day, Republic day and other festivals like Ramadan, Christmas etc. are organized within the campus, wherein students participate in traditional attire and celebrate the festivals traditionally. In addition, the foreign students celebrate their national days in the campus.

Student Publications

- Competition will be conducted to select articles for wall magazine
- Every year college magazine is published by an Editorial Board consisting of both students and faculty members
- Regular news bulletins are published by the students during various festivals like Tech Tatva and Revels
- Weekly news letters covering local and regional news

Student council:

University as such does not have a Student Council. However, every college/institution has its own student council.

Criterion – VI : Governance and Leadership

6.1 Institution Vision and Leadership

In line with the vision of University, i.e., “Global leadership in human development, excellence in education and healthcare”, the ‘leadership’ is committed towards continual improvement, sustained growth and development of culture for quality. The leadership of the ISO certified, self-financing, deemed-to-be-university in the private sector, is guided by the principle of sound judgment, effective communication and setting standards and benchmarks in quality education and administration, always striving to excel for stakeholder / customer satisfaction. In this regard, University had approached QS Intelligence Unit for benchmarking its services.

The Board of Management comprises of individuals who excel in their respective fields. The Organization structure incorporates various committees, viz. Advisory committee, Academic Senate, Planning and Monitoring committee, Finance committee, Selection committee, Board of studies, Grievance committee and the Executive committee. The Board of Management meets at least three times a year and the Academic Senate meets thrice a year. The finance committee meets at least twice a year.

University encourages participatory management by involving the stake holders at all levels. Through departmental meetings, Staff Council meetings, Board of Studies meetings, the University facilitates the internal sharing of ideas in a democratic manner, encouraging maximum participation from faculty members.

The tuition fee for students is fixed on the recommendation of the Committee of Experts appointed by the University which is headed by a retired high court judge and includes UGC representative. While fixing the fees the committee takes into account the various inputs required, non-recurring and recurring expenditure, so as to maintain high standards in programmes and disciplines.

The overall administrative activities, operational issues and the overall control of constituent units are under the university leadership for all decision making purposes. Hence, all issues such as planning, strategic developmental issues, academic issues, administrative issues and financial control are vested with the university, under various and appropriate committees. However all constituent units of University have functional autonomy to carry on with the academic and administrative activities to ensure the vision and mission of the university and the institution are achieved.

University has initiated a focused, customized and robust ‘Leadership Transformation Programme’ for the Heads of Institutions of its constituent units to enhance their leadership capabilities. This programme is being conducted in association with a global human resource management consulting firm - Performance Consulting International (PCI), Bangalore, focused on building the performance capabilities and tangible results of the organization.

University has developed strategies for proactive knowledge management and dissemination system. Following values professed by NAAC are reflected in the functioning of University:

Contributing to National development:

University follows transparent admission process with focus on merit. Its programmes are innovative in nature and cater to the needs of all stakeholders. With our students coming from all over India and who settle in different parts of the country after their graduation, we feel we have contributed to the educational advancement of those regions where our graduates are going to settle down in their professional career. University has set up allied universities in Jaipur and Sikkim and a proposal is in progress for setting education institution in Jharkand. With our collaboration with Manipal Health Enterprises Pvt. Ltd., a corporate body which is running many hospitals in India, we are also contributing to the healthcare services to the people in the regions where these hospitals are located.

Fostering Global competencies:

With the excellent educational standards in our institutions, the students are able to effectively face the challenges of the competitive world by developing growth-oriented competencies. University has managed to send more than 300 students each year to various countries through AIESTE/AIESEC on exchange mode on technical and life-changing internship experience.

Inculcating a sound value-system among students:

All values are in built in all the process of University, right from admissions, teaching learning, curriculum design, examination etc. and thereby reinforcing and inculcating sound value system among students. The University strives in the all-round development of its students through a holistic approach rather than restricting to the academic activities. Towards this end, the University has created required infrastructure, facilities including appropriate human resources.

Promoting use of technology

University has innovatively used technology in the following processes:

- Admissions
- Marketing
- Administration
- Classroom and Teaching
- Evaluation
- Placements
- Alumni Centre etc.

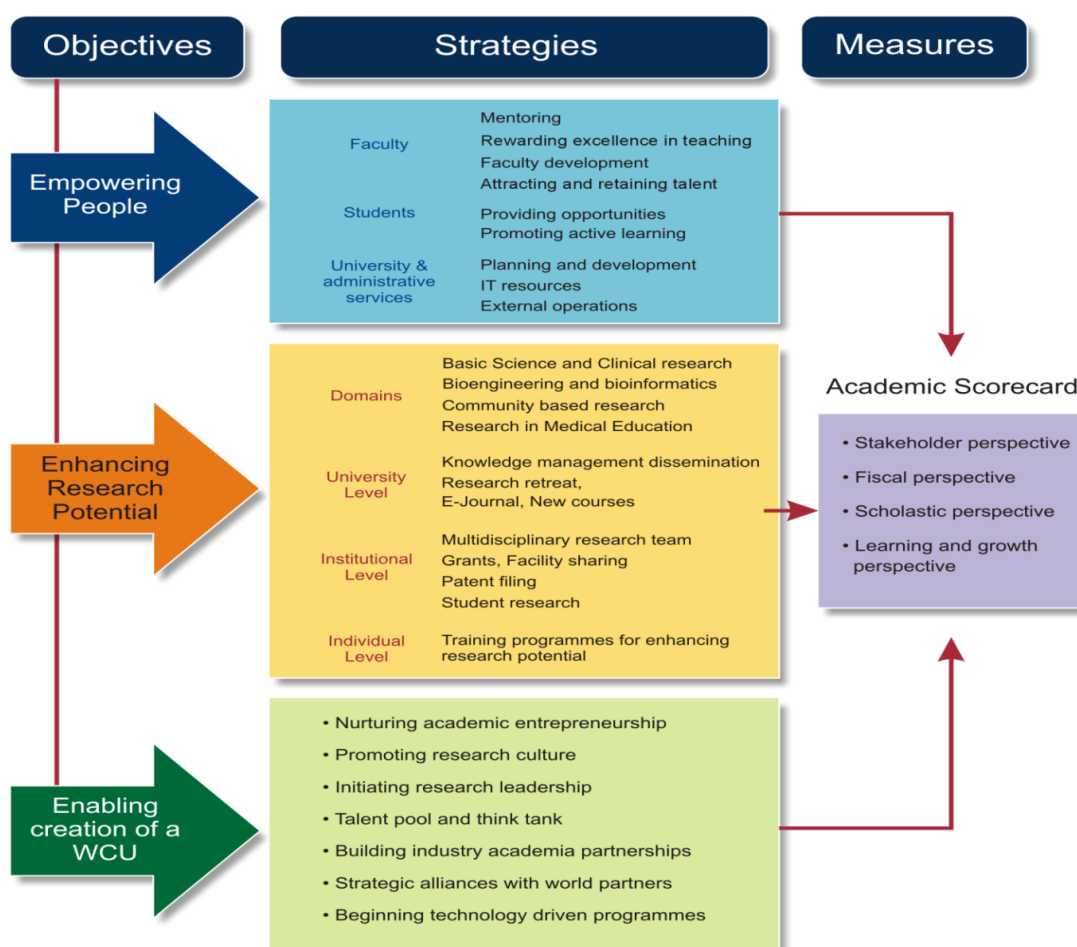
Quest for Excellence:

Following are some of the successful outcome for University’s Quest for excellence:

1. IMC Ramakrishna Bajaj National Quality Award 2007
2. International Asia Pacific Quality Award 2008
3. ISO Certification – 9001:2008 & 14001:2004
4. Golden Peacock Environment Management Award 2012, 2013 & 2014
5. QS Benchmarking etc.

6.2 Strategy development and deployment

The Strategic Plan Framework of University



University has Quality and Environmental policies in place to drive the quality management system and environment management system.

It has identified measurable parameters related to quality and environment which are reviewed in the management review meetings. Constituent units align their objectives with the University objectives and these are reviewed by University administrators in different meetings.

University has a grievance redressal mechanism in place to address grievances of students and employees. It is also to be noted that the University has appointed an Ombudsman as per UGC guidelines.

University gets feedback from students every year. This feedback is taken through online and analyzed and the report is submitted to top management. Top management will discuss the analyzed feedback report and forward the same to the concerned unit / departments for necessary actions. Any concerns expressed over the curriculum will be discussed at department level and escalated to Board of studies for appropriate measures.

Based on the feedback, following improvements were carried out in the recent past:

- The University has started Food Court to cater to the needs of all types of tastes.
- Air conditioned hostels have been constructed to provide better amenities to the student group including internet and telephone facilities.
- Centrally air conditioned lecture halls have been provided.
- Library has been provided with wi-fi connectivity and online access to books and journals. And also the library is kept open for longer hours to facilitate the learning process.

Continuously increasing the number of applicants both from India and abroad for various programs reflects the students / parents satisfaction with the programs offered by the University.

University has started academic audit of its constituent units to ensure high standards in the academic process. It is proposed to have these audits every year.

6.3 Faculty Empowerment Strategies:

1. Training and Development

University has a centre for professional and personnel development, which organizes various training programs for both teaching and non-teaching staff. Apart from this, major institutions have their own continuing education departments, which will update their faculty members with their training programs regularly.

2. Performance Assessment System:

An effective and well managed performance appraisal system helps the individuals and managers to achieve goals and targets successfully with minimal supervision. MAHE performance appraisal system has three aspects:

A. Individual Performance Objectives which includes:

- Academic Activities
- Research / Publications

- University /Community Service
- Faculty Behavior / Conduct
- Recognition /Participation in National & International conference

B. Competency Assessment

C. Student's Evaluation: At the end of every semester / year the department head gets the student's feedback regarding the faculty members. The scores obtained by each staff will be incorporated in the performance assessment sheet.

Faculty members are graded designation wise as A++, A+ and A. Performance incentive is linked to the grade obtained by the faculty member.

3. Staff Welfare schemes

All the faculty members and non-teaching staff are eligible for various welfare schemes that are introduced by University periodically. Some of the welfare schemes available are as under-

- Faculty accommodation / HRA facility in lieu of accommodation
- Earned leave encashment facility
- Healthcare – Medicare facility to all the employees and dependants
- Leave travel concessions
- Research incentives/awards for faculty research and scientific publication
- Financial support to participate in conferences
- Interest subsidy on housing loan
- Incentives for excellence in teaching and research
- Dr. TMA Pai Gold Medal for outstanding research
- Incentives for preparing e-learning materials
- Partial reimbursement of children's educational expenses
- Scholarship to employees' children and spouse for higher / professional education
- Subscription to professional societies
- Laptops to all the faculty members
- Group insurance scheme (50 lakhs for Faculty & Management staff and 10 lakhs for other non-teaching staff members)
- Statutory/mandatory scheme subscription (PF/FPF/Insurance/Gratuity)

6.4 Financial Management and Resource Mobilization

- Well before the financial year starts, the HoIs submit their budget proposals (capital and operational) to the Director Finance.
- The Director Finance consolidates the requirements of all constituent units.
- Over a period of two days, the top management holds budget meetings with each individual HoI.
- After due deliberations and considering the available resources, allocations are made to each of the units.
- The HoIs in turn communicate to respective heads of the departments of the units.
- Once the allocations are made, the HOI is authorized to implement the budget proposals.

The accounts are audited annually by a statutory auditor (external), who examines the accounts for the year. BoM / Financial Committee appoint the external auditors.

As a self-financed university, resource mobilization is primarily through fee collection. Other forms of resource mobilization are:

- Hospital Income
- Research Grant
- Consultancy Services
- Donations
- Endowments etc.

University encourages its faculty to apply for research grants and also to render consultancy work. University also approaches the philanthropists and alumni for donations / institute awards, scholarship etc.

6.5 Internal Quality Assurance System

Academic Audit

Academic audit is conducted in various constituent units. The in-house audit team will visit the respective institution and verify the following in compliance with the accrediting body requirements:

- Admissions
- Infrastructure and resources
- Teaching-learning process including evaluation
- Innovation / best practices in teaching – learning process
- Research
- Academic exchanges
- Other requirements

Internal Quality Assurance Cell (IQAC):

University has a quality and compliance department which takes care of the issues related to the quality and compliance with the requirements of the regulatory bodies. Most of our institutions are ISO 9001:2008 and ISO 14001:2004 certified. University has a committed internal auditors' pool, which will audit their allotted area on the basis of documented objectives and targets of the department and submit the reports for the appropriate action. These observations / non conformances are reviewed by the respective process owner / head of the department / head of the institution and required correction / corrective actions are taken. If the correction / corrective action could not be taken within the department, same will be discussed in the management review meeting. Matters unresolved are further forwarded to the top management review meeting at the university level for decision by the top management.

Institutional Performance Review

Management Review Meetings periodically review the performance of the administrative and academic units of the University.

Criterion – VII: Innovative Practices

7.1 Environment Consciousness

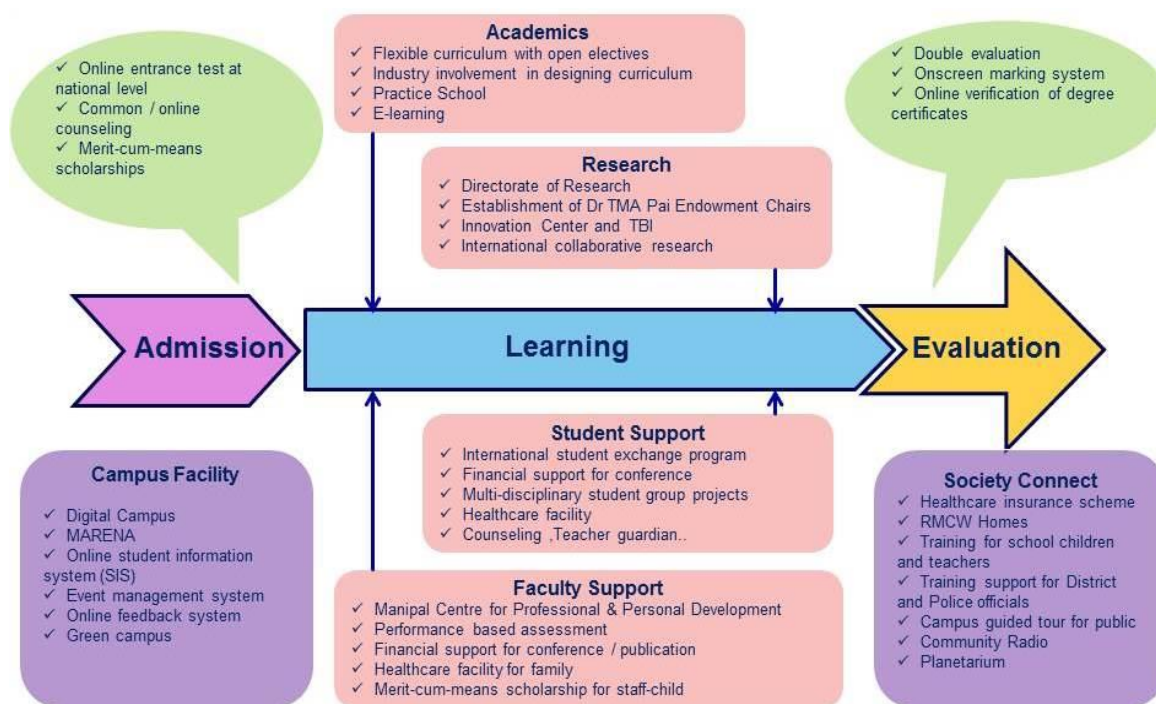
Innovation has been the foundation on which Manipal was born, with late Dr. TMA Pai setting up the first self-financed medical college through PPP model in 1953, which has grown over the years to five campuses, nine colleges and six schools today. University has always been a role model for most private enterprises in education. It has always believed that the physical environment is as important as the core curriculum for creating a scholarly academic ambience. Its history can be summed up as a series of innovations over the last six decades.

University is certified for ISO 14001:2004 Environmental Management System. Internal audits are conducted by trained auditors to assess conformity to ISO 14001 Environment Management System. Additional annual third-party audits are conducted by the certifying agency to assess conformity and continuation of certification. In recognition of the above, the Institute of Directors has awarded the Golden Peacock Environment Management Award for the years 2012, 2013 and 2014. University is also ranked second (overall category) in India for its Environmental Management System by UI Green metric Survey and first in the suburban category. To make the campus eco-friendly, University has taken following initiatives

- Energy conservation: University has taken measures like up-gradation of air-conditioning systems, use of solar heating and reduction of maximum demand and power quality improvement measures
- Use of renewable energy: Solar Water Heaters
- Rain water harvesting
- Hazardous waste management: safe disposal of hazardous and bio-medical wastes
- E-waste management
- Vermi-composting

7.2 Innovations

Over the last few years, the University made a number of innovations in the areas of academics, administration and environmental management. The following diagram depicts the various innovations and also explains the campus facilities and the society connect established by the University.



Environment innovations:

An in-house vehicle emission testing facility approved by Government of Karnataka, has been established where services are provided at subsidized rates for the vehicles of all staff, students and public. This encourages voluntary compliance of emission testing that facilitates pollution under control.

The University has established an air monitoring laboratory which has capabilities to monitor ambient air quality as well as stack emissions within the campus. This is in addition to the water quality monitoring being carried out for various waste water treatment plants in operation within the campus and constituent teaching hospitals. The University is in the process of replacing its diesel generator sets which will minimize the sound pollution.

7.3 Best Practices

University has a number of best practices which facilitated in maintaining high standards in the academic process and transparency in the administrative process. A few of them are explained below:

1) Online Entrance Exam

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 exams.

Based on feedback from different stakeholders and as a part of continuous improvement process, University has adopted the system of online entrance exam. In this direction, it is availing select services of an external agency for conducting its entrance exams. 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 exam process.

Prior to 2005, the system of conducting on-line entrance examination by the higher educational institutions in India was nonexistent. For the first time University introduced the system of online entrance exams for its postgraduate aspirants of all the professional programmes in the year 2005. University has the unique distinction of implementing on-line entrance exams for almost all of undergraduate and postgraduate programmes of the University. The introduction of the on-line entrance exam has reinforced objectives of University through its innovative strategy and quality management features as follows:

- Strict adherence to Quality Management of the online entrance exam process reduces defects and cycle times in support functions, thereby reinforcing effective and efficient use of available resources.
- Quality management of entrance exam also helps University to deliver unbiased, value based and student-centric service in admission procedures
- Online entrance exam 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 of indicators such as the number of applications sold and the number of candidates appeared for undergraduate and postgraduate entrance exams. The trends in these aspects since 2007, have been very encouraging. On introduction of online entrance exams, a significant improvement in the student base and the number of applications has been registered.

2) Manipal Centre for Personal and Professional Development

In the year 1985, Medical Education Department was established at Kasturba Medical College, Manipal. In the year 2011, its activities got expanded and converted into Manipal Center for Professional and Personal Development (MCPD). Over the years, a need was felt to have an internal faculty development centre to build up the competencies of the newly joined and younger faculty members and enhance their capabilities to impart education using latest pedagogies. The Centre has a vision to empower the students, faculty members and non-academic staff of all the constituent units of University. MCPD looks forward to inculcating civic responsibility among students and staff which would help in nation building.

SWOC Analysis

3) Directorate of Research

Directorate of Research was established in University in 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. The Directorate conducts training programs for faculty member to orient them to apply for grants. Workshops on research methods, ethics in research etc., are conducted besides tracking the progress on projects with grants using Unique Tracking Number (UTN) and providing leads to researchers.

4) Waste Water Treatment for reuse

As water is a basic necessity for functioning of a society it becomes imperative that the resource is protected and nourished, more so in today's context of water scarcity across geographies. Being a private university and located in an area without public infrastructure capable to cater to the needs of basic sanitation, created an environment where the University had to pioneer in setting up an underground drainage system to collect waste water generated. This is then used for creating green spaces in the campus, hence turning waste into a resource. The entire sewage generated in the campus today is reused in arboriculture. The green cover development has led to an improved ambience for teaching and learning process. The entire gardening activity in the campus does not use a single drop of fresh water, hence conserving the resource. This is visible evidence for one to see as one enters the campus. Further initiatives are in progress where treated sullage water is going to substitute fresh water used in cooling towers of air conditioners apart from the flush systems currently practiced. All treatment systems comply with the norms set up by the Pollution Control Board and constant monitoring through chemical and biological analysis in the in-house laboratory keeps a check on water quality. Frequently, samples are also collected by the authorities to check compliance to the laid-down limits and these are found to be satisfactory.

1	Curricular Aspects	Strengths	Weakness	Opportunities	Challenges
1.1	Curriculum Design and Development	Strong Curriculum Design and Development Process. Syllabus updated on periodic basis based on inputs from different stakeholders.		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 and 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 through the demonstration of skills and knowledge acquired in the teaching learning process.	Implementation of the process in all streams.		
3		Research, Consultancy and Extension	Strengths	Weakness	Opportunities	Challenges
	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 equipment / machinery is available.	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 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 expertise 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	Limited translation of MoUs into implementation.	Several more opportunities are available to collaborate with	Restricted freedom due to the regulations.

			India/abroad in diverse areas of research.		industry / academic institutions in India / abroad.	
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 and Support	Strong mentoring/counselling support at institution level and University level monitored by the Director - Student Affairs	Disconnect between the decision making and implementing. Lack of optimal utilization of counselling facility by students	Student involvement in decision making process for better acceptance.	With growing student 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.
6	Governance, Leadership and Management	Strengths	Weakness	Opportunities	Challenges
6.1	Institutional vision and leadership	All constituent units are focused on University vision. Strong leadership supports the progress towards achieving the vision		With expansion in the form of off campus and offshore campuses, there 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 System	University is ISO 9001:2008 certified for 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	Storage and retrieval of data during the transitional phase from paper to digital information system	Strong documentation maintained as a 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	To comply with the frequently changing regulations
7	Innovations and Best Practices	Strengths	Weakness	Opportunities	Challenges
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	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	Compliance to requirements of EMS has led to rationalizing of resources like paper, electricity and water and with growing student strength this becomes	To fulfil the expectations of the Pollution control Board.

			ranking. University is ISO 14001:2008 Certified by TUV Rheinland	environment conscious	very critical, as every unit of resource saved is equivalent of resource created	
7.2	Innovations	University has several examples of innovations in its processes, which includes the process of examination, counselling, infrastructure development, environmental management, teaching-learning etc.	Effective implementation of the innovations	With availability of multi-disciplinary faculty members, more innovative projects can happen in the university and the same can be shared with its off campuses and off shore campuses.	Effective implementation of multi-disciplinary approach for better 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		

1. Name and Address of the University

Name:	MANIPAL ACADEMY OF HIGHER EDUCATION (MAHE)	
Address:	manipal.edu, Madhav Nagar	
City: Manipal	Pin: 576104	State: Karnataka
Website: www.manipal.edu		

2. For communication:

Designation	Name	Telephone with area code	Mobile	Fax	Email
Vice Chancellor	Dr H Vinod Bhat	O: 0820-2922615 R: 0820-2922465	98450 69081	0820-2570062	vicechancellor@manipal.edu
Pro Vice Chancellors	Dr Surendra V Shetty Dr. Abdul Razzak M. S.	O: 0824-2422653 R: 0824-2421133 0060 6 2925849 Extn. 1007	98455 43467 0060 126121717 0060 196623737	0060 6 2817977	provc.mlr@manipal.edu razzak@manipal.edu.my
Registrar	Dr Narayana Sabhahit	O: 0820-2922323	90080 10428	0820-2570062	registrar@manipal.edu
Steering Committee / IQAC Co-ordinator	Dr Pradeep G	O: 0820-2922532	98805 30609	-do-	pradeep@manipal.edu

3. Status of the University:

State University

State Private University

Central University

University under Section 3 of UGC (Deemed University)

Institution of National Importance

Any other (please specify)

√

4. Type of University:

Unitary

√

Affiliating

5. Source of funding:

Central Government

State Government

Self-financing

√

Any other (please specify)

6. a. Date of establishment of the University: 01/06/1993

b. Prior to the establishment of the University, it was a

- i. PG Centre Yes No
- ii. Affiliated College Yes No
- iii. Constituent College Yes No
- iv. Autonomous College Yes No
- v. Any other (please specify)

If yes, give the date of establishment: 30/06/1953 – First college – Kasturba Medical College, Manipal was established.

Year of establishment of all the colleges / schools and off shore campuses are given below.

Sl#	Institutions	Estd
1	Kasturba Medical College, Manipal	1953
2	Kasturba Medical College, Mangalore	1955
3	Manipal Institute of Technology, Manipal	1957
4	Manipal College of Pharmaceutical Sciences, Manipal	1963
5	Manipal College of Dental Sciences, Manipal	1965
6	Welcomgroup Graduate School of Hotel Administration, Manipal	1986
7	Manipal College of Dental Sciences, Mangalore	1987
8	Manipal College of Nursing, Manipal	1990
9	School of Communication, Manipal	1997
10	Melaka Manipal Medical College – Manipal Campus	1997
11	School of Information Science, Manipal	1998
12	School of Allied Health Sciences, Manipal	1999
13	School of Management, Manipal	1999
14	Melaka Manipal Medical College – Melaka Campus	2000

15	MAHE Dubai Campus	2003
16	School of Life Sciences, Manipal	2006
17	School of Regenerative Medicine, Bangalore	2007

7. Date of recognition as a University by UGC or any other national agency:

	Under Section	dd	mm	yyyy	Remarks
i.	2f of UGC*				
ii.	12B of UGC *				
iii.	3 of UGC #	01	06	1993	
iv.	Any other ^ (specify)				

* Certificate of recognition enclosed as per **Enclosure 1**.

Enclose notification of MHRD and UGC for all courses/programmes/campus/campuses.

^ Enclose certificate of recognition by any other national agency/agencies, if any.

8. Has the University been recognized

a. By UGC as a University with Potential for Excellence?

Yes No

If yes, date of recognition: (dd/mm/yyyy)

b. For its performance by any other governmental agency?

Yes No

If yes, Name of the agency and

date of recognition: (dd/mm/yyyy)

9. Does the University have off-campus centres?

Yes No

	Mangalore campus	Bangalore Campus
If yes, date of establishment:	01/06/1993	08/04/2002
Date of recognition:	01/06/1993	08/04/2002

10. Does the University have off-shore campuses?

Yes No

	Dubai campus	Malaysia Campus
If yes, date of establishment:	September 2003	May 2000
Date of recognition:	08/04/2002	08/04/2002

11. Location of the campus and area:

	Location *	Campus area in acres	Built up area in sq. mtS.
i. Main campus area	Urban - Manipal	641.81	6,73,906.85
ii. Other campuses in the country	Urban-Mangalore	41.985	1,56,887.0015
	Urban - Bangalore	7.19	53,691.92
iii. Campuses abroad	Urban – Dubai	12.00	36455.70
	Urban - Melaka	19	65347

(* Urban, Semi-Urban, Rural, Tribal, Hilly Area, Any other (please specify))

If the University has more than one campus, it may submit a consolidated self-study report reflecting the activities of all the campuses.

12. Provide information on the following: In case of multi-campus University, please provide campus-wise information.

- Auditorium / seminar complex with infrastructural facilities

Campus	Numbers	Facilities
1. Manipal Campus	11	PA system, LCD, Green rooms etc.
2. Mangalore campus	1 *	PA system, LCD, Green rooms, Dining hall, Parking area, elevators, lobby area etc.
3. Melaka Campus	1	PA system, LCD, Green rooms, Dining hall, Parking area, elevators, lobby area etc.
4. Dubai Campus	1	PA system, LCD, Green rooms etc.

* Dr TMA Pai International Convention Center, Mangalore

- Sports facilities

Manipal Campus

Playground	1. Athletic field – 1 2. Cricket fields – 2 3. Football fields - 2 4. Hockey fields – 2 5. Volleyball courts – 4 6. Basketball courts – 4 7. Throw-ball courts – 2 8. Tennis courts – 8 (clay - 4 and synthetic – 4)
Swimming pool	One at MIT
Gymnasium	1. KMC Multi – Gym 16 Station 2. Weight Training sets 3. MIT – gymnasium
Any other (please specify)	Badminton court - MIT, Manipal Table-tennis hall at MIT hostel Aerobic hall at MIT Indoor Chess and Carom facilities MARENA In-door sports complex*

* MARENA In-door sports Complex

MAHE provides state-of-the-art sports infrastructure for in-door and out-door games.

MARENA with a built up area of 1,46,132 square feet is a world-class in-door sports complex with state-of-the-art facilities, which is open for both students and staff.

Facilities available

- a) Entry Level: Gymnasium, Cafeteria, Sports Shop
- b) First Floor: Walking/Jogging Track
- c) Level Minus-1: Sauna, Steam Bath, Change Rooms, Lockers
- d) Level Minus-2: Badminton Courts(5), Squash Courts(4)
- e) Level Minus-3: Basketball Court
- f) Level Minus-4: Services
- g) Level Minus-5: Cricket, Football, Simulated Games
- h) Besides above, there are Tennis Courts at open-to-sky areas

Mangalore Campus

Playground	<ol style="list-style-type: none"> 1. Football ground – 1 2. Volley Ball court – 1 3. Basketball court with flood-lit facilities – 1 4. Cricket Net practice pitches – 3
Swimming pool	Nil
Gymnasium	Available at MARENA Mangalore
Any other (please specify)	There is an in-door sports complex named MARENA Mangalore spread over 4.45 acres and a built up area of 74,250 sq. ft with the facilities same as available at MARENA Manipal

Melaka Campus

Playground	<ol style="list-style-type: none"> 1. Football ground 2. Volley Ball court 3. Basketball court 4. Cricket Nets 5. Squash 6. Netball court 7. Hockey 8. Futsal 9. Badminton
Swimming pool	One
Gymnasium	Available
Any other (please specify)	Sauna

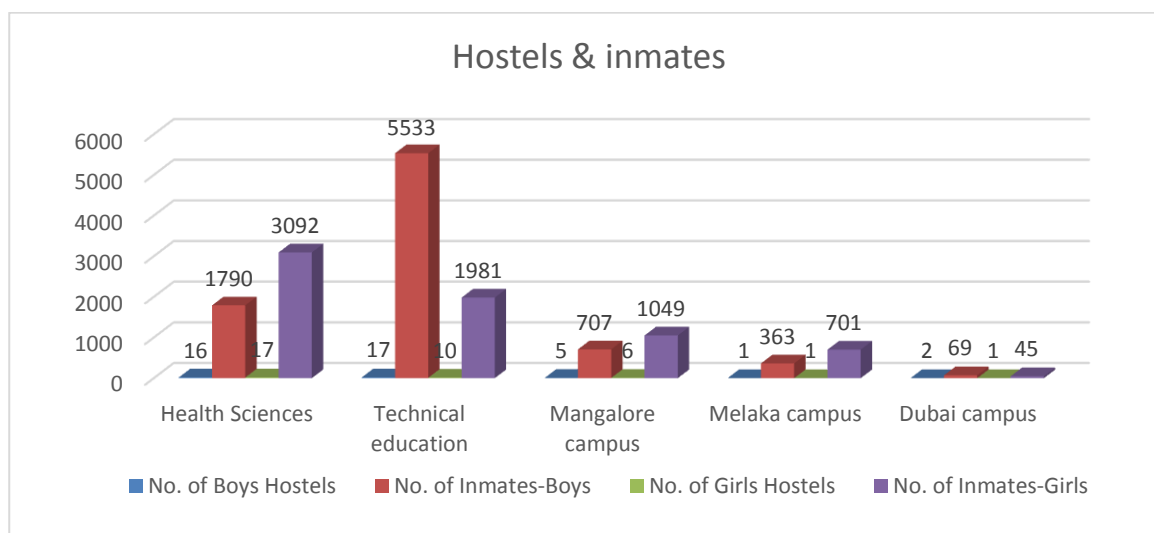
Dubai Campus

Playground	50000 sqft of out-door sports facility includes a full-size basketball court, volley ball court, 2 badminton courts, tennis court, futsal court and the 250 meter running track
Swimming pool	No
Gymnasium	Available
Any other (please specify)	A large 15000 sqft indoor sport facility with gym and activity rooms are provided

- **Hostel**

Manipal Campus (Health Sciences area)

Location	Boys Hostel		Girls Hostel		Total	
	No. of Hostels	No. of Inmates	No. of Hostels	No. of Inmates	No. of Hostels	No. of Inmates
Manipal campus						
a. Health Sciences	16	1790	17	3092	33	4882
b. Technical education	17	5533	10	1981	27	7514
Mangalore campus	5	707	6	1049	11	1756
Melaka campus	1	363	1	701	2	1064
Dubai campus	2	69	1	45	3	114
Grand Total	41	8462	35	6868	76	15330
Facilities available	<ul style="list-style-type: none"> • Cot for each student • Mattress for each student • Study table for each student • Chair for each student • Cupboard for each student • Uninterrupted electricity • Solar/electric-heated water facility, • Water cooler with filter • Common telephone/ TV room/ reading room • Hostel library • Gymnasium • Food court • Wi-Fi Internet facility • Night canteen • Mess facility • In-door games (carom, table tennis, chess etc.) 					



• Working women’s hostel: Yes. The staff nurses in the hospital are accommodated here.

- i. Number of hostels: **02**
- ii. Number of inmates: **500**
- iii. Facilities: Following facilities are available:
 - Cot mattress for each inmate
 - Mess facility
 - Cupboard
 - Uninterrupted electricity
 - Solar/electric-heated water facility,
 - Water cooler with filter
 - Common telephone/ TV room/ reading room
 - Washing machine facility

#	Parameters	Manipal	Mangalore	Bangalore	Dubai	Malaysia
1.	Residential facilities for Faculty and Non-Teaching	800	137	No	HRA facility is given	Available
2.	Cafeteria	Food Court Cafeteria - 4	2	Yes	Yes	Available
3.	Health Centre- Nature of facilities available – inpatient, outpatient, ambulance, emergency care facility etc.	KH Manipal	KMCH Attavar	MHB	Yes	Yes
4.	Facilities like banking, post office, book shops, etc.	Yes	Yes	Yes	Yes	Book shop available

5.	Transport facilities to cater to the needs of the students and staff	Buses - 29 Small and Medium - 44	Buses - 13 Small and Medium - 15	Buses - 1	Yes	Available
6.	Facilities for persons with disabilities	Yes	Yes	Yes	Yes	Yes
7.	Animal House	2	1	---	Not applicable	No
8.	Incinerator for laboratories	Yes	Out-sourced	Out-sourced	Yes	No
9.	Power House	Yes	Yes	Yes	Yes	Yes
10	Waste-management facility	Yes	Yes	Yes	Yes	Yes

13. Number of institutions affiliated to the University

No affiliated institutions. All are constituent institutions/ colleges / schools.

Type of colleges	Total	Permanent	Temporary
Arts, Science and Commerce	Nil	Nil	Nil
Law	Nil	Nil	Nil
Medicine (KMC Manipal, KMC Mangalore and MMMC Manipal)	03	03	Nil
Engineering (MIT Manipal and School of Information Sciences, Manipal)	02	02	Nil
Education	Nil	Nil	Nil
Management - (WGSMA Manipal and School of Management, Manipal)	02	02	Nil
Others (specify and provide details)			
Dental (MCOBS Manipal and MCOBS Mangalore)	02	02	Nil
Nursing (MCON Manipal)	01	01	Nil
Pharmaceutical Sciences (MCOPS Manipal)	01	01	Nil
Communication (School of Communication, Manipal)	01	01	Nil
Life Sciences (School of Life Sciences, Manipal)	01	01	Nil
Regenerative Medicine (School of Regenerative Medicine, Bangalore)	01	01	Nil
Allied Health Sciences (School of Allied Health Sciences, Manipal)	01	01	Nil

14. Does the University Act provide for conferment of autonomy (as recognized by the UGC) to its affiliated institutions? If yes, give the number of autonomous colleges under the jurisdiction of the University.

Yes No Number

15. Furnish the following information:

Particulars	Number	Number of Students
a. University Departments		
Undergraduate	--	--
Post graduate	--	--
Research centres on the campus	--	--
b. Constituent colleges/Schools	9 Colleges + 6 Schools + 2 off shore campuses	23,729
c. Affiliated colleges	NA	NA
d. Colleges under 2(f)	NA	NA
e. Colleges under 2(f) and 12B	NA	NA
f. NAAC accredited colleges		
g. Colleges with Potential for Excellence (UGC)	NA	NA
h. Autonomous colleges	NA	NA
i. Colleges/schools with Postgraduate Departments	8 Colleges + 6 Schools + 1 off shore campus	4713
j. Colleges with Research Departments	9 Colleges + 6 Schools + 1 off shore campus	917
k. University recognized Research Institutes/Centres	-	-

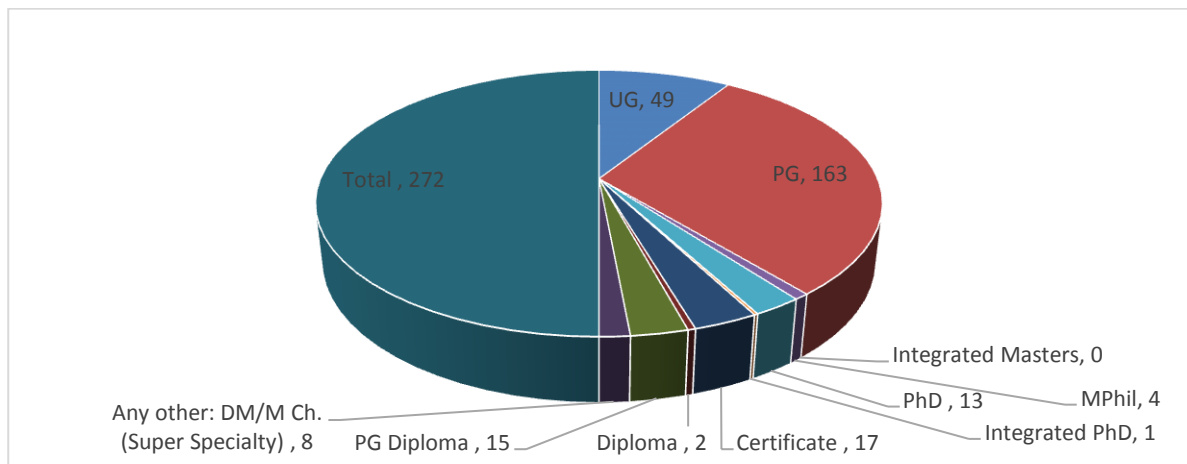
16. Does the University conform to the specification of Degrees as enlisted by the UGC?

Yes No

If the University uses any other nomenclatures, please specify.

17. Academic programmes offered by the University departments at present, under the following categories: (Enclose the list of academic programmes offered)

Programmes	Number
UG	49
PG	163
Integrated Masters	0
MPhil	4
PhD	13
Integrated PhD	1
Certificate	17
Diploma	2
PG Diploma	15
Any other: DM/M Ch. (Super Specialty)	8
Total	272



18. Number of working days during the last academic year 302 days

19. Number of teaching days during the past four academic years.

219 219 219 219

(‘Teaching days’ means days on which classes were engaged. Examination days are not to be included)

Teaching days vary in various colleges/schools, as the examination days differ from unit to unit. Hence, average of teaching days in all colleges has been given. However, University and its constituent units work on all days except Sundays and 11 public holidays.

20. Does the University have a department of Teacher Education?

Yes No

If yes,

a. Year of establishment (dd/mm/yyyy)

b. NCTE recognition details (if applicable)

Notification No.:

Date: (dd/mm/yyyy)

c. Is the department opting for assessment and accreditation separately?

Yes No

21. Does the University have a teaching department of Physical Education?

Yes No

If yes,

a. Year of establishment (dd/mm/yyyy)

b. NCTE recognition details (if applicable)

Notification No.:

Date: (dd/mm/yyyy)

c. Is the department opting for assessment and accreditation separately?

Yes

No

22. In the case of Private and Deemed Universities, please indicate whether professional programmes are being offered?

Yes

No

If yes, please enclose approval/recognition details issued by the statutory bodies governing the programmes.

Please refer **Enclosure 2** for approval / recognition details

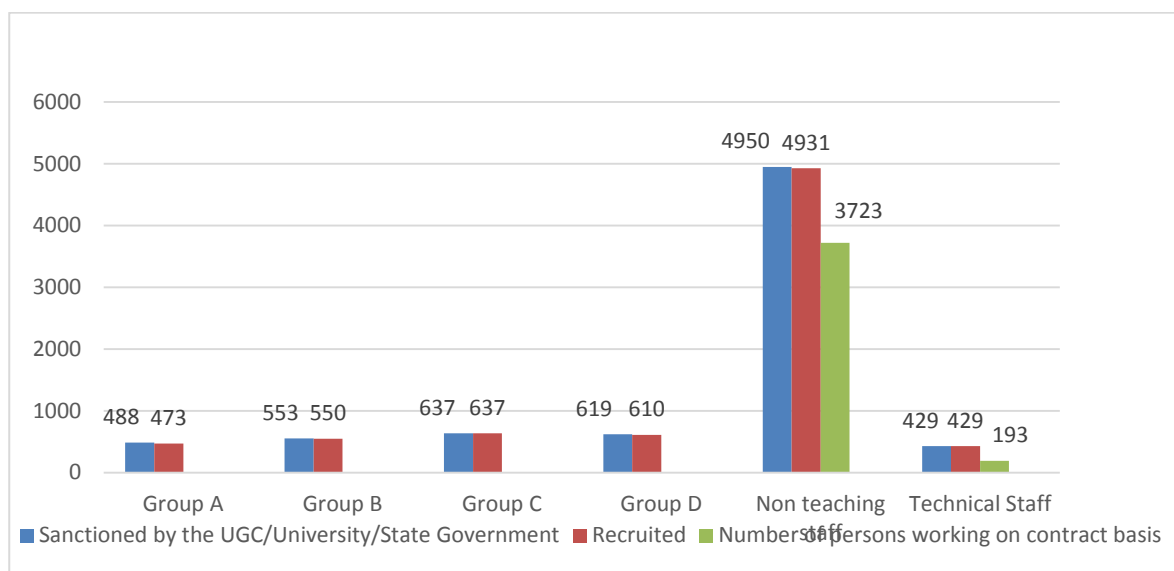
23. Has the University been reviewed by any regulatory authority? If so, furnish a copy of the report and action taken there upon.

Yes. University was reviewed by UGC Review committee during the year 2009. Report of the same along with action taken report can be seen in **Enclosure 3**. Apart from this, all the professional programmes are reviewed by the respective accrediting bodies.

24. Number of positions in the University

Manipal / Mangalore and Bangalore campuses

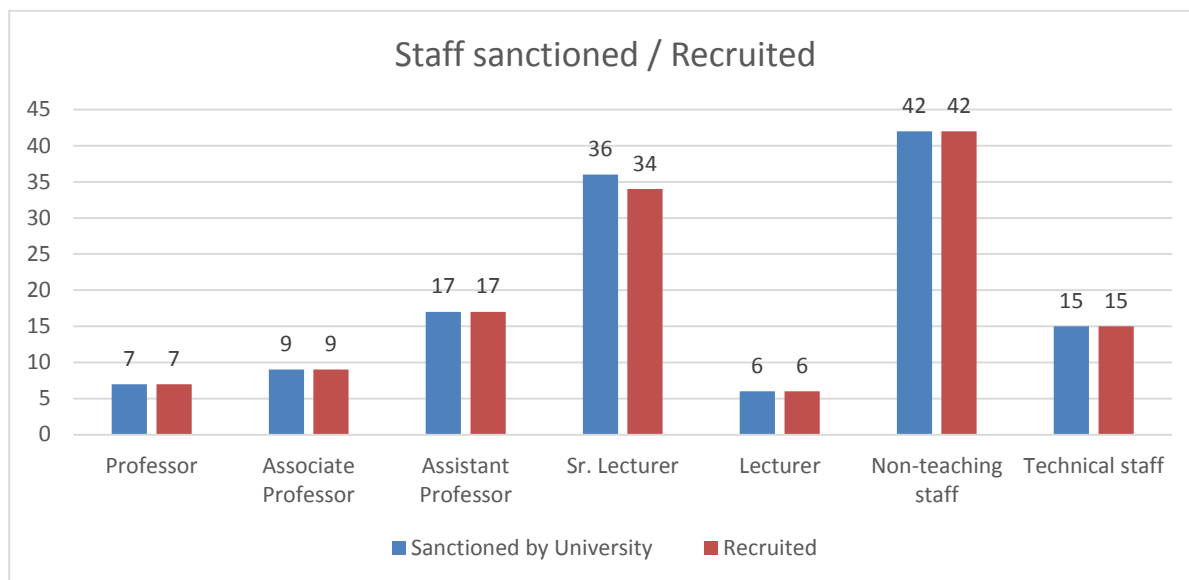
Positions	Teaching faculty				Non-teaching staff	Technical staff
	Group A	Group B	Group C	Group D		
Sanctioned by the UGC/University/State Government	488	553	637	619	4950	429
<i>Recruited</i>	473	550	637	610	4931	429
<i>Yet to recruit</i>	15	03	00	09	19	00
Number of persons working on contract basis	Nil	Nil	Nil	Nil	3723	193



Group	Designations
Group - A	Professor /Additional Professor/Associate Professor - Sr.Scale
Group - B	Associate Professor/ Selection Gr Lecturer/ Assistant Prof-SI Grade / Reader
Group - C	Assistant Professor / Assistant Prof-Sr Scale / Senior Resident /Reader(Dental)/Senior Gr Lecturer
Group - D	Lecturer / Assistant Professor / Speciality Medical Officer /Assistant Prof. on contract/Assistant Lecturer/Tutors /Junior Resident

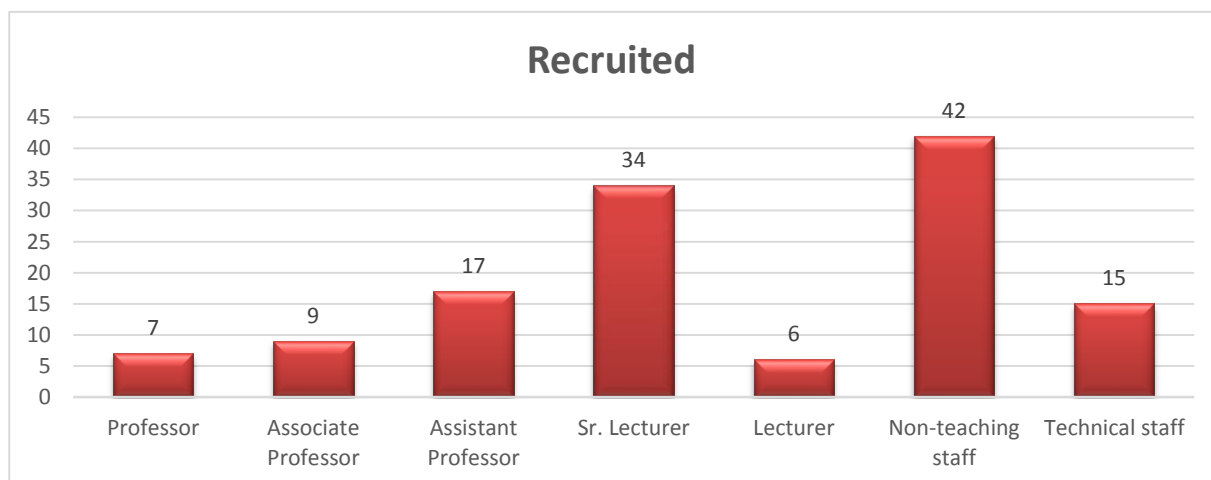
Dubai Campus

Positions	Teaching faculty					Non-teaching staff	Technical staff
	Professor	Associate Professor	Assistant Professor	Sr. Lecturer	Lecturer		
Sanctioned by the UGC / University / State Government	7	9	17	36	6	42	15
<i>Recruited</i>	7	9	17	34	6	42	15
<i>Yet to recruit</i>	0	0	0	2	0	2	0
Number of persons working on contract basis	-	-	-	-	-	-	-



Melaka Campus

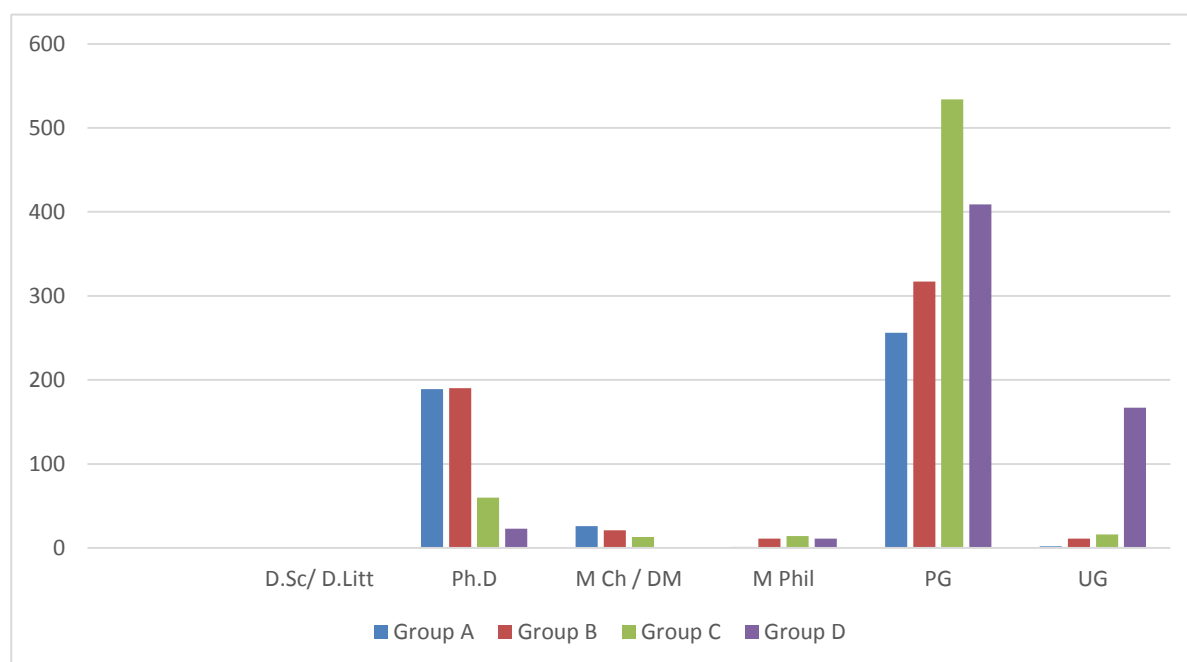
Positions	Teaching faculty					Non-teaching staff	Technical staff
	Professor	Associate Professor	Assistant Professor	Sr. Lecturer	Lecturer		
Sanctioned by the UGC / University / State Govt.							
<i>Recruited</i>	33	30	13	1	15	67	3
<i>Yet to recruit</i>							
Number of persons working on contract basis	28	29	13	1	2	8	



25. Qualifications of the teaching staff

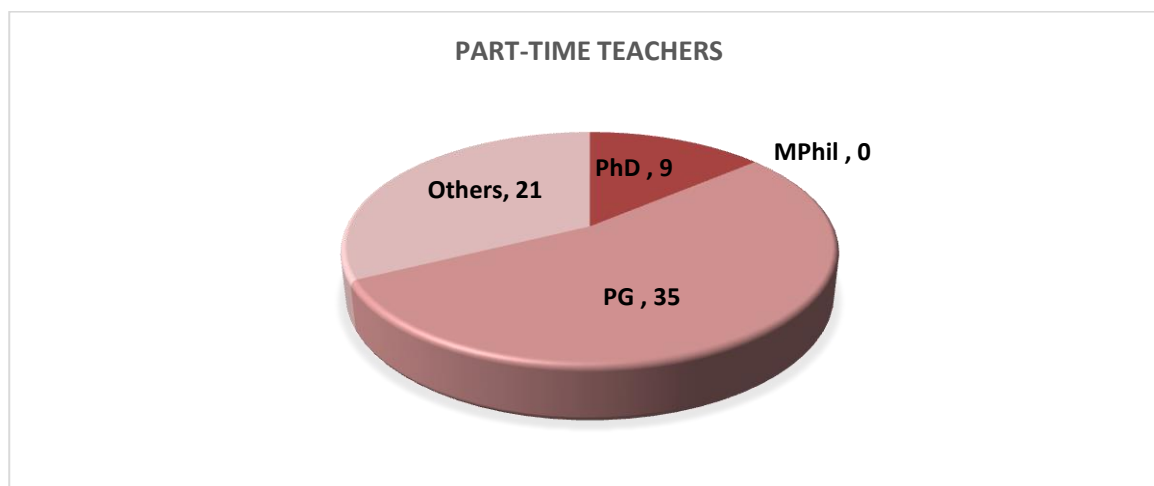
Manipal / Mangalore & Bangalore Campuses

Permanent teachers as on Dec. 31, 2014									
Highest Qualification	Group - A		Group - B		Group - C		Group - D		Grand Total
	Female	Male	Female	Male	Female	Male	Female	Male	
D.Sc/ D.Litt	0	0	0	0	0	0	0	0	0
Ph.D	49	140	63	127	15	45	6	17	462
M Ch / DM	2	23	0	21	2	11	0	0	59
M Phil	0	1	4	7	6	8	5	6	37
PG	89	167	124	193	207	327	207	202	1516
UG	0	2	3	8	6	10	108	59	196
Grand Total	140	333	194	356	236	401	326	284	2270



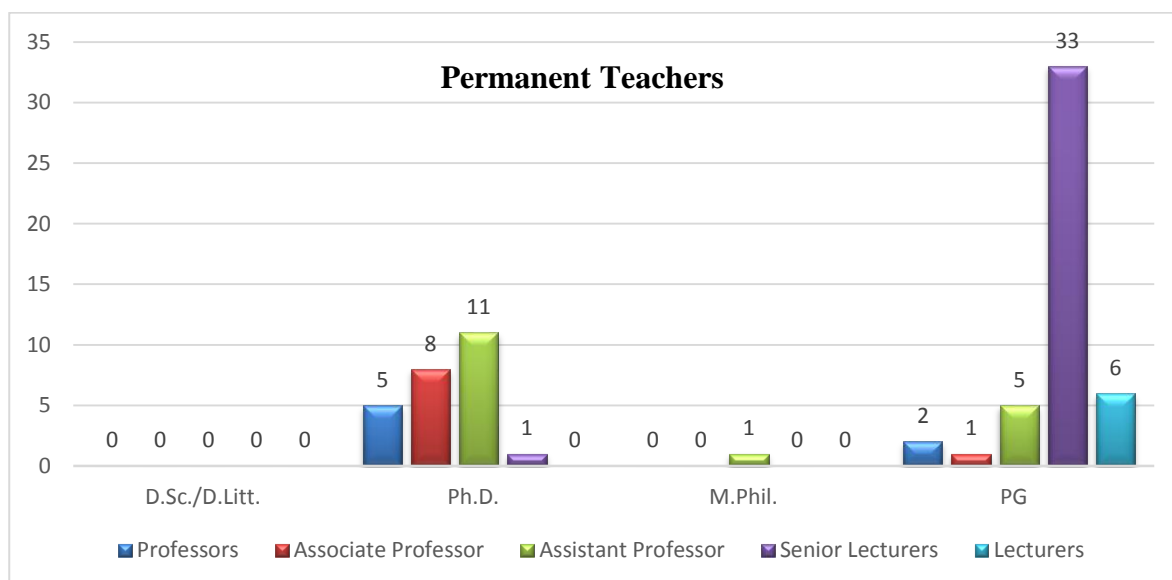
Group	Designations
Group - A	Professor /Additional Professor/Associate Professor - Sr.Scale
Group - B	Associate Professor/ Selection Gr Lecturer/ Assistant Prof-SI Grade / Reader
Group - C	Assistant Professor / Assistant Prof-Sr Scale / Senior Resident /Reader(Dental)/Senior Gr Lecturer
Group - D	Lecturer / Assistant Professor / Speciality Medical Officer /Assistant Prof. on contract/Assistant Lecturer/Tutors /Junior Resident

Temporary teachers: NIL			
Part-time teachers			
Highest qualification	Male	Female	Total
PhD	7	2	9
MPhil	0	0	0
PG	24	11	35
Others	16	5	21
Total	47	18	65



Dubai Campus

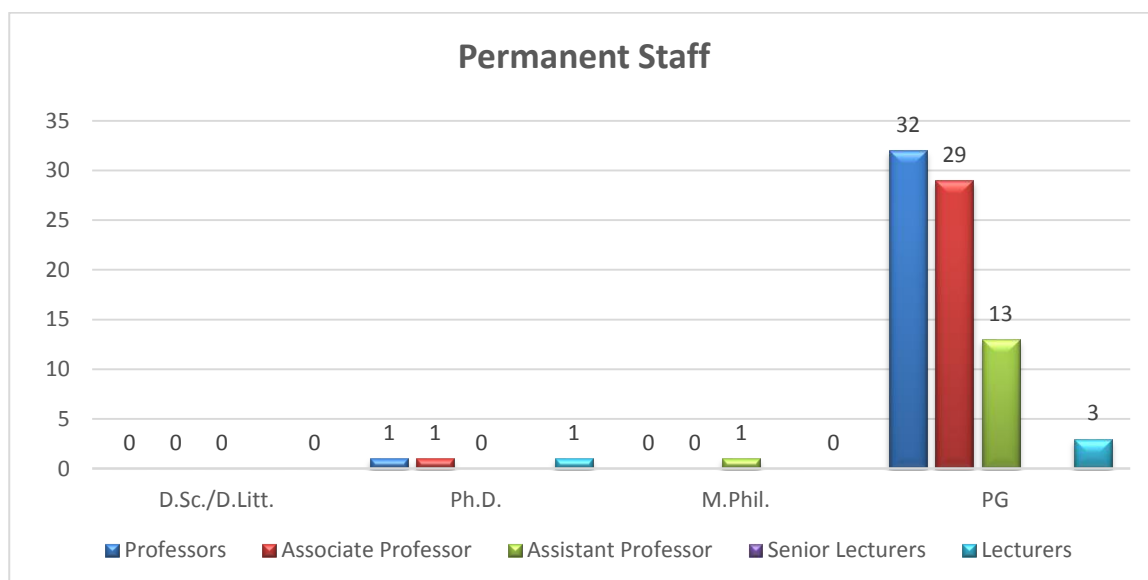
Highest Qualification	Professors		Associate Professors		Assistant Professors		Senior Lecturers		Lecturers		Total
	M	F	M	F	M	F	M	F	M	F	
Permanent teachers											
D.Sc./D.Litt	-	-	-	-	-	-	-	-	-	-	0
Ph.D.	5	-	6	2	7	4	-	1	-	-	25
M.Phil.	-	-	-	-	1	-	-	-	-	-	1
PG	1	1	-	1	5	-	18	15	2	4	47
Temporary teachers: NIL											
Visiting teachers: NIL											



Highest Qualification	Professors		Associate Professors		Assistant Professors		Senior Lecturers		Lecturers		Total
	M	F	M	F	M	F	M	F	M	F	
Temporary teachers											
Visiting teachers											
Ph.D.	2	-	1	-	3	2	-	-	-	-	8
M. Phil.	-	-	-	-	-	-	-	-	-	-	-
PG	2	-	-	-	9	5	5	6	-	1	28

Melaka Campus

Highest Qualification	Professors		Associate Professors		Assistant Professors		Senior Lecturers		Lecturers		Total
	M	F	M	F	M	F	M	F	M	F	
Permanent teachers											
D.Sc./D.Litt	-	-	-	-	-	-	-	-	-	-	-
Ph.D.	1	-	-	1	-	-	-	-	-	1	3
M.Phil.	-	-	-	-	-	-	-	-	-	-	-
PG	25	7	21	8	9	4	-	-	3	-	77
Temporary teachers: NIL											



26. Emeritus, Adjunct and Visiting Professors

Emeritus	Adjunct	Visiting
8	131	0

27. Chairs instituted by the university:

1	Dr TMA Pai Endowment Chair on Laboratory Quality Management
2	Dr TMA Pai Endowment Chair on Translational Epidemiology and Implementation Research
3	Dr TMA Pai Endowment Chair on Geriatrics and Gerontology
4	Dr TMA Pai Endowment Chair on Stem Cell Solution for Diabetes
5	Dr TMA Pai Endowment Chair on Clean Energy
6	Dr TMA Pai Endowment Chair on Inflammatory Bowel Diseases
7	Dr TMA Pai Endowment Chair on Emerging Tropical Bacterial Diseases
8	Dr TMA Pai Endowment Chair on Data Analytics and Cloud Computing
9	Dr TMA Pai Endowment Chair on Indian Literature
10	Dr TMA Pai Endowment Chair on Pharmacogenomics
11	Dr TMA Pai Endowment Chair on Social Entrepreneurship
12	Dr TMA Pai Endowment Chair on Earth Sciences
13	Dr TMA Pai Endowment Chair on Sustainable Built Environment
14	Dr TMA Pai Endowment Chair on Medical Education
15	Dr TMA Pai Endowment Chair on Medical Devices
16	Dr TMA Pai Endowment Chair on Cognition
17	Dr TMA Pai Endowment Chair on Biophotonics
18	Dr TMA Pai Endowment Chair on Mathematics

28. Students enrolled in the University departments during the current academic year, with the following details:

Students enrolment details for 2014-15

Students	UG		PG		Integrate d Masters		M Phil		DM / MCH		Ph D		Integrate d PhD		DLitt / DSc		Certific ate		Diplo ma		PG Diplom a	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
From the state where the University is located	321	417	519	457	0	0	3	6	6	2	17	14	0	0	0	0	46	85	5	51	1	10
From other states of India	1803	1030	521	469	0	0	2	9	5	1	7	6	0	0	0	0	23	35	1	0	3	11
NRI students	197	87	5	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Foreign students	99	111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2420	1645	1045	935	0	0	5	15	11	3	24	20	0	0	0	0	69	120	6	51	4	21

*M-Male *F-Female

29. 'Unit cost' of education

(Unit cost = total annual recurring expenditure (actual) divided by total number of students enrolled)

- (a) Including the salary component*
 (b) Excluding the salary component**

Unit cost of education per student per year for 2014-15		
Faculty/Course	Unit Cost (a)*	Rs in Lakh
		Unit Cost (excluding salary) (b)**
A: HEALTH SCIENCE COURSES		
MEDICAL		
Undergraduate	7.21	4.23
Postgraduate: Degree and Diploma	11.50	7.28
MSc	4.75	3.36
DENTAL		
Undergraduate	6.27	3.46
Postgraduate	10.17	6.19
NURSING		
Undergraduate	2.05	0.99
Postgraduate	1.95	0.95
P C BSc	1.95	0.95
ALLIED HEALTH SCIENCES		
Undergraduate (4 Years)	1.66	0.89
Undergraduate (3 Years)	1.66	0.89
Postgraduate (2 Years)	2.80	0.92
PHARMACY		
Undergraduate	2.51	1.31
Undergraduate(5 years)	2.51	1.31
Postgraduate	3.02	1.43
BIO TECHNOLOGY		
Undergraduate	6.41	3.79
Postgraduate	6.41	3.79
ATOMIC AND MOLECULAR PHYSICS		
Postgraduate	15.99	10.32
REGENERATIVE MEDICINE		
Postgraduate	24.06	18.06
B: ENGINEERING AND MANAGEMENT		
ENGINEERING		
Undergraduate	2.11	1.31
Postgraduate	2.27	1.23
Postgraduate (non-engineering)	2.27	1.23
ARCHITECTURE		
Undergraduates (Arch)	1.02	0.51
Postgraduates (Arch)	1.02	0.51

INFORMATION SCIENCES		
Postgraduate	1.21	0.56
COMMUNICATION		
Undergraduate	1.08	0.59
Postgraduate	1.08	0.59
MANAGEMENT		
Postgraduate	2.28	1.42
BUSINESS ADMINISTRATION(BBA(JDM)		
Undergraduate	-	-
BUSINESS MANAGEMENT(BBM)		
Undergraduate	0.52	0.23
Postgraduate	0.52	0.23
HOTEL ADMINISTRATION		
Undergraduate	1.71	1.06
EUROPEAN STUDIES		
Postgraduate	8.11	5.02
GEOPOLITICS		
Postgraduate	3.33	1.65
LIBRARY & INFORMATION SCIENCES		
Postgraduate	0.60	0.59
PHILOSOPHY & HUMANITIES		
Postgraduate	5.22	2.77
PUBLIC HEALTH		
Postgraduate	0.99	0.39
STATISTICS		
Postgraduate	4.97	1.95
VIRUS RESEARCH		
Postgraduate	24.55	22.53

30. Academic Staff College: Not applicable

- Year of establishment
- Number of programmes conducted (with duration)
 - UGC Orientation
 - UGC Refresher
 - University's own programmes

University does not have an Academic Staff college. But there is a Center for Professional and Personal Development at the University level, which takes care of the training needs of the faculty members, students and non-teaching staff of the University and constituent units. For the details of the activities of the Center, please refer criteria 2.4.10

31. Does the University offer Distance Education Programmes (DEP)?

Yes No

If yes, indicate the number of programmes offered.

Are they recognized by the Distance Education Council?

32. Does the University have a provision for external registration of students?

Yes No

If yes, how many students avail of this provision annually?

33. Is the University applying for Accreditation or Re-Assessment? If Accreditation, name the cycle.

Accreditation: Cycle 1 Cycle 2 Cycle 3 Cycle 4

Re-Assessment:

34. Date of accreditation* (applicable for Cycle 2, Cycle 3, Cycle 4 and re-assessment only)

Cycle 1: **01/10/2002**... (dd/mm/yyyy), Accreditation outcome/Result: **B+**

Cycle 2: (dd/mm/yyyy), Accreditation outcome/Result

Cycle 3: (dd/mm/yyyy), Accreditation outcome/Result

Cycle 4: (dd/mm/yyyy), Accreditation outcome/Result

* Kindly enclose copy of accreditation certificate(s) and peer team report(s)

Previous accreditation certificate copy is enclosed as **Enclosure 4**. Previous peer team report along with action taken details are provided after Criteria details.

35. Does the University provide the list of accredited institutions under its jurisdiction on its website? Provide details of the number of accredited affiliated/constituent/autonomous colleges under the University.

Yes. Following are the accredited Institutions/Schools under University:

- Kasturba Medical College, Manipal
- Kasturba Medical College, Mangalore
- Manipal College of Dental Sciences, Manipal
- Manipal College of Dental Sciences, Mangalore
- Manipal College of Nursing, Manipal
- Manipal Institute of Technology, Manipal
- Manipal College of Pharmaceutical Sciences, Manipal
- Welcomgroup Graduate School of Hotel Administration
- Melaka Manipal Medical College, Manipal
- School of Allied Health Sciences, Manipal
- School of Information Sciences, Manipal
- School of Management, Manipal
- School of Communication, Manipal
- School of Life Sciences, Manipal
- School of Regenerative Medicine, Bangalore

36. Date of establishment of Internal Quality Assurance Cell (IQAC) and dates of submission of Annual Quality Assurance Reports (AQAR).

IQAC – June 3, 2013.

AQAR (i) (dd/mm/yyyy)

(ii) (dd/mm/yyyy)

(iii) (dd/mm/yyyy)

(iv) (dd/mm/yyyy)

Though Department of Quality & Compliance was established in the year 2005, IQAC was recently established on June 3, 2013. As the validity of our accreditation was expired in the year 2007, AQARs were not submitted.

37. Any other relevant data, the University would like to include (not exceeding one page).

Academic and Physical Infrastructure

- MAHE is the first Multi-campus, Multi-faculty deemed University in private sector declared in 1993
- Ranked 'A' category among deemed Universities by Dr.Tandon Committee appointed by MHRD, Govt. Of India
- 16 constituent Institutions/Colleges/Schools/Faculty and other departments spread over campuses in Manipal, Mangalore, Bangalore and two off-shore campuses Malaysia and Dubai
- 17 Professional streams / 272 programmes
- Innovative twinning programmes in medicine and engineering with globally recognized degrees
- Medical, Engineering, Dental, Pharmacy, Life Sciences, Nursing, Allied Health Sciences, Communication and Hotel management colleges/schools are consistently ranked among the top 10 institutions in India
- Over 2400 faculties and a dedicated faculty/student training facility in the form of Manipal Centre for Professional and Personal Development.
- The Manipal campus is India's first environment-friendly campus, spread over 640 acres
- World-class infrastructure and state-of-the-art facilities
- World-class in-door sports complex 'Marena' with state-of-the-art-facilities, which is open for both students and staff with facilities like Gymnasium, Cafeteria, Sports Shop Walking/Jogging Track, Sauna, Steam Bath, Change Rooms, Lockers, Badminton Courts, Squash Courts, Basketball Court, Cricket, Football, Simulated Games and also open-air Tennis Courts.
- Most advanced skills labs, anatomy/pathology museums,
- Asia's best libraries with total plinth area of about 2,50,000 sqft
- Facilitates research through sophisticated laboratories and incubation centres.
- Excellent sports infrastructure

Research and Collaborations

- MAHE is ranked first among the non-government universities in India by a Scopus-based study published by SCImago research group, Spain(<http://www.scimago.es/index.php>)
- Innovation Centre at MIT nurtures innovation, incubation and entrepreneurial skills of the students, faculty members and people of the region and facilitates inter-disciplinary Research and Innovation
- Research collaborations with leading MNCs like Phillips, Nokia for BoP projects, public health projects with WHO, UNICEF etc. collaborative links with several reputed overseas institutions such as Hochschule Bremen, Germany, Milwaukee School of Engineering USA, University of Leicester UK etc.
- Research grants of about Rs 16 crore from different agencies such as ICMR, DST, DBT, DAE, BRNS etc.
- Multi-disciplinary projects through Manipal Multidisciplinary Developmental Research Centre focused on the theme of Ecology and Sustainable Development
- Centre of Excellence in Research in the fields of Natural Sciences and Philosophy and Humanities
- High level of indexed publications in Health Sciences institutions

Students and Alumni

- Annual in-take of about 8000 students
- Presently, 23729 students are enrolled with the University. There are about 2050 students from over 59 countries studying in MAHE.
- 1,12,655 alumni
- Over 3000 practicing doctors in the US and every 4th doctor in Malaysia is an alumnus of MAHE
- Budget of Rs 18 crore earmarked for different kinds of scholarship including merit-cum -means scholarships.

Awards and Certifications

- Ranked No. 13 in India and No. 181-190 in Asia by QS University Ranking ASIA 2014
- Ranked No. 85 by QS University Ranking BRICS 2014
- 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
- Ranked No. 1 in India and 695 in the World in University Web ranking 2014
- Ranked No. 1 Private Deemed University by THE WEEK – HANSA Survey 2014
- ASSOCHAM National Education Excellence Awards 2014 – Won Best University Promoting Research award
- FICCI Overall Excellence award 2014
- Ranked No. 3 among Top Private Universities in India by Careers360 University Ranking 2014

- Ranked No. 3 by SiliconIndia Top 20 Private Universities in India 2014 for MBA/Engineering courses
- Ranked No. 1 in India under the Sub Urban category by UI GreenMetric Ranking for Global Universities 2014
- Golden Peacock Environment Management Award successively for the year 2012, 2013 & 2014
- Best Hostels in India Award - 2012
- International Asia Pacific Quality Award 2008
- Winner of IMC- RBNQ Award 2007 (modelled on MBNQA)
- ISO 9001: 2008 and ISO 14001:2004 Certification
- NABH and AAHRPP Certified Kasturba Hospital at Manipal and NABL Certified Laboratory at University Medical Centre Mangalore
- FKCCI Export Excellence Award (last three years)
(Federation of Karnataka Chambers of Commerce and Industry)

1.1 Curriculum Design and Development

1.1.1 How are the institutional vision and mission reflected in the academic programmes offered by the institution?

Vision, mission and values of MAHE are clearly defined as follows:

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.

Manipal values

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

University objectives

- To support, promote and undertake the advancement of university education leading up to and including undergraduate, post graduate, doctoral and postdoctoral courses in arts, science, commerce, medicine, dental, nursing, pharmacy, allied health sciences, life sciences, regenerative medicine, biostatistics, management, communication, hotel administration, geopolitics, information sciences, engineering, applied sciences and such other subjects as the trustees may deem fit.
- To provide for research and for the advancement of and dissemination of knowledge through extension and community service.
- To promote the Konkani language and the culture of the Konkani speaking people in general and that of the students speaking Konkani in the aforesaid institutions in particular.
- To do all other acts and things as may be necessary or desirable to further the objectives of the university

Knowledge potential

- To establish courses of study and research and to provide instruction in such branches of study as the university deems appropriate for the advancement of learning and dissemination of knowledge in such branches and to establish new faculties on existing campuses at Manipal, Mangalore, Bangalore, Dubai and Malaysia.
- To confer degrees and to grant diplomas and/or certificates to persons who have satisfactorily completed the approved courses of study and/or research as may be prescribed and shall have passed the prescribed examinations.
- To institute and award visitorships, fellowships, prizes, medals, stipends and scholarships.

All constituent units of University align their Vision, Mission, Values and Objectives in line with those of MAHE.

Academic programmes offered by MAHE are specifically designed and developed in consonance with the vision and mission of the university and at the same time meet the changing requirements of various stakeholders namely students, industry and the society. The fact that many of our constituent institutions are consistently rated among the top 10 institutions in the country indicates that University has been successful in fulfilling the aspirations as reflected in its Vision and Mission.

The variety of academic program offerings in different disciplines by the University has been able to attract good students and also talented and experienced faculty members from all parts of the country. The academic programmes are implemented by the constituent institutions effectively and efficiently resulting in increasing popularity for the same among the students. The teaching and non-teaching staffs of University administer all the academic programmes within the framework of University values.

Vision of University has been implemented by:

- Consistent focus on research, training and development of faculty members,
- Design and development of new academic programmes which are innovative in nature and are in demand globally
- Providing world-class state-of-the-art infrastructure facilities in the form of classrooms, laboratories, teaching hospitals etc., to facilitate administration/implementation of its academic programmes.
- Providing facilities and opportunities for its students for all-round development, not only in the academics but also in co-curricular and extra-curricular activities including sports, arts and cultural activities.

University Administrators monitor the objectives using several measurable parameters which are reviewed every six months during the Management Review Meetings organised as a part of the ISO (9001:2008 & 14001:2004) Standards Requirement.

Measurable Parameters

A. 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:

1. Quality of intake

- a. Cut off ranking at admission level (Better as compared to previous year)
- b. Diversity of students (Better representation as compared to previous year)
- c. Increase in number of applications, National and International.(Higher as compared to previous year)
- d. Student Ratio UG: PG: PhD benchmarked with top Universities in the world

2. Academic

- a) Declaration of results on time (Within a month of conduct of exams)
- b) Conduct of exams as per academic calendar.
- c) Reduction in Student attrition rate (Reduce as compared to previous benchmark)
- d) 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)
- e) Number of students involved in social responsibility projects and extension activities (improve on previous benchmark)
- f) Graduation rate (% of students completing the programme on time, target can be 1% better than average of previous three batches)
- g) Introduction of new programmes (at least 20 new programmes compared to previous year)

3. Service delivery Process:

- a) Student feedback of faculty (Minimum of 3 on a scale of 5)
- b) Student feedback on infrastructure (Minimum of 3 on a scale of 5)
- c) Student feedback on academic program (minimum of 3 on a scale of 5)
- d) Patient feedback on services (minimum of 3 on a scale of 5)
- e) Faculty student ratio as per statutory and regulatory requirements

II. Enhancing Research Output :

- a) Number of papers presented in National and International conferences per faculty (At least one)
- b) Number of publications in National and International, Indexed journals with impact factor per faculty (indexed by Scopus) (Minimum 5% increase every year)
- c) Enhance Quality of Publication
 - i) Increase in Average Journal Impact factor by 0.2 every year.
 - ii) Increase in Average H index by 2.0 per author every year.
- d) Amount of research grants received (5% increase every year)
- e) No of patents applied for (at least one patent more than the previous year)
- f) Number of Ph D registrations (at least 5% increase every year)
- g) Number of faculty with Terminal degrees.(Increase by 5 % every year)

III. Increasing focus on Internationalisation

- a) Number of International students in UG and PG programmes (5% increase)
- b) Number of incoming and outgoing exchange students in UG and PG programmes (includes International Association for the Exchange of Students for Technical Experience (IAESTE), Association internationale des étudiants en sciences économiques et commerciales (AIESEC),, Study Abroad programmes, interns etc.) (10% increase)
- c) Number of Collaborations with Foreign Universities (At least 10 per year)
- d) Setting up of Alumni Centres abroad (At least five by end of 2015)
- e) Number of International faculty (Increase by at least two per year)
- f) Transnational mobility of faculty (at least 10 per year)

IV. Enhancing Employer Reputation

- a) Number of companies participated in campus placements (5 % more than previous year)
- b) Number of Fortune 500 companies participating in campus placements (5 % more than previous year)
- c) Percentage of Alumni Registered with University (from existing 8.3% to 50% by end of 2015)
- d) Number of Industry Collaborations (At least 5 per year)
- e) Setting up Alumni Chapters in India(at least five by end of 2015)
- f) Organising Alumni reunions(At least one by all institutions by end of 2015)
- g)

V. Training

- a) 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).
- b) Ensure continual enhancement of knowledge/skills of non-teaching staff (To be provided with at least 2 hours of training every year).

B. EMS Objectives:

- a) 6% reduction in per capita electricity consumption year on year for the next 3 years
- b) 2% reduction in per capita potable water consumption year on year for the next 3 years
- c) To be ranked within the top 20 Universities globally under the suburban category in the UI Green metric World University Ranking by 2017.

1.1.2 Give details of the process involved in design and development of the curriculum including need assessment, feedback, etc.

University has a well-defined process for Design and Development of Curriculum. Before introducing a new programme, the head of concerned constituent unit will request the University to call for a preliminary meeting to discuss the feasibility of the new programme and also other aspects such as infrastructural and HR requirements to support the programme. This meeting will be attended by the Pro Vice Chancellor, Registrar, Registrar(Evaluation), Director Quality and Compliance, Director General Services, Director Finance, Director Admissions, Deputy Director –HR, Student Finance officials and the concerned

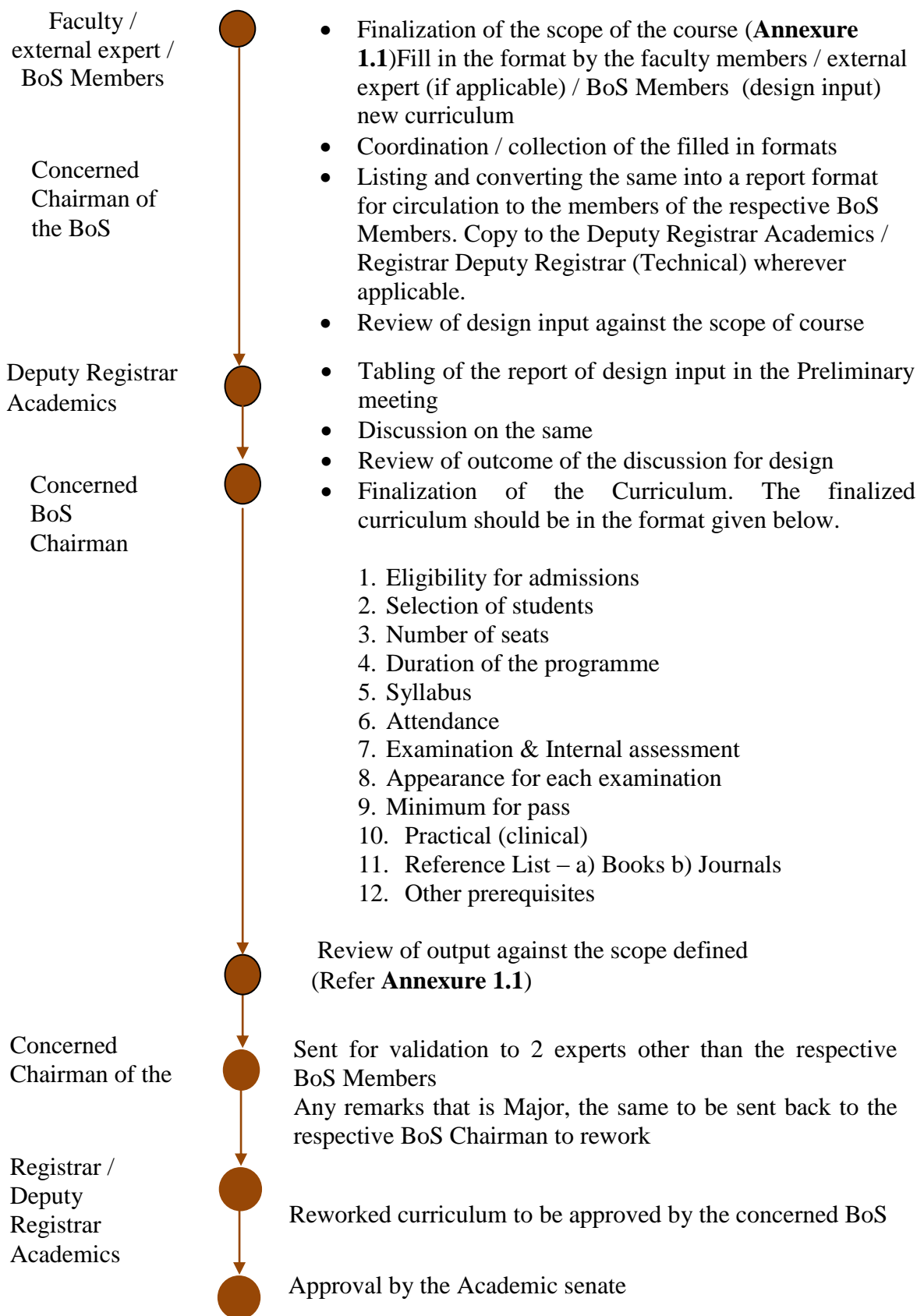
department/unit head and faculty. Conflict of interests between the programmes offered by the constituent units is reviewed at this stage.

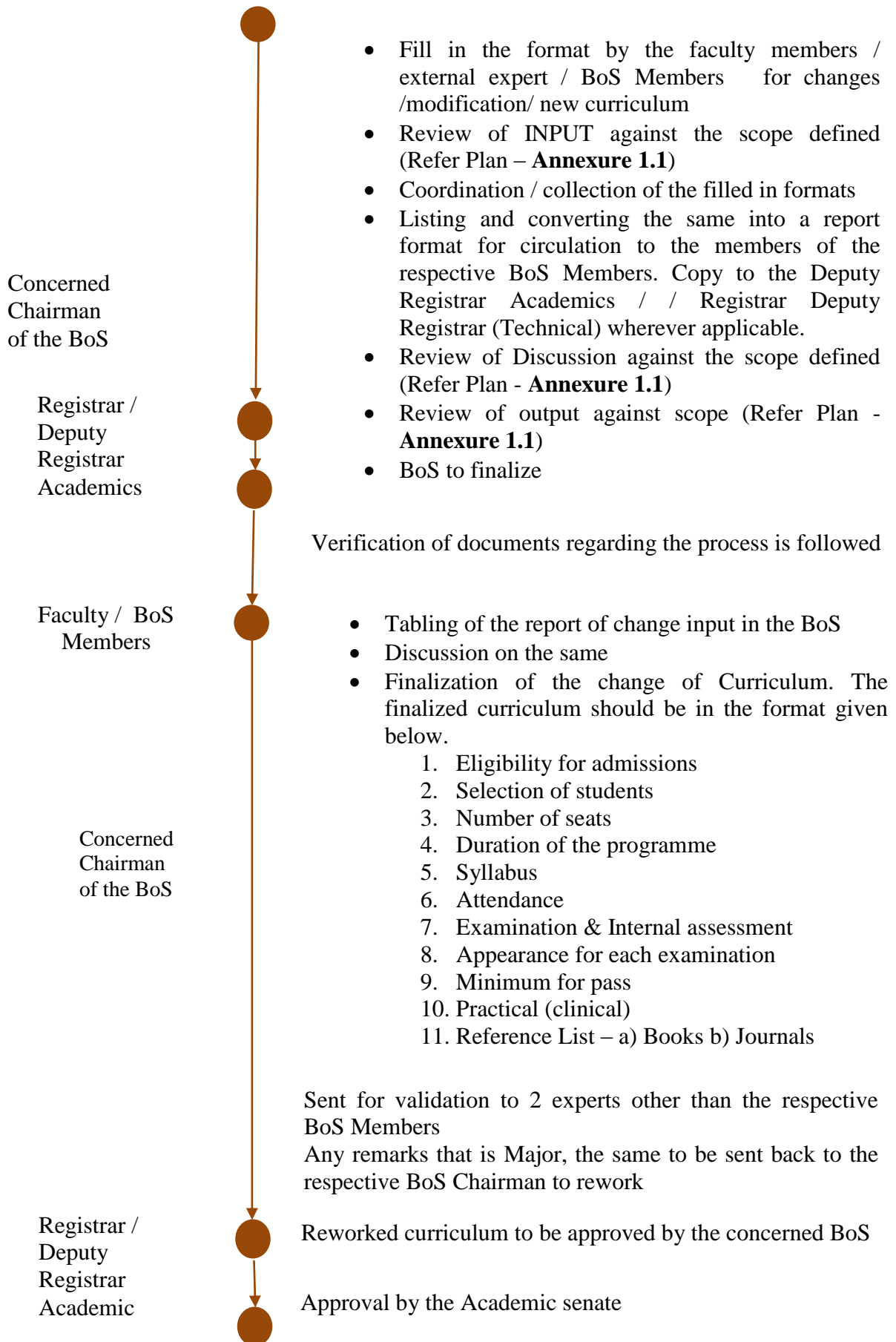
Following points are presented and discussed in this meeting:

- Program Objective
- Feasibility of the program
- Industry Collaborations
- HR and Infrastructure
- Program fee fixation
- Admission criteria
- Broad program structure
- Formation of BoS

After receiving approval at the Preliminary Meeting, concerned head of the constituent unit will form a separate Board of Studies (if required) or retain the existing Board of Studies of that constituent unit to design and develop curriculum for the new programme. The process followed by this Board of Studies in developing the curriculum is given below in the form of a flowchart:

Flow chart for Design of New syllabus / curriculum





1.1.3 How are the following aspects ensured through curriculum design and development?

Employability

University ensures employability of the students admitted to its various programmes by:

- Obtaining feedback from companies that come for on-campus placement / recruitment (Companies provide feedback from their past experience with the previous batch (es) of students).
- Offering industry-specific courses as “open electives” in various programmes
- "Practice School Internship" programme involving industry interaction and industrial training
- Curricular design meeting the needs of the industry and updating the syllabus from time to time. Appropriate inputs are incorporated from academia, research and industry in curriculum design.
- Revising curriculum regularly to address the needs of the industries to get the knowledge / training in the latest subjects/topics and this ensuring better employment opportunities to students.
- Organizing workshops by industry and academic experts
- Regular interface with the industry to understand their expectations and requirements in their potential employees.

Innovation

University addresses its Vision and Mission by developing innovative programmes which are focussed on the needs of its stakeholders and add value to the society. Currently 272 programmes are being offered in various constituent units with following inbuilt mechanisms to drive innovation

- Innovative, student-centric courses are offered as “programme and open electives” to cater to the diverse student interests in different areas
- Tool-based delivery and mini projects at various levels of the programme are encouraged
- Feedback from various stakeholders is collected and societal requirements are studied
- Base of the Pyramid (BOP) chair is an initiative which encourages innovation, employability and self-development. BoP activities include workshops associated with innovation, wherein students of different disciplines come together and

generate ideas. Some of these ideas are prototyped and offered to industry for further development.

- Technology Business Incubator encourages new ideas and creates a platform for young entrepreneurs to launch their business
- Innovation Centre at MIT encourages faculty/students to register their innovative ideas as patents.

Research

Both undergraduate and postgraduate students are oriented towards research activities.

Undergraduate: introductory/orientation programmes are arranged so that the students can undertake projects, prepare reports and make presentations in conferences.

In health sciences, the students are encouraged to apply for short term studentship (STS) and other research projects and present their findings in medical students conferences at different levels (state, national, international conferences etc.).

Postgraduate: Postgraduate curriculum involves research component leading to conference presentation/peer reviewed publications/patents etc. The students are sensitized on issues of ethics and scientific conduct. Postgraduate projects are designed to reflect on theoretical aspects/issues. Apart from that, various projects are designed reflecting the contemporary issues in respective disciplines and the proposals are submitted to funding agencies. Research scholars are admitted to work on these projects. It is mandatory for all medical postgraduate students to carry out research, submit the theses and present/publish at least one paper from their thesis work before they appear for their final university examinations.

Courses/subjects like research methodology, paper writing/presenting, proposal preparation etc., are made compulsory core courses especially for doctoral students.

1.1.4 To what extent the guidelines of the regulatory bodies are complied in developing and/or restructuring the curricula? Has the institution been instrumental in leading any curricular reform, which has created a national impact?

University complies with all guidelines of the regulatory bodies like Medical Council of India (MCI), Dental Council of India (DCI), All India Council for Technical Education (AICTE), Indian Nursing Council (INC), Pharmacy Council of India (PCI) and others, in developing/restructuring curricula for the respective academic programmes offered in its constituent institutions.

Manipal Institute of Technology, a constituent unit of University has implemented a few reforms in their curriculum, like

- Open elective,
- Programme elective and
- Extensive 8th semester project work/internship completely devoted to developing industrial linkages/project work culture.

This initiative is unique to only a few institutes in the country.

Manipal College of Pharmaceutical Sciences organized a series of workshops at national level while designing Pharm D curriculum, and played a key role.

Biotechnology finishing school

Quality manpower is the key factor for the growth of the industry and hence country's economy. University institutions strive to create pools of skilled manpower equipped with necessary quality employable skills to make them industry-ready. Towards achieving the quality standards in employability, government of Karnataka has recognized 13 institutes across Karnataka to set up biotechnology finishing schools with diverse specialized areas. In this connection, School of Life Sciences, University has been identified as one of the finishing schools and was sanctioned with a grant of one crore rupees by the government of Karnataka, to further strengthen the already existing state-of-the-art laboratory facilities.

1.1.5 Does the institution interact with industry, research bodies and the civil society in the curriculum revision process? If so, how has the university benefitted through interactions with the stakeholders?

Yes. Constituent institutions interact with industry and research bodies. Through these interactions, inputs regarding the contemporary trends in the respective discipline and future academic goals are captured, which are then discussed in board of studies meetings by the experts to determine the suitability for inclusion in the curriculum. This helps to have a relevant curriculum in place and enhanced employability of students.

For example: Industry Driven programmes of School of Information Sciences

Centre for Software Development (CSD), Applied Cognition Systems (APCOG), Manipal Dot Net (MDN), Base of Pyramid (BoP) and Tonse Technologies provide academic projects to students from School of Information Sciences (SOIS). These projects are identified, guided and monitored by research scholars/ engineers from these organisations and monitored by faculty members

from SOIS. This helps the students to learn niche technologies and experience the industry environment. Even though there is no financial gain at present, it will add to the viability of the curriculum. It may also improve the placement possibilities.

#	Domains / Programme	Curriculum development
1	Medical software	GE
2	VLSI design	Started with Synopsys. Continuously reviewed and updated by Synopsys, Whizchip
3	Embedded systems	1. Smart Yantra 2. NXP semiconductor
4	Embedded wireless technology	NXP semiconductor
5	VLSI system design & verification	Whiz chip technologies
6	Computing technology & virtualization	VMware

1.1.6 Does the university facilitate the introduction of new programmes of studies in its constituent colleges?

University invites proposals for new programmes from constituent institutions, conducts preliminary meetings to assess the feasibility and infrastructure/resource requirements. Following the preliminary meeting the board of studies (BoS) is formed for the new programme. BoS recommends all academic requirements for the programme and the same is placed before academic senate for its approval. In the last four years, a total of **80** new programmes have been introduced by various constituent units of the university. Details of the new programmes are provided in **Annexure 1.2**

1.1.7 Does the university encourage its colleges to provide additional skill-oriented programmes relevant to regional needs? Cite instances (not applicable for unitary universities):

Not applicable to University.

1.1.8 Criteria specific to health sciences

1.1.8.1 How is compatibility of programmes with goals and objectives achieved with particular reference to priority of interface between public health, medical practice and medical education?

The objectives are developed envisioning the knowledge, skill and attitude a student should acquire during the period of training, which is necessary for practice of medicine and the guidelines of medical council of India. The objectives of the medical degree programme is to produce medical practitioners who are ethical and competent to practice medicine at a level commensurate with reasonable

expectations of the society they are destined to serve, and committed to career-long educational and professional improvement.

At the end of undergraduate programme, the medical student should be able to:

- A. Recognize 'health for all' as a national goal and health rights of all citizens and by undergoing training for medical profession fulfil his/her social obligations towards realization of this goal.
- B. Learn every aspect of national policies on health and devote himself/herself to its practical implementation, especially with respect to family welfare and maternal and child health (MCH), sanitation and water supply, prevention and control of communicable and non-communicable diseases, immunization and health education.
- C. Achieve competence in practice of holistic medicine, encompassing promotive, preventive, curative and rehabilitative aspects of common diseases and commonly encountered health problems.
- D. Develop scientific temper, acquire educational experience for proficiency in profession and promote healthy living.
- E. Become exemplary citizen by observation of medical ethics and fulfilling social and professional obligations, so as to respond to national aspirations.
- F. Be competent in diagnosis and management of common health problems of the individual and the community, commensurate with his/her position as a member of the health team at the primary, secondary or tertiary levels, using his/her clinical skills based on history, physical examination and relevant investigations.
- G. Appreciate rationale for different therapeutic modalities, be familiar with the administration of the "essential drugs" and their common side effects.
- H. Be able to appreciate the socio-psychological, cultural, economic and environmental factors affecting health and develop humane attitude towards the patients in discharging one's professional responsibilities.
- I. Possess the attitude for continued self-learning and to seek further expertise or to pursue research in any chosen area of medicine, action research and documentation skills.
- J. Acquire basic management skills in the area of human resources, materials and resource management related to health care delivery, general and hospital management, principal inventory skills and counselling.

- K. Be able to identify community health problems and learn to work to resolve these by designing, instituting corrective steps and evaluating outcome of such measures.
- L. Be able to work as a leading partner in healthcare teams and acquire proficiency in communication skills.
- M. Be competent to work in a variety of healthcare settings.
- N. Have personal characteristics and attitudes required for professional life such as personal integrity, sense of responsibility and dependability and ability to relate to or show empathy for other individuals.

These objectives ensure that the overall goal of basic medical education, which is to produce broadly educated medical graduates with an appropriate foundation for further training in any branch of medicine including general practice, medical, surgical, investigational or other specialties, as well as for careers in medical research, medical education, public health medicine or health service administration is met.

The institution firmly believes that knowledge should be based on scientific principles, and students should have developed appropriate learning and clinical skills and professional attitudes. We believe that our students should be competent to practise medicine safely, ethically and effectively under supervision, while undergoing further vocational training to become independent practitioners.

As the scope of knowledge relating to medicine is growing fast, and since many aspects of practice are changing rapidly, we have always held that, the emphasis in basic medical education should be placed more on principles underlying medical science, fundamental practical skills and critical judgment based on evidence and experience rather than on acquisition of a detailed compendium of current knowledge or a comprehensive list of clinical skills.

The objectives are clear and specific enough to serve as planning guides for the medical programme. The educational objectives serve as a guide for implementing the curriculum for medical programme. The boards of studies broadly monitor the curriculum implementation based on these objectives.

1.1.8.2 How is the internship structure oriented towards the set goals and objectives of medical education?

The internship programme has a major component of community medicine and public health. The other components of internship help the students to achieve the problem solving ability, attain required skills and attitudes of a basic medical practitioner, and fulfil the educational objectives, thereby meeting the final goals and objectives of medical education.

Intern has to work under the supervision of a faculty member who corroborates that the student has attained the desired objectives.

The student gets hands-on experience in managing patients. They also get to perform various bedside procedures and minor surgeries.

There is a compulsory posting in rural areas and in public health centres in addition to postings in the teaching hospitals of the university.

Their training in the hospitals will impart to them the required knowledge and skills for the curative aspects of the medical problems. At the same time, the time they spend in community medicine, public health and rural areas ensures that they are competent enough in preventive, promotive and rehabilitative aspects of healthcare and well versed in handling a spectrum of cases.

All these measures help the students to achieve the desired levels of educational objectives thereby meeting the final goals and objectives of medical education.

1.1.8.3 Explain the initiatives of the institution in the following areas

A. Orientation to research and rehabilitation

Both undergraduate and postgraduate students are oriented towards research activities. Item 1.1.3 details how the programmes offered at University encourage student involvement in Research. Awareness and motivation is created for student research and all necessary facilities are provided. An evidence of this is seen in the form of Maximum number of ICMR student research projects being awarded to our medical colleges, during the last few years

Table showing the no. of ICMR projects

Year	2012	2013	2014
KMC Manipal	19	21	10
KMC Mangalore	49	47	35
Total	68	68	45

Student research committee(s) facilitate(s) and mentors the student research. The students are introduced to the various aspects of research methodology and evidence-based medicine through orientation workshops/programmes. Financial assistance is provided (to limited extent) to carry out the research. Financial assistance is provided for presenting the research work at conferences.

Several students have published their studies in reputed scientific journals.

B. Behavioural and social science

Important behavioural and social issues are included in the curriculum at various levels. Department of community medicine and psychiatry mainly cover these topics during the first and third years of the programme.

C. Medical ethics

Students are taught ethical guidelines with emphasis on the three basic principles of medical ethics:

- Respect for person,
- Beneficence and
- Justice

Issues pertaining to medical ethics are discussed. During their clinical postings in the wards, the practical aspects of ethics and human aspects are discussed/demonstrated. During the clinical discussion, in the wards, the teacher becomes the role model in imparting ethics to the medical students.

D. Medico-legal issues

The department of Forensic Medicine addresses the medico-legal issues and provides appropriate knowledge and training. Students have to witness and record autopsies during their programme.

E. Enhancement of quality of services and consumer affairs: modernization and enhancement of all services are carried out through total quality assurance and management system. The teaching hospital is

- ISO 9001:2008 & ISO 14001:2004 certified and
- Hospital and the laboratories are NABH & NABL accredited

1.2 Academic flexibility

1.2.1 Furnish the inventory for the following:

Programmes taught on campus

Programmes	Number of Programmes
UG	49
PG	163
Integrated Masters	0
MPhil	4
PhD	13
Integrated PhD	1
Certificate	17
Diploma	2
PG Diploma	15
Any other: DM/M Ch. (Super Specialty)	8
Total	272

For detailed list of Programmes please refer to **Annexure 2.1b** (Prospectus)

- * **Overseas programmes offered on campus:** Not applicable
- * **Programmes available for colleges to choose from:** Not applicable

1.2.2 Give details on the following provisions with reference to academic flexibility

a. Core/elective options

There are two types of programmes (both UG and PG) offered in the university

- A) Courses with core and elective options
- B) Courses with all subjects as core subjects

The programmes are as per the statutory requirements of accrediting bodies or as per the requirements of the respective curriculum developed in consultation with academia and industry.

b. Enrichment courses

Certificate/short term courses are offered at UG/PG level in the constituent institutions/hospitals as value additions to the regular programmes offered by the university (**Annexure 1.3**)

c. Courses offered in modular form

Certificate/short term programmes are offered in modular form. Some non-credit courses are offered in modular form in some of the constituent institutions.

d. Credit accumulation and transfer facility

Under the credit system, students of all UG and PG programmes have to accumulate prescribed number of credits to be eligible for the award of the degree.

In case of twinning programmes, credits earned at University are transferred to another partner university as per the MoU.

University has a provision for transfer of students from other universities which have same/similar course/credit structure.

To facilitate this for students pursuing Management and Commerce programs, University is planning to start a new center named **International Centre for Business Studies (ICBS)**.

e. Lateral and vertical mobility within and across programmes, courses and disciplines

In this regard, the University is guided by the regulations of the Accrediting bodies.

In case of engineering programmes, at the beginning of second year (or third semester), an option to change the branch is available to candidates who fulfil the eligibility criteria. No other lateral/vertical mobility across the programme is permitted as per AICTE norms. There is a possibility of cross-mobility with respect to chosen open electives as far as the courses are concerned. (In this regard, the university is guided by the regulatory and the accreditation bodies)

1.2.3 Does the institution have an explicit policy and strategy for attracting international students?

Yes. University has an explicit policy and strategy for attracting international students. **(Please refer Annexure 1.4)**

University has a cell headed by a deputy director to look after the issues related to the foreign students' admissions. Approved percentage of seats, as per the guidelines of the statutory bodies, in various programmes are earmarked for NRI/PIO/foreign students.

Student exchanges are facilitated through MoUs signed with several foreign universities.

University hosts two student bodies - International Association for the Exchange of Students for Technical Experience (IAESTE) and Association internationale des étudiants en sciences économiques et commerciales (AIESEC), which encourage international students to take up internships at University institutions.

University has initiated a multi-disciplinary programme for international students from various universities across the globe to showcase Indian culture and traditions, India's place in world affairs and the role of media and communication, known as the "Study Abroad Programme (SAP)". It provides the students an opportunity to spend a semester at University and learn something new and different, which will enable them to broaden their horizon and also understand the emerging importance of Indian culture and traditions.

The twinning medical programme offered by Melaka Manipal Medical College attracts a large number of Malaysian students. These students complete the pre-clinical component of their medical programme in India and clinical component in Malaysia.

University offers various other twinning programmes in Health Sciences, Engineering and Management, which attract International students.

1.2.4 Have any courses been developed targeting international students? If so, how successful have they been? If 'no', explain the impediments.

Through Study Abroad Programme (SAP) and MMMC twinning programme in medicine described in item 1.2.3 above, University targets international students to its campus at Manipal.

Also University offers Top-up programmes in Allied Health Sciences for Malaysian students (diploma in physiotherapy to bachelor in physiotherapy) and for Nigerian students in occupational therapy (diploma in occupational therapy to bachelor in occupational therapy). About 100 Malaysian students and 25-30 Nigerian students have been benefited by these programmes in physiotherapy and occupational therapy.

1.2.5 Give details of dual-degree and twinning programmes offered, if any? Also, how does university facilitate such programmes?

The university is successful in offering dual-degree programmes through its constituent institutes, schools and departments in collaboration with universities abroad. The programmes provide opportunity for students to have an experience to go through higher education systems in India as well as abroad. It also provides an opportunity to accomplish their research objectives by getting an opportunity to carry out doctoral research after successful completion of dual-degree.

Dual-degree programmes of University

#	Dual degree – Discipline	Partner university	MU degree	Partner University Degree
Manipal Institute of Technology				
1	Engineering	Technical University, Chemnitz, Germany	M Tech(Printing and Media Technology)	MSc
School of Information Sciences (SOIS)				
2	Information Science	Lancaster university, UK	MSc (Tech)	MSc
3		Edinburgh Napier University, UK		M Sc
4		ESIGELEC, France		M Sc
5		GropeT International University, Belgium		M Sc (Electronics)
6				M Sc (Electromech)
School of Communication(SOC)				
7	Communication / Film Art and Film Making	EICAR, France	MA(Film Art)	Master of Fine Arts in Film Making
Dept. of European Studies				
8	Arts/European Studies	Hochschule Bremen University of Applied Sciences, Germany	MA(European Studies)	Master in European Studies (MA)
9		Universite de Provence Aix Marseille I, France		Master in European Studies
10		University of Latvia, Latvia		Master of Social Sciences in European Studies
11		Metropolitan University Prague, Czech Republic		MA International Relations and European Studies
School of Allied Health Sciences (SOAHS)				
12	Allied Health Sciences/Sports &Clinical Biomechanics	Robert Gordon University, UK	MPT (Sports & Clinical Biomechanics)	MSc (Sports Biomech)

Twinning programme - Medicine:

Melaka Manipal Medical College is the first twinning programme offered by any Indian university in medical sciences. The twinning programme is unique as it envisages a two and a half year preclinical training course in Manipal, followed by two and a half years of clinical training in Malaysia.

Collaborations with foreign Universities - Engineering:

- Lancaster University, Lancaster, UK.
- Hochschule Bremen, Germany.
- Technical University of Eindhoven, The Netherlands.
- Milwaukee School of Engineering, USA.
- Andrews University, USA.
- Illinois Institute of Technology, USA.
- Russ College of Engineering, Ohio University, USA.
- University of Missouri-Kansas City, USA.
- St. Cloud University, USA.
- Deakin University, Australia.
- City University, London, UK.
- Chemnitz University of Technology, Germany

Exchange Programs

Every year many students go for exchange programmes in different foreign universities. These exchange programmes vary from 1 to 6 months duration. The exchange programmes are either industrial or academic in nature. Some of the partner universities where student go for exchange programmes are mentioned below. IAESTE also assists students.

Partner Universities /Bodies

- Saint-Etienne - Du-Rouvray, Esigelec, France
- Hochschule Bremen- University for Applied Science-Germany
- International Association for Exchange of Students for Technical Experience (IAESTE)
- Queensland University of Technology-Australia
- Chemnitz University of Technology, Germany

- * Under the “Memorandum of Understanding” signed with Chemnitz University of Technology, Germany for student exchange, a two year Joint Double Degree Master’s program is offered.
- * Students admitted in Manipal who participate in this programme will be awarded M.Sc. degree in "Print and Media Technology" (students studying according to the study and examination regulations as of August 18, 2010) or Media Production (students studying according to the study and examination regulations as of June 25, 2008) by Chemnitz University of Technology and M. Tech degree in "Printing and Media Technology" by University. Students selecting this programme, study one year in India and one year in Germany.
- * Students admitted in Chemnitz who participate in this programme will be awarded M.Sc. degree in "Print and Media Technology" (students studying according to the study and examination regulations as of August 18, 2010) or Media Production (students studying according to the study and examination regulations as of June 25, 2008) by Chemnitz University of Technology and M.Sc. degree in "Printing and Media Technology" by University.

1.2.6 Does the university offer self-financing programmes? If yes, list them and indicate if policies regarding admission, fee structure, teacher qualification and salary are at par with the aided programmes?

All programmes offered at University are self-financing programmes. The policies regarding admission, fee structure, teacher qualification and salary are in compliance with UGC guidelines and regulations.

1.2.7 Does the university provide the flexibility of bringing together the conventional face-to-face mode and the distance mode of education and allow students to choose and combine the courses they are interested in? If ‘yes,’ give operational details.

All programmes in University involve face-to-face interaction. Since almost all programmes are of professional nature, University is guided by the policies and regulations of the accrediting bodies.

To supplement face-to-face classroom sessions, students have the opportunity to listen to international experts/speakers/faculty members through video conferencing/webcasting mode, which is arranged by respective constituent institutions from time to time.

1.2.8 Has the university adopted the choice-based credit system (CBCS)? If yes, for how many programmes? What efforts have been made by the university to encourage the introduction of CBCS in its affiliated colleges?

Action plans for introducing choice based credit system (CBCS) in phased manner is being worked out and will be implemented after due approval of the academic senate.

1.2.9 What percentage of programmes offered by the institution follows:

- * Annual System
- * Semester System
- * Trimester System

University follows the regulations of the statutory bodies like MCI, DCI, AICTE etc.

Accordingly, the programmes are designed based on the regulations. Presently University has the following:

- * Annual system: 84 per cent programmes in Health Sciences
- * Semester system: 16 per cent programmes in Health Sciences.
100 per cent programmes in Engineering and Management
- * Trimester system: MBA programmes

1.2.10 Does the institution offer inter-disciplinary programmes? Name a few programmes and comment on their outcome.

Interdisciplinary programmes are offered in Engineering, Information Sciences, Allied Health sciences, Life sciences and Public Health

(Please refer to **Annexure 1.5**)

1.2.11 Question specific to Health Sciences Institutions

1.2.11.1 What programmes are offered for practicing medical/paramedical professionals in terms of training for career advancement?

The institution conducts various on-going continuing medical education programmes for medical professionals. Continuing medical education (CME) is one of our strengths. The institution encourages every department to regularly conduct CME programmes. These programmes attract many local and regional practitioners. In addition, our teaching hospitals conduct various in-service training programmes for paramedical professionals that help them to improve their knowledge and skills and thus, career advancement.

1.3 Curriculum Enrichment

1.3.1 How often is the curriculum of the different courses reviewed and upgraded for making it socially relevant and/or job oriented/knowledge intensive and meeting the emerging needs of students and other stakeholders? (1.4.5) how are the global trends in education reflected in the curriculum?

University reviews and upgrades the curricula of its programmes based on the recommendations of the boards of studies, which meet at least twice a year. Curriculum changes, as permissible by relevant statutory bodies, are made and the same is implemented.

Feedback from various stakeholders, which forms the basis for curriculum revision, is incorporated in the curriculum up-gradation thereby making it socially relevant, job-oriented, knowledge-intensive and meeting their emerging needs.

Presence of academic experts with global exposure in the boards of studies and in the academic senate ensures that global trends in education are reflected in the curricula of the programmes offered by University.

1.3.2 During the last four years, how many new programmes at UG and PG levels were introduced? Give details.

During the last four years, a total number of 80 programmes were introduced, which are either

- * Inter-disciplinary in nature or
- * Programmes in emerging areas

(Details are provided in Annexure 1.2)

1.3.3 What are the strategies adopted for the revision of the existing programmes? What percentage of courses underwent a syllabus revision?

All existing programmes are reviewed at least once a year, based on the feedback from the stakeholders, and upgraded by boards of studies of the respective programmes. Any modification suggested in their structure is implemented after deliberation and ratification by the academic senate. Academic senate meets thrice in a year. Curricula of most of the courses, except the ones which are prescribed by the respective statutory bodies undergo changes periodically.

Senate Meeting



Senate Members



1.3.4 What are the value-added courses offered by the institution and how does the institution ensure that all students have access to them?

Certificate/short term programmes are offered at UG/PG level in the constituent institutions/hospitals as value additions to the regular programmes offered by the university. These programmes are advertised and details of the same are circulated through exchange mails and flyers. The details are made available on the university website.

1.3.5 Has the institution introduced any higher order skill development programmes in consonance with the national requirements as outlined by the national skills development corporation and other agencies?

Various certificate and diploma programmes are offered in constituent institutions/hospitals, which are focused on higher order skill developments in consonance with national requirements.

1.4 Feedback system

1.4.1 Does the institution have a formal mechanism to obtain feedback from students regarding the curriculum and how is it made use of?

Feedback mechanism is in place to obtain feedback about the course. The feedback is reviewed by the concerned head of department and the same is discussed in Boards of Studies.

Feedback System

- HOI/HOD ensures distribution of questionnaire to capture student satisfaction once a year
- Filled in feedback is collected by the HOI/Office and analyzed
- If the student satisfaction falls below expectations (as stated in the objectives), it is discussed in the institutional core committee meeting to take corrective and preventive action
- Abstract of the analysis is sent to IMR University
- Status of correction is monitored by IMR University.
- Corrective actions is reviewed in institutional MRM

Unresolved issues are discussed in the university MRM

Online student feedback system has been introduced in a few institutions and the same is being introduced in the remaining institutions.

1.4.2 Does the Institution elicit feedback on the curriculum from national and international faculty? If yes, specify a few methods such as conducting webinars, workshops, online discussions, etc. and its impact.

Faculty of national and international repute are members of the boards of studies and academic senate. Feedback is taken from them about the curriculum during board of studies meetings and in academic senate discussions.

MMMC has the system of having feedback from external examiners. We have found it to be of immense value. University is considering introducing the same in other programs.

1.4.3 Specify the mechanism through which affiliated institutions give feedback on curriculum enrichment and the extent to which it is made use of.

Not applicable, since the constituent institution has a significant role in curriculum development.

1.4.4 **What are the quality sustenance and quality enhancement measures undertaken by the institution in ensuring the effective development of the curricula?**

Curriculum development undergoes the process as described in 1.1.2 above. The development process involves verification and validation of the curriculum to ensure that it meets the requirements of the stakeholders.

Best practices:

1. Practice School
2. E-learning

2.1 Student Enrolment and Profile

2.1.1 How does the University ensure publicity and transparency in the admission process?

University has a systematic approach and promotional strategy to attract the best students from all over the country (national admissions) and different parts of the globe (international admissions). University markets its courses by giving wide publicity through different media and all stages of the admission process are transparent. Following are details of how University publicizes its programmes in India and the transparency followed in the admissions process.

NATIONAL ADMISSIONS

PUBLICITY

- 1) Media campaigns for larger reach:
 - Print - advertising in newspapers, journals, magazines and other publications
 - Television and radio
 - Internet – online and interactive media
 - E-mailers
- 2) School contact programmes - conducting awareness programmes in the target schools in different Tier I and Tier II cities
- 3) Events - participation in career guidance fairs, educational exhibitions in India.
- 4) Direct mailers to schools/colleges
- 5) Merchandising supports - information booklet, banners, and posters etc.

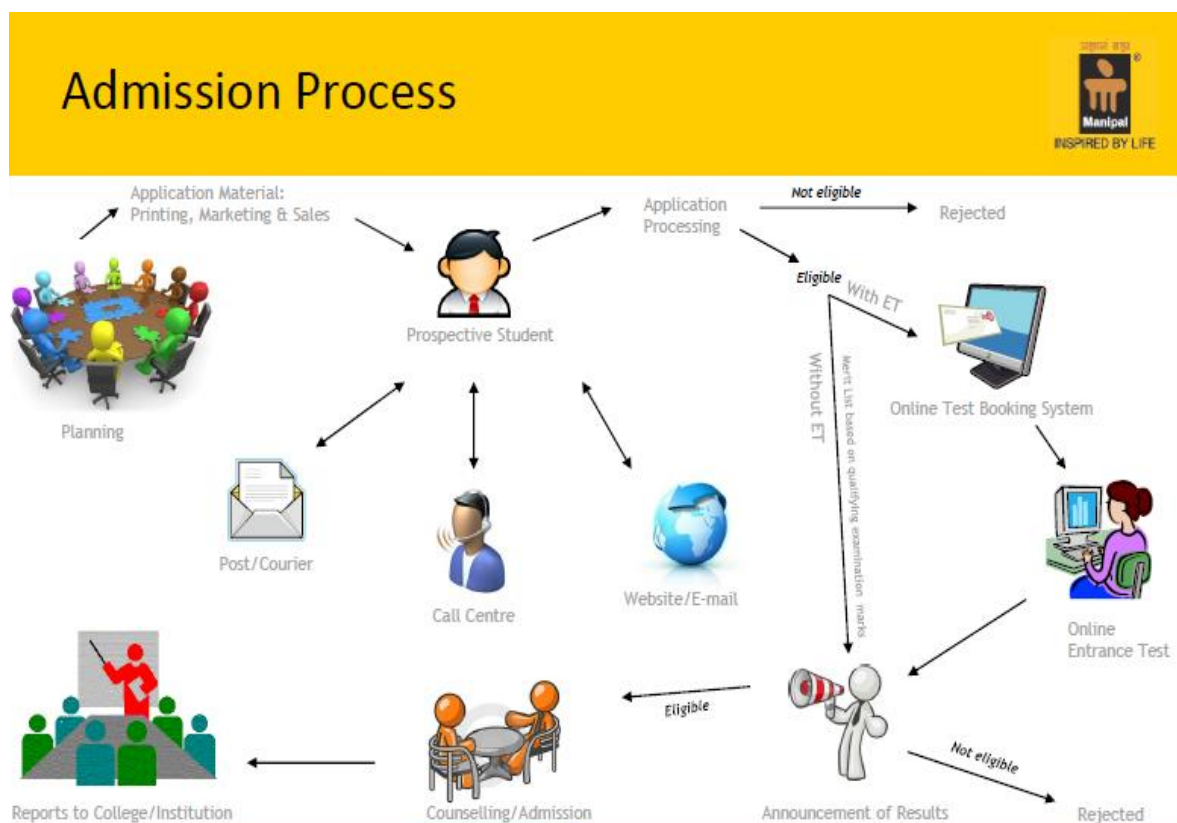
University has allocated a budget of **Rs. 11.8 crores for 2013-14 and Rs. 15 crores for 2014-15** for the marketing process to ensure publicity for its programmes.

Transparency

- Candidates are enrolled into various programmes only on the basis of merit :
 - either based on the rank obtained in the entrance examination conducted on all India basis or
 - based on the marks obtained in the qualifying examination.
- Entrance examinations are conducted online at 49 locations in India and one abroad in Dubai over a window period of 44 days for PG programmes and 38 days for UG programmes.

- At the end of the session, the candidates get to know their scores immediately without waiting for the window period to be over.
- The rank list is announced within 24 hours of the completion of the last session of entrance examination.
- Counselling is conducted in an open hall.
- Candidates are allotted seats as per merit in the presence of all other students.
- A waiting-list is maintained and is displayed on the university website.
- Vacancies are filled from the wait-listed candidates.

Flow of Admission process is as flows, detailed flowchart is provided in **Annexure 2.1a**



International admissions

Over the years, the brand image of University has attracted students from 59 countries across the globe. University competes with other reputed international universities by promoting its programmes in different countries and maintains its reputation of being transparent in international admissions as well. Following are details of how University publicizes its programmes abroad and the transparency followed in the international admissions process.

Publicity

University participates in education shows/exhibitions in various parts of the world and creates awareness regarding various programmes offered at its parent/off campus/offshore campuses. Through other media like newspapers, advertisements in periodicals, website etc., details of the programmes/admission process is informed to parents and prospective students.

Transparency

Students found eligible in all respects, viz. marks in the qualifying examination, meeting the regulations laid by the statutory bodies, are offered admissions (order of the merit is decided based on the marks obtained in the qualifying examination).

Off shore campus Admissions

The admissions to off shore campuses at Dubai and Melaka are made directly to the campus as per the needs of the local regulatory framework. The same guidelines of the University are followed during the admission process

Dubai

University campus at Dubai follows the same Admission process as it does in its home campus in Manipal. The eligibility criteria for all programs are similar to what is adopted in University, India.

Detailed eligibility criteria and Admissions procedures are explained in the Dubai campus Prospectus which is published several months prior to the start of every academic year. The prospectus is made available to every interested/prospective student either in physical (hard copy) or digital format (soft copy). The eligibility criteria and prospectus are also made available for free download in the public domain on the university website (www.manipaldubai.com).

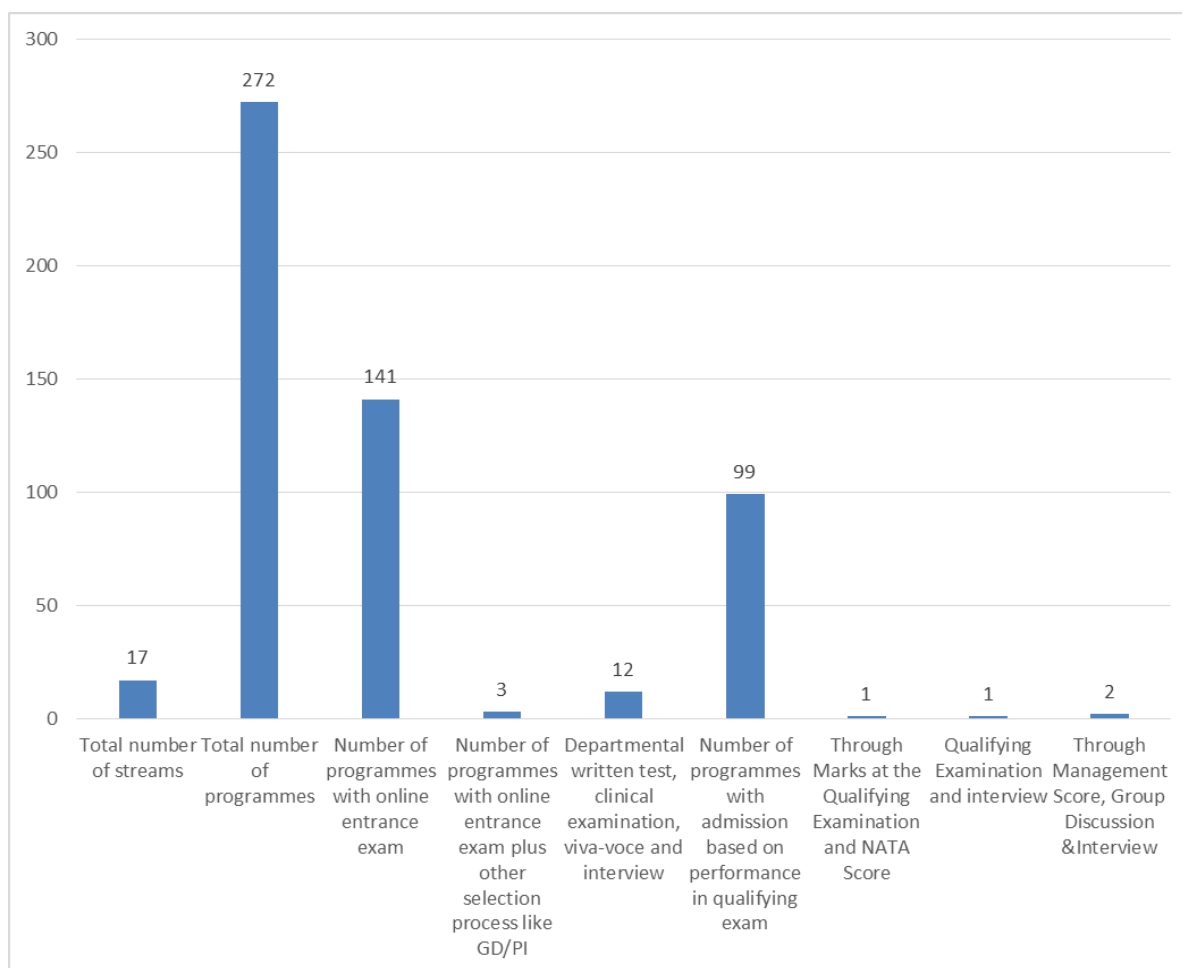
During the commencement of the Admission process, the university releases an advertisement in prominent dailies in the region (Eg: Gulf News, Khaleej Times) informing students and parents about the opening of the admissions cycle for the next academic year. In addition to this, the university maintains in regular contact with schools and their counselors informing them about the Admissions procedures and eligibility criteria. The university also ensures that copies of the prospectus are available at major information centers like Dubai Knowledge Village, Dubai International Academic City offices, counseling centers, school libraries, associations and cultural clubs etc.

Melaka campus

Publicity of Institutions' programmes through brochures / prospectus, website, newspaper advertisements regionally and nationally, 'Roadshows' (Education fairs), direct marketing in Schools and Colleges.

2.1.2 Explain in detail the process of admission put in place by the university. List the criteria for admission: (e.g., (i) merit, (ii) merit with entrance test, (iii) merit, entrance test and interview, (iv) common entrance test conducted by state agencies and national agencies, (v) any other criteria followed by the university (please specify)). (Admission process for different categories is to be included)

Sl#	Particular	Number
1	Total number of streams	17
2	Total number of programmes	272
3	Number of programmes with online entrance exam	141
4	Number of programmes with online entrance exam plus other selection process like GD/PI	3
5	Departmental written test, clinical examination, viva-voce and interview	12
6	Number of programmes with admission based on performance in qualifying exam	99
7	Through Marks at the Qualifying Examination and NATA Score	1
8	Qualifying Examination and interview	1
9	Through Management Score, Group Discussion & Interview	2



A. Admission through University online entrance test

Sl#	Discipline	Programme/s
1	Medical	UG – MBBS and PG – MD, MS, Medical PG Diplomas and Medical M Sc programmes
2	Dental	UG – BDS and PG – MDS & PG Diploma programmes
3	Engineering	UG – B Tech and PG – M Tech & MCA programmes
4	Pharmacy	UG – B Pharm, Pharm D and PG – M Pharm & Pharm D Post Baccalaureate programmes
5	Regenerative Medicine	M Sc programmes
6	Hotel Management	UG – BHM/BA Culinary Arts/BHMTT programmes
7	Communication	UG – BAJC and PG – MA/PGDCC/MA in Film Art & Film Making
8	Nursing	PG - MSc programmes
9	Allied Health	MPT and MASLP programmes
10	Information Sciences:	MSc Tech programmes
11	Commerce	BBM Programmes

B. Admission through University entrance test (paper and pen)

Sl#	Discipline	Programme/s
1	Medical	DM and M Ch and M Phil programmes
2	Nursing	M Phil programmes
3	Allied health	M Phil programmes

C. Admission through management aptitude test (paper and pen)**Management:**

Sl#	Discipline	Programme/s
1	Management	MBA / MBA Health Care Management

D. Admission through marks secured in the qualifying examination

Sl#	Discipline	Programme/s
1	Architecture	M Arch, Executive March & Bachelor of Design (Fashion Design), Bachelor of Science (Fashion Design – couture), Bachelors of Arts (Interior Design).
2	Pharmacy	Diploma
3	Life sciences	BSc and MSc
4	Humanities	PG courses
5	Public health	MPH, MHA,MSW & Certificate courses
6	Nursing	BSc, PB BSc and Diploma
7	Allied Health	BSc, MSc and MOT
8	Dental	PG Certificate courses
9	Statistics	MSc & Certificate courses
10	Sciences	MSc course & Certificate courses
11	Geopolitics	MA & PG Diploma courses
12	Information Sciences	MSc course
13	Communication	BSc & Certificate courses
14	European Studies	PG course
15	Hospitality Studies	M Sc course
16	Atomic & Molecular Physics	MSc & certificate courses

International admissions

Based on Merit in Qualifying examination and Fulfilment of Eligibility criteria

Sl#	Discipline	Programme/s
1	Medicine	MBBS
2	Dental	BDS

Details of admission course-wise (for the year 2014-15):

Courses	Departmental written test, clinical examination, viva-voce and interview	Marks Secured in the Qualifying Examination and Interview	Courses with Online Entrance Test	Courses with admission based on performance in Qualifying Examination	Through Marks at the Qualifying Examination and NATA Score	Through Management Score, Group Discussion & Interview	Through Manipal University Online Entrance Test, Group Discussion & Interview
ALLIED HEALTH	1		9	31			
MPHIL	1						
PG			9	18			
UG				13			
ARCHITECTURE				7	1		
CERTIFICATE				1			
DIPLOMA				1			
PG				2			
UG				3	1		
COMMUNICATIONS			1	2			3
CERTIFICATE				1			
POST GRADUATE							2
PG DIPLOMA							1
UNDER GRADUATE			1	1			
DENTISTRY			12	4			
CERTIFICATE				4			
POST GRADUATE			10				
PG DIPLOMA			1				
UG			1				
ENGINEERING & MANAGEMENT			40				
POST GRADUATE			24				
UG			16				
EUROPEAN STUDIES				3			

CERTIFICATE				2			
POST GRADUATE				1			
GEO POLITICS				3			
POST GRADUATE				2			
PG DIPLOMA				1			
HOSPITALITY			3	2			
POST GRADUATE				2			
UG			3				
HUMANITIES				4			
INTEGRATE PHD				1			
POST GRADUATE				3			
INFORMATION SCIENCE			7	1			
POST GRADUATE			7	1			
LIFE SCIENCES			2	3			
POST GRADUATE			2	1			
PG DIPLOMA				1			
UG				1			
MANAGEMENT			4	1		2	
POST GRADUATE				1		2	
UG			4				
MEDICINE	10	1	44	4			
CERTIFICATE		1		2			
MPHIL	2						
POST GRADUATE			43	1			
PG DIPLOMA				1			
SUPER	8						
UG			1				
NURSING	1		5	13			
DIPLOMA				1			
MPHIL	1						
POST GRADUATE			5				
PG DIPLOMA				10			
UG				2			
PHARMACY			14				
POST GRADUATE			12				
UG			2				
PUBLIC HEALTH				9			
CERTIFICATE				2			
POST GRADUATE				7			

SCIENCES				10			
CERTIFICATE				3			
POST GRADUATE				7			
STATISTICS				2			
CERTIFICATE				1			
POST GRADUATE				1			
GRAND TOTAL	12	1	141	99	1	2	3

For details of the courses please refer to the University Prospectus (**Annexure 2.1b**)

Dubai campus

The university follows a fair, open and transparent admissions process. Admissions are open year round on a rolling basis and on a first come – first served basis based on the available seats during every admission cycle. The procedure for Admissions is as follows:

1. Candidates interested in a program offered at University, Dubai contact the Admissions Office for information and are welcome to visit the campus for a “Face to Face Counseling” session with the university’s team of Admissions Advisors.
2. For all programs, barring the Bachelor of Architecture (B. Arch.) program, there is no entrance test required for admission into the university. This is due to the fact that the target population for admissions into universities in Dubai is quite small and the demand ratio for most programs is usually 1:1. For the B. Arch program, prospective students have to appear for the NATA entrance test prescribed by the Council of Architecture, India.
3. Prospective candidates are guided through the process and explained the admissions procedure & eligibility criteria by “Admissions Advisors”. Eligibility criteria for all programs are mentioned in the prospectus and on the website.
4. Since the admissions occur on a rolling basis, in many instances, provisional admissions are granted on the basis of 10th Grade marks (for UG programs) and 1st/2nd/3rd year transcripts (for PG programs). Provisional admissions are later confirmed based on the 12th Grade/equivalent performance (UG programs) or based on final year mark sheet/successful graduation certificate (PG programs)
 - a. For international students/students applying from out of Dubai, grade sheets are mailed across to the Admissions Office for review and once the eligibility criteria has been confirmed, an Admission Offer Letter is generated for the candidate by the Admissions Manager which allows him to proceed with the Admissions Process

- b. Students seeking a student visa to study with the visa need to comply with the visa norms prescribed by the Government of UAE
5. Once prospective students have been counseled on the program they are applying for and their eligibility for the program has been verified by the Admissions Office, they are welcome to register for the program by paying an Application & Registration Fee.
 - a. Application & Registration Fee can be paid either in cash or by way of cheque/bank transfer
6. Upon successful registration of the program, the student is given a Fee Schedule for payment of 1st year fees, hostel fees (if applicable), visa fees (if applicable) and other university fees (exam fees, etc). Payment of tuition fees and other fee components can be made in installments at University, Dubai
 - a. The university has a scholarship policy for meritorious students entering the undergraduate programmes of the university. If the candidate qualifies for such scholarships, the fee schedule reflects the scholarship earned accordingly
7. On the day of commencement of classes for the academic year, the Admissions Office verifies the original copies of marks cards; graduation certificates etc and confirm the final admission of all candidates in all programs of the university. Following this confirmation, roll numbers are generated for the student and they are listed as admitted students of the university.

Melaka campus

Professional – Admissions on a First-come-first-served basis as long as Minimum entry requirements have been obtained. Cut-off CGPA is 3.0 (approx 65%)

General and Vocational - not applicable

Applicants for admission are subjected to vetting by an Admissions Committee with minutes recorded. Applicants are subjected to a written test and panel interviews.

Admissions are open to all as long as the minimum entry requirements are met.

2.1.3 Provide details of admission process in the affiliated colleges and the University's role in monitoring the same.

Admissions for programmes offered at constituent units of University are centrally coordinated by university admission. There are no affiliated colleges.

2.1.4 Does the university have a mechanism to review its admission process and student profile annually? If yes, what is the outcome of such an analysis and how has it contributed to the improvement of the process?

Yes, after completion of admission cycle every year, the process is reviewed in different forums like

- Board of management meetings
- Executive committee meetings
- Head of institutions meeting and
- Management review meetings of integrated management system every six months

Outcome of the deliberations in these forums and decisions taken therein has resulted in

- Increased number of applicants
- Wider student base
- Improved quality of students admitted (improving cut-off ranks)
- Better representation of students from across the country
- Filling up of seats and better student spread in terms of diversity

Admission process has shown continual improvement over the last few years with:

- More efficiency, effectiveness, transparency and flexibility in terms of execution.
- Identification and rectification of minor issues, if any, from time to time has resulted in improving the online entrance examination process. This has helped University to reach a stage of “nil operational problems” and has improved the transparency of the examination and admission process.
- Conducting of the examination on time, declaring the results within 24 hours of completion of last scheduled examination and the counselling process have been made more efficient with the use of technology.
- Feedback is collected from parents regarding their experience about the admission process and the suggestions are incorporated into the process.
- With the experience gained over the years, the University has started online multicentre counselling for its undergraduate engineering programmes in order to facilitate the process. **(Details are provided in Annexure 2.2)**

Dubai campus

The university believes in continuous review of processes and practices and the same approach are applied to the Admission process as well. Every year, following the completion of the admission process, the Admissions Team reviews the admission cycle with the Director of the campus as well as with the India campus. The university also benchmarks its' admissions process as compared to other universities in the region and looks for avenues to improve its process.

Based on all the feedback, some of the changes/improvements made over the last couple of Admission cycles are as follows:

- Moving on to a technology enabled admissions system (SAP Higher Education Management Solution)
- Better integration of admissions process with support functions like Visa Office, Accounts Office & Hostel/Facilities Office
- Smoothing the Admissions process for International students/ students applying from outside UAE
- Extended hours of Operation during the Admission season Increased flexibility in payment modes/options as recommended by students/parents

2.1.5 What are the strategies adopted to increase/improve access for students

belonging to the following categories:

- * **SC/ST**
- * **OBC**
- * **Women**
- * **Persons with varied disabilities**
- * **Economically weaker sections**
- * **Outstanding achievers in sports and other extracurricular activities**
 - All seats are on merit basis only. However the state government does admit students based on the reservation policy of the state for the seats earmarked for the state government in the medical programmes.
 - To attract meritorious students from economically weaker sections, University has introduced merit-cum-means scholarships. 5% of seats in major streams are provided with these scholarships.
 - Candidates admitted to MBBS programmes within the first 500 ranks and BDS, B Tech, B Pharm programmes within the first 1000 ranks are eligible for merit-cum-means scholarships of the university.

- These scholarships are in addition to the scholarships provided by ITC, AICTE, GE, NXP, and scholarships for Konkani-speaking students, academy of general education students, scholarship for nursing students, Kadambi scholarship, and Maulana Azad national scholarship.
- A total of Rs 21.03 crores was spent in the year 2014-15 for offering the merit-cum-means scholarship.

(Details of scholarships are provided in **Annexure 2.3**)

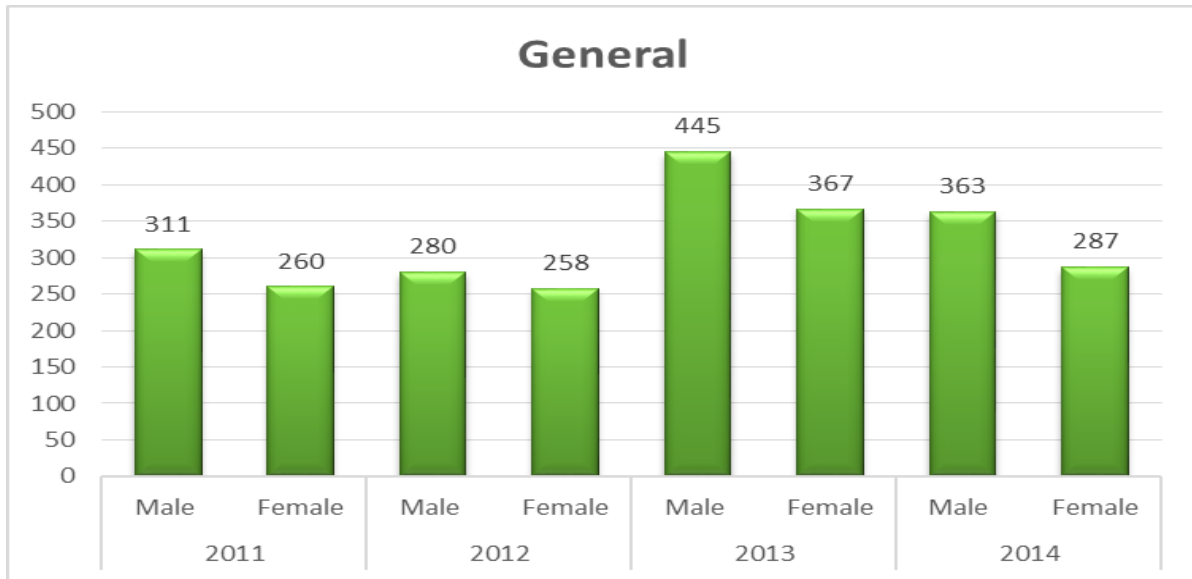
2.1.6 Number of students admitted in the university departments in the last four academic years:

Categories	2011		2012		2013		2014	
	Male	Female	Male	Female	Male	Female	Male	Female
SC*	7	3	6	6	11	5	10	6
ST*	0	1	1	2	2	1	1	1
OBC *	18	9	7	21	12	15	11	12
General	3098	2186	3019	2256	3156	2184	3479	2527
PG-others (NRIs/foreigners)	60	41	61	57	73	43	54	40
UG-others (NRIs/foreigners)	307	141	336	188	244	150	187	148
Total	2112	2606	3357	2406	3498	2398	3742	2734
Grand total	4718		5763		5896		6476	

* University admits Students on the basis of merit without considering their status as SC, ST or OBC. However students admitted through quota reserved for Karnataka Government CET/PGCET candidates may include students under this category.

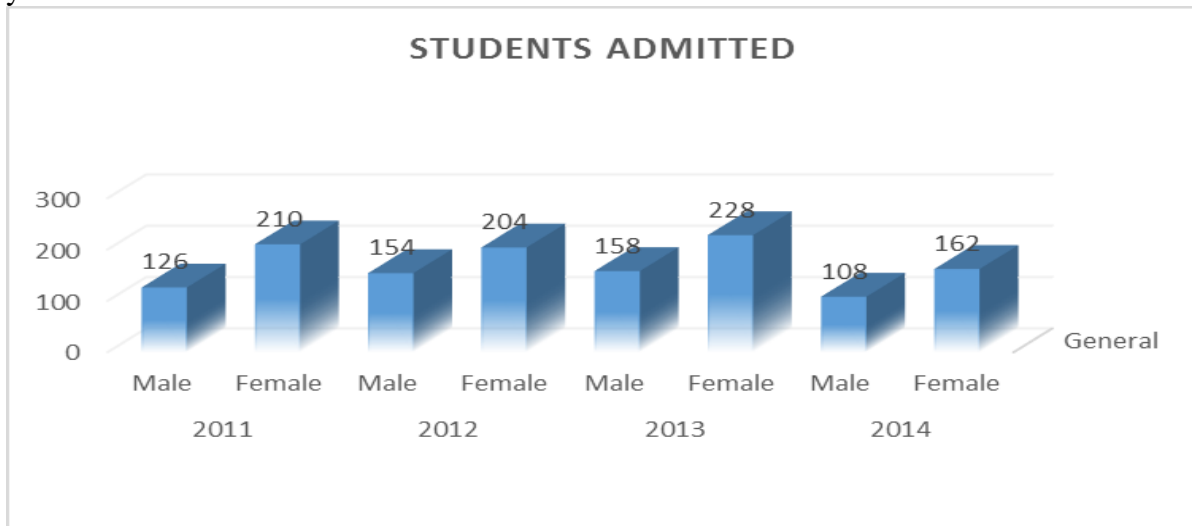
Dubai campus

Number of students admitted in Dubai campus departments in the last four academic years:



Melaka Campus

Number of students admitted in Melaka campus departments in the last four academic years:



2.1.7 Has the university conducted any analysis of demand ratio for the various programmes of the university departments and affiliated colleges? If so, highlight the significant trends explaining the reasons for increase/decrease.

Yes.

The University analyses the data every year after the admission process is over. The results of analysis are discussed in Management Review Meeting conducted in the second half of the year. Following are the results of such analysis giving year wise details for national and international admissions.

National Admissions

COURSES	INTAKE 2014	Applications Received					Ratio (Intake Vs Application)
		2010	2011	2012	2013	2014	2014
MBBS	425	19454	25559	29588	37114	58993	1:139
BDS	170	10583	13354	13177	16066	18289	1:108
B Pharm	80	7445	9595	9005	8527	8100	1:101
Pharm D	20	3302	5121	5192	5474	6154	1:308
B Tech	1710	27101	32899	31830	38819	44441	1:29
BHM	170	471	498	620	1385	949	1:4
BA Culinary Arts	70						
BHM TT	17						
BAJC	112	357	380	354	413	581	1:5
BSc Animation	30	–	–	–	–	6	1:5
BBM	141	283	347	408	512	716	1:5
B Arch	151	756	962	1079	1369	1879	1:12
BAIFC	64	–	–	–	–	74	1:1
PB BSc Nursing	50	53	37	30	27	28	1:8
Lateral B Tech	180	275	296	409	270	472	1:3
Lateral – B Pharm	10	4	3	3	1	6	1:2
Lateral - BBA JDM	Course stopped	11	3	0	1	0	0
B Sc Nursing	98	299	244	209	178	191	1:2
B Sc Biotechnology	38	251	287	334	363	535	1:14
Allied Health Courses, B Sc HIA	378	225	274	361	653	984	1:3
BBA JDM	Course stopped	55	92	88	13	0	0
MD, MS, PG Medical Diploma	308	6005	9323	12428	11432	13458	1:44
MDS & PG Diploma Course in Dental Materials	77	1946	2793	3093	2060	1605	1:21
MPT	68	422	271	238	184	161	1:2
MOT	18	7	12	20	16	19	1:1
MASLP	41	143	85	78	108	85	1:2
M Sc MLT	22	20	11	12	11	14	1:2
M Optom	7	15	16	15	14	12	1:2
MRT	8	6	6	5	4	3	1:3
M Sc RRT & DT	3	-	2	1	1	2	1:2

M Pharm /M Sc in Advanced Pharmaceuti-cal Sciences / Pharm D Post Baccalaureate	176	3848	2710	1291	597	495	1:3
M Sc Nursing	37	202	167	148	59	49	1:1
M Sc MIT	13	27	10	28	48	41	1:2
M Sc NMT	5	11	13	10			
M Sc CVT	4	2	2	7	4	5	1:1
MA in Geopolitics and International Relations	20	17	27	51	21	42	1:2
MCA	60	322	299	176	255	285	1:5
MBA Health Care	30	–	–	–	–	60	1:2
MBA	120	468	360	515	451	514	1:4
MCOM Logostics & Supply chain	50	–	–	–	23	53	1:1
MA Communication, PGDCC/MFAF(Dual Degree)	77	146	168	141	139	172	1:2
Masters in European Studies & Management	20	17	28	7	18	23	1:1
Master of Social Work	40	26	57	37	27	58	1:1
Master of Public Health	60	65	116	67	89	89	1:1
M Tech	442	2842	2542	3619	4205	408 7	1:6
Lateral entry to M Sc Tech(for BE/ B Tech / MCA / M Sc graduates)	288						
M Sc Tech - IT Management/ MSc Information Science	30	20	48	28	35	29	1:1
M Arch Advance Design / PG CAAD/ Executive March	40	13	34	38	35	42	1:1

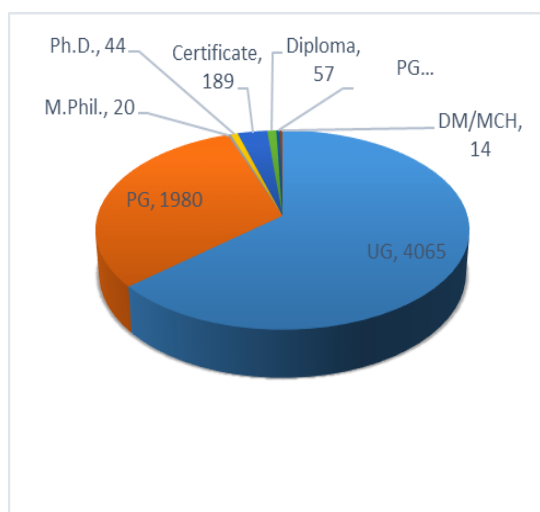
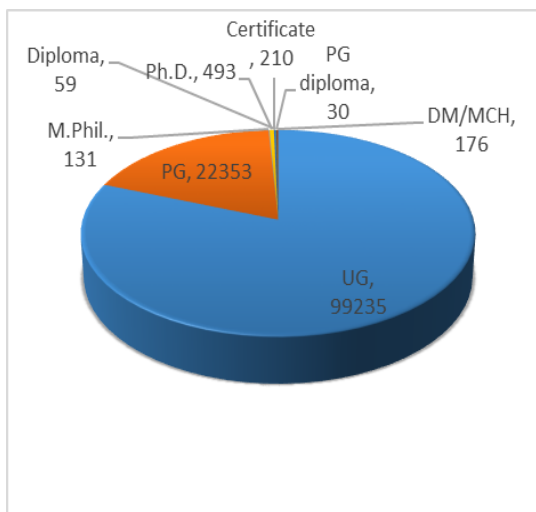
MSc Medical (Anatomy, Physiology, Biochemistry, Microbiology, Pharmacology, Clinical Embryology, Biotechnology, Molecular Biology & Human Genetics, Regenerative Medicine, Clinical Virology)	224	435	376	311	302	253	1:1
MSc Medical Radiation Physics	10	11	13	10	14	8	1:1
MSc Yoga	10	14	15	13	6	14	1:1
MSc HHIA	10	27	15	13	6	22	1:2
MSc in Dietetics & Applied Nutrition	45	40	40	60	39	59	1:1
MSc Biostatistics	20	20	21	10	31	40	1:2
MSc Hospitality with Tourism Management(UCB) deleted	0	0	10	12	7	0	0
MSc Hospitality & Tourism Management	30	13	21	25	25	48	1:2
MSc in Dietetics & Applied Nutrition	45	-	-	-	-	49	1:1
MSc Photonics	15	12	14	15	6	26	1:2
MSc Bioinformatics	10	46	40	32	32	42	1:4
MSc Applied Mathematics & Computing	88	106	125	152	201	173	1:2
MSc Chemistry							
MSc Physics							
DM	9	42	55	51	99	94	1:10
M Ch	7	41	63	49	61	82	1:12
M Phil Clinical Psychology	10	73	59	76	73	94	1:9
M Phil Psychiatric Social Work	4	3	8	6	2	4	1:1
M Phil Nursing-Part Time	10	20	27	35	19	31	1:3
M Phil Regenerative	3	-	1	1	4	2	1:2

Medicine							
Oral Implantology/Aesthetic Dentistry/ Laser Dentistry/Restorative Dentistry	51	36	40	69	45	39	1:1
PG certificate course in Panchakarma	10	16	25	5	23	22	1:2
Certificate course in Animation Technology	5	8	5	10	4	1	1:5
PG Diploma in Gandhian and Peace Studies	29	1	1	1	1	1	1:29
Certificate course in Clinical Embryology	6	-	-	-	-	14	1:2
Diploma in Fashion Design	10	-	-	-	-	0	0
Certificate courses in Public Health & Global Health	3	7	4	3	3	3	1:1
MA (Philosophy, English, Sociology)	35	-	13	27	44	75	1:2
Master in Hospital Administration	40	3	149	164	116	115	1:3
Advance PG Diploma in Stem Cells & Regenerative Medicine	6	-	8	13	8	3	1:2
Bachelor of Library & Information Science	0	-	5	2	Course stopped		
Lateral MSc NMT	2	-	11	5	4	3	1:2
Master of Library and Information Science	8	-	-	1	6	3	1:3
Certificate course in Library & Information Science	20	-	-	28	4	27	1:1
Certificate course in Biostatistics, Epidemiology & Research Methodology	100	46	48	81	31	43	1:2
Post Basic Diploma in Nursing	100	-	6	3	2	2	1:50

Certificate course in Fashion Design & Information Technology	10	-	-	2	4	3	1:3
PG Diploma in Jewellery & Retail Operations	0	-	-	2	0	Course stopped	
MSc Nano Science and Technology	15	-	-	5	17	16	1:2
MSc Biophysics	15	-	-	-	-		
MSc Exercise & Sports	10	-	-	-	-	3	1:3
MSc Health Informatics	23	-	-	-	-	6	1:4

Admission details – 2014			
	Number of applications	Number of students admitted	Demand ratio*
UG	99235	4065	1:24
PG	22353	1980	1:11
M.Phil.	131	20	1:7
Ph.D.	493	44	1:11
Certificate	210	189	1:1
Diploma	59	57	1:1
PG diploma	30	25	1:1
DM/MCH	94/82=176	8/6=14	1:13

* rounded off to nearest whole figure



International Admissions

Programme/Courses	Number of Application			Number of Intake			Demand Ratio		
	2012	2013	2014	2012	2013	2014	2012	2013	2014
MBBS	476	567	534	75	75	75	1:6	1:8	1:7
BDS	102	138	95	30	30	30	1:3	1:5	1:3
BPharm	42	55	77	20	15	35	1:2	1:4	1:2
Pharm D	27	31	37	10	5	10	1:3	1:6	1:4
BSc Biotechnology	20	33	40	8	8	5	1:3	1:4	1:8
BSc Nursing	9	12	13	15	15	15	1:1	1:1	1:1
PB Diploma Nursing	–	–	31	–	–	27	–	–	1:1
PB BSc Nursing	2	10	3	10	7	10	1:1	1:1	1:3
Allied Health	43	86	136	50	50	60	1:1	1:2	1:2
BAJC	16	24	32	15	15	15	1:1	1:2	1:2
BHM	16	19	15	27	27	15	1:1	1:1	1:1
BHM TT	–	–	5	–	–	5	–	–	1:1
BA Culinary Arts	1	7	2	8	8	8	-	1:1	1:4
BArch	49	51	64	24	24	24	1:2	1:2	1:3
BA Design	–	–	13	–	–	6	–	–	1:2
BTech	520	586	732	336	336	360	1:2	1:2	1:2
BSc Animation	–	–	2	–	–	6	–	–	1:3
BBM	33	41	59	26	33	33	1:2	1:1	1:8

Since most of the programmes offered by University are as per global and national needs, the demand for most of the programmes offered by the university show a positive trend indicating their acceptability by different stakeholders.

Off Shore campus

Dubai

The target population being small, the demand ratio for most programs is usually 1:1. Demand for most programs UG & PG remains the same every year. However, in some years, some programs are more sought after than others. This can be attributed to the changing trends in the local economy when some industries seem more attractive than others.

Melaka

The ratio of applications received to admissions granted (Demand ratio) is as follows

Professional courses – 1:1.47 (Applications received 397: Admitted 270)

2.1.8 Were any programmes discontinued /staggered by the institution in the last four years? If yes, please specify the reasons.

The university does a preliminary assessment before starting any new programmes. There are very few cases wherein the programmes were discontinued by any institution in the last four years. The list of cancelled courses is detailed below:

University Admissions - List of Cancelled Courses

2011	
MBA Part time	--
2012	
Bachelor of Architecture Interior Design	M Sc Pharmaceutical Regulatory Affairs
M Sc Tech Business Management System	M Sc Pharmacoeconomics
M Sc Clinical Research Management	M Sc Phytopharmacy & Phytomedicine
M Sc Intellectual Property Management	PG Certificate in Advanced Architectural Design
M Sc Nanopharmaceuticals	M Sc Digital Design and Embedded System
M Sc Nutraceutical & Cosmeceutical Sciences	M Sc Information Science
2013	
Bachelor of Library and Information Science	Barch ID
PGCAAD	--
2014	
Bachelor of Health Sciences (BHSc) - Twinning program	MSc Hospitality with Tourism Management (UCB)
Fellowship in Clinical Genetics	MSc Tech Dual programs
Fellowship in Diabetes	PG Diploma in Photonics
Fellowship in Neonatology	MSc Advanced Pharmaceutical Sciences
BBA Jewellery Design & Management	MSc Tech (IT Management)
Post Graduate Diploma in Jewellery Sales & Retail Operations	MSc Tech (High Performance Computing)

2.2 Catering to diverse needs of students

2.2.1 Does the institution organize orientation/induction programme for freshers? If yes, give details such as the duration, issues covered, experts involved and mechanism for using the feedback in subsequent years.

All the constituent units of the university begin the academic year for fresh students with an orientation/induction programme. (A sample orientation programme is enclosed as **Annexure 2.4**).

Usually the orientation programmes last for one day at the college level and 2-7 days at the departmental level.

The induction programme duration varies from one to two days and includes a formal inauguration by any reputed personality in the respective discipline followed by introductory talks by senior university officials such as pro chancellor, vice-chancellor, pro vice-chancellor or the registrar.

The inauguration is followed by presentations by different university officials regarding hostels, sports, library, student affairs and matters related to academics.

This is followed by visits to various key locations to familiarize the new students with the facilities available in the university.

Students are provided with a handbook covering all particulars including facts and figures about University, syllabus, examination, hostel, library and rules and regulations of the concerned constituent units.

Feedback from parents, students through formal and informal methods help to bring in continual improvement in the quality and contents of the orientation programmes.

Off shore campus:

Dubai

Orientation/Induction Day is one of the major activities on the University Calendar. Every year, on the day prior to the commencement of Academic classes, the university invites all registered students and their parents for an Orientation Session. During this session, the Director of University, Dubai accompanied by all Academic Faculty, including Department Chairpersons address the gathering. Various issues are covered such as:

- Introduction of all Academic & Non Academic departments of the university
- Academic Calendar
- Rules & Regulations of conduct at the university

- Expectations from the Student & Parent
- What to expect from the year ahead at University, Dubai
- Hostel rules & regulations
- Tips for International students

Parents and students are welcomed to ask questions and seek clarifications of their doubts/concerns at the orientation session. During this session, students report to their respective department/program and formally register for the academic session

2.2.2 Does the institution have a mechanism through which the “differential requirements of the student population” are analyzed after admission and before the commencement of classes? If so, how are the key issues identified and addressed?

Since all our students are admitted purely based on merit, there is practically no variability in their academic requirements. However if any such cases are reported / identified, then additional/bridge classes as applicable are decided by concerned constituent units and implemented to bring them to the same academic level as their peers. This is more so with the lateral entry students in technical education. There could be variations in approach to this issue among units. More details are provided in institutional reports.

2.2.3 Does the institution offer bridge/remedial/add-on courses? If yes, how are they structured into the timetable? Give details of the courses offered, department-wise/faculty-wise?

These are offered as per the requirements of the programmes of the constituent units.

Following are some of the bridge courses being conducted. Details are available in evaluative reports of constituent institutions.

1. Malaysian BPT bridge programs
2. BPT bridge course for Iraq Diploma Holders in PT
3. Oman bridge programs
 - Bachelor of Audiology & Speech Language Pathology
 - Bachelor of Science in Respiratory Therapy
 - Bachelor of Science in Medical Radiotherapy Technology
 - Bachelor of Science in Nuclear Medicine Technology
 - Bachelor of Science in Cardio Vascular Technology
 - Bachelor of Science in Medical Imaging Technology
 - Bachelor of Occupational Therapy

Off shore campus:**Dubai**

At a departmental level, remedial programs are available for students who find it difficult to cope with regular classes. Students have to take prior appointments with faculty members based on their availability and teaching schedule.

Melaka

Applicants need to obtain minimum academic grades in school-leaving and pre-Unit exams as set by the College and approved by the Malaysian Qualifications Agency (MQA). Our applicants are required to undergo a written general knowledge test to test their language skills and also face a panel interview which will assess their capacity to withstand the rigors of the programmes. Students are given an introduction to all topics and advised on the appropriate study methodology.

2.2.4 Has the university conducted any study on the academic growth of students from disadvantaged sections of society, economically disadvantaged, physically handicapped, slow learners, etc.? If yes, what are the main findings?

Since the admissions to all programmes are purely based on merit, the need for such study does not arise. However, faculty members from constituent institutions continuously monitor performance of students under their counselling/teacher guardianship and take remedial actions wherever required.

Off shore campus**Melaka**

Assessments are carried out at frequent intervals even at the early stages of the course. Any slow learners are counseled by their respective mentors, Faculty, Counsellors and the Dean.

2.2.5 How does the institution identify and respond to the learning needs of advanced learners?

Faculty members of respective subjects identify advanced learners and

- Provide them with additional learning opportunities in the form of mini Projects/assignments
- Designate them as preceptors to guide the juniors
- Involve them in research activities including conference presentations and paper publications
- Involve them in co-curricular activities and
- Promote extra-curricular activities etc.,

2.2.6 Criteria Specific to Health Sciences

2.2.6.1 How many procedures/clinical cases/surgeries are observed, assisted, performed with assistance and done independently?

The training programme, including clinical postings, is as per the regulations of the Medical Council of India. The following would be the approximate information:

Students: on an average, an undergraduate student gets to witness about

- 100 procedures,
- Examines close to 1000 patients and
- Witnesses about 100-150 surgeries during his/her programme.

Interns: during internship, they

- Observe about 200 procedures,
- Assist in about 100 and
- Independently perform about 50 procedures.

With respect to clinical cases, they

- Assist in about 1000 cases and
- Independently examine about 500 cases.

The interns also observe

- About 300 surgeries,
- Assist in about 100 and
- Independently perform about 10 surgeries.

Postgraduates: during post-graduation, since the training is more practical oriented, they get to

- Assist in about 100 advanced procedures and
- Independently perform more than 1000 procedures (both diagnostic and therapeutic).

With respect to clinical cases, they

- Examine more than 3000 cases.

The postgraduates get to assist

- In about 500 and
- Independently perform about 300 surgeries.

The interns and postgraduates maintain a logbook of their activities.

Off shore campus

Melaka

Every student must undergo clinical postings which require them to observe procedures, clinical cases and surgeries; they are required to observe and assist in as many as possible depending on the availability of cases.

2.3 Teaching-Learning-Process

2.3.1 How does the institution plan and organize the teaching, learning and evaluation schedules (academic calendar, teaching plan, evaluation blue print, etc)?

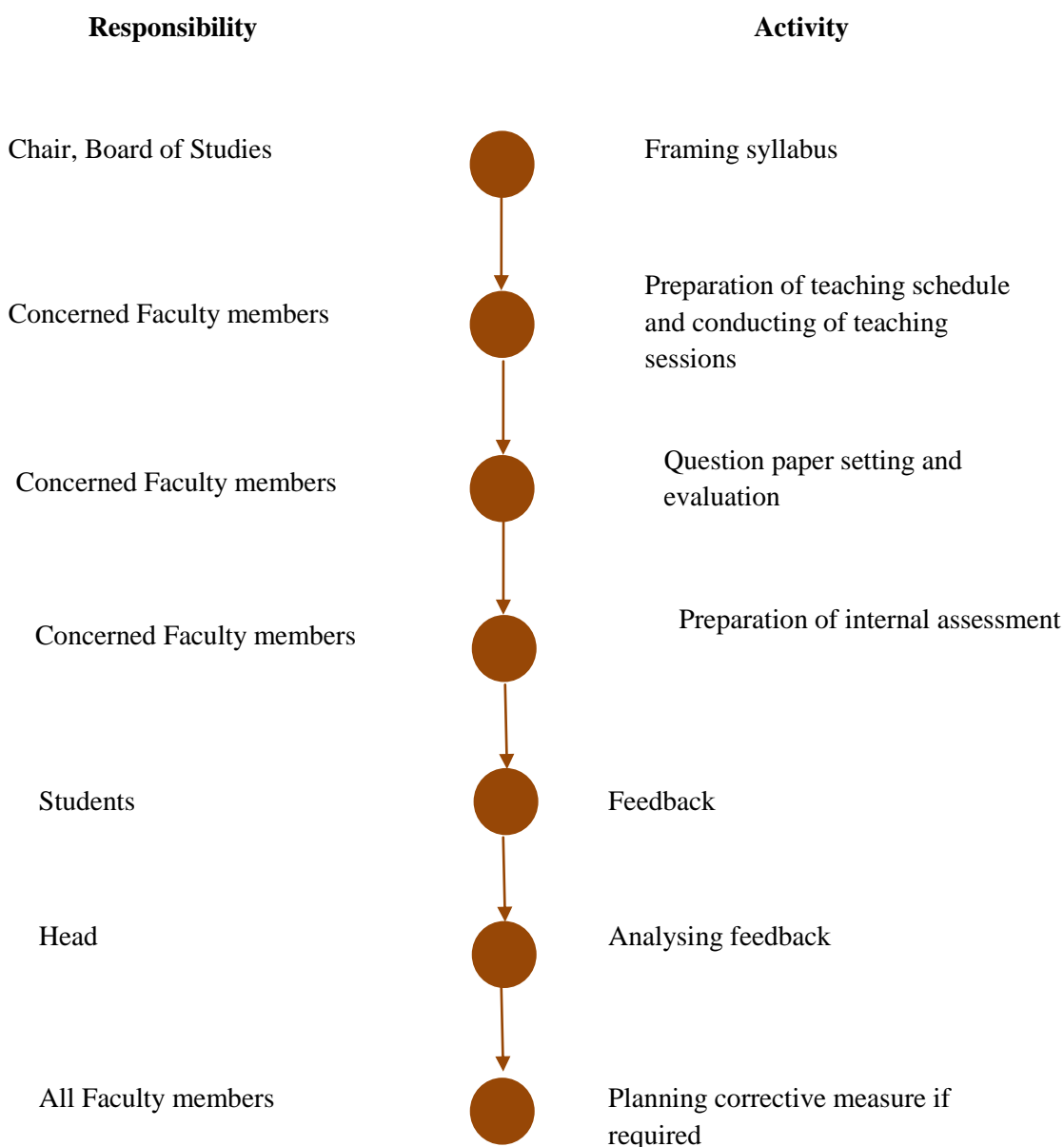
Before the beginning of the new academic year, the Head of the Constituent unit prepares the academic calendar for the whole year with focus on requirements of statutory/regulatory bodies, syllabus, examinations and public holidays. **The academic calendar is forwarded to the University for its Approval.**

On receiving university approval, the academic calendar is intimated to the students through various modes such as Notice Board Circular, Website, Handbook, Compact Disc etc., .

Based on the academic calendar and prescribed syllabus, the faculty members of respective subjects prepare lesson plans covering learning objectives, number of sessions, session-wise coverage, internal assessment particulars, reference books to be prescribed and submit the same to the HOI/HOD for approval.

Post approval, the lesson plans are informed to the students and classes are scheduled accordingly. Each constituent institution/unit prepares timetable for the subjects offered in each academic session of the annual academic calendar. Flow chart of the Teaching –Learning process is given below.

Teaching, learning and evaluation schedules



Off shore campus

Dubai

The various departments at the University plan and organize the teaching, learning and evaluation schedules by preparing an academic calendar. The calendar is prepared before the commencement of the classes. This calendar is prepared after obtaining the feedback from various people including Head of the Institution and faculty. The academic calendar is prepared keeping the requirements of the regulatory bodies in mind (wherever applicable). This calendar will include commencement date of the course, sessional exam dates, last working day, number of working days etc.,

Based on the academic calendar, an individual faculty member prepares a teaching plan for the course and distributes it to the students.

2.3.2 Does the institution provide course outlines and course schedules prior to the commencement of the academic session? If yes, how is the effectiveness of the process ensured?

Yes, the course outlines and course schedules are provided to the students prior to the commencement of the academic session. Analysis of feedback on the course and the subject faculty members provides inputs about the effectiveness of the same and improvements that can be incorporated for future.

2.3.3 Does the institution face any challenges in completing the curriculum within the stipulated time-frame and calendar? If yes, elaborate on the challenges encountered and the institutional measures taken to overcome these.

By and large, the institutions of the university do not have any problems in implementing the curriculum. However, at times, due to unforeseen holidays, some classes may have to be rescheduled, which happens rarely.

2.3.4 How is learning made student-centric? Give a list of participatory learning activities adopted by the faculty that contribute to holistic development and improved student learning, besides facilitating life-long learning and knowledge management.

Regulatory councils by and large decide the framework of the learning processes. Within the broad limits of this framework, University has introduced various innovative learning processes. **The objective of the University is to make a student lifelong learner.** For this it is expected that the learning process should be student centric. This is achieved by incorporating student centric learning process in the curriculum .They include:

- Presentations
- Quizzes
- Mini projects
- Group discussions
- Desk top research
- Preparing research papers
- Seminars
- Problem solving exercises
- Self-directed learning
- E - learning

This ensures that students are actively involved in the learning process; it improves their retention of the knowledge acquired in the classroom sessions and inculcates the habit of lifelong learning. E-learning strengthens teaching and problem based learning.

Course wise how curriculum is implemented in terms of

Classroom teaching

Clinical exercises

Case discussions etc

Details of different modes of learning processes are explained in the reports of the constituent institutions

2.3.5 What is the institution's policy on inviting experts/people of eminence to deliver lectures and/or organize seminars for students?

University encourages the constituent institutions to invite experts/people of eminence to deliver lectures/seminars for students. Intra/inter institutional participation is encouraged.

University also appoints adjunct faculty members, who are normally industry stalwarts or academic experts, on a contract basis with renewal in every two years, for teaching specialized subjects.

In addition to the above, the senior alumni of the constituent institutions also deliver talks when they visit their alma mater.

2.3.6 Does the institution formally encourage blended learning by using e-learning resources?

Faculty members and students are encouraged to use e-learning tools in their education process.

Libraries have digital databases and subscription to online journals and periodicals. Various software applications such as SPSS, SAS, etc., are used for analytical purposes.

Students are provided with Wi-Fi facility and laptops to encourage e-learning.

2.3.7 What are the technologies and facilities such as virtual laboratories, e-learning, open educational resources and mobile education used by the faculty for effective teaching?

Students have opportunities to listen to international faculty/scholars through video conferencing facility available with University. Apart from this, students are encouraged to use various e-learning resources available with libraries. For example:

In School of Information Sciences, we have

- Virtual laboratories: simulation tools are used for design and synthesis of VLSI chips. All laboratories situated in SOIS are networked and hence the students can work from anywhere.
- E-learning: materials published in SOIS intranet and university intranet along with digital library is extensively used for teaching.
- Open educational resources: open source code and materials and videos which are made public by eminent universities are used as additional resources for teaching.
- Mobile education: Wi-Fi points and networking helps students to study from anywhere in the campus.

2.3.8 Is there any designated group among the faculty members to monitor the trends and issues regarding developments in open source community and integrate its benefits in the institution's educational processes?

Faculty groups in constituent units participate in such communities and track the trends and issues regarding developments in open source community. For example, in MIT, the curriculum committee of each department generally looks into such issues.

2.3.9 What steps have the institution taken to convert traditional classrooms into 24x7 learning places?

As a part of continuous assessment process, students are given several activities which are time-bound such as assignments, presentations, seminars, mini projects, class tests, quizzes that extend their learning activity beyond classrooms and convert the same into 24x7 learning places.

2.3.10 Is there a provision for the services of counsellors/mentors/advisors for each class or group of students for academic, personal and psycho-social guidance? If yes, give details of the process and the number of students who have benefitted.

Faculty members from each constituent institution act as teacher guardians, counsellors and mentors for the students allotted to them from their respective institutions. Details of the teacher – guardian scheme are provided below.

They meet the students on a defined frequency and document the same. The same is reviewed in class committees/faculty meetings for any necessary actions.

Apart from this there is a professional counsellor at University, who can be contacted by the students for their counselling needs. Director - student affairs and her two deputies continuously monitor this and review it in the MRMs.

Details of number of students who benefitted in last three years are as below:

Need based counselling	Year	No.s
No. of issues handled in the office of director, student affairs	2012	143
	2013	77
	2014	143
No. of students counselled by		
- Student counsellor	2012	246
	2013	625
	2014	814
- Deputy Directors, Student Affairs	2012	15
	2013	19
	2014	13

In addition, the University has Mentor-Mentee/ Teacher Guardian Scheme to address the needs of the students.

Teacher Guardian scheme:

1. Objective

The teacher acts as a local guardian for the newly joined students and enables them to get adjusted to the campus and the course.

2. Scope

The undergraduate students who join the various professional programmes of the university are privileged to have the benefit of the teacher-guardian scheme.

3. Responsibility

Director- Students Affairs, Principals, Deans, HoDs, Chief Administrator and all faculty members

4. Functioning:

Beneficiaries of the programme are as below:

- All newly joined undergraduate students till they finish their first university exam.
- Students who fare poorly in academic requirements (or for any other valid reason) may avail the facility in the later phase of their training upon the request of parents.

Criteria for selection of the teacher who will be the guardian

- Usually the teachers who are involved in training the first year students are involved in this scheme.
- The Teacher Guardian will be appointed as per University policy.
- HOI/HOD in consultation with the Director - Student affairs will identify teachers who are willing to act as guardians.
- HOI/HOD may update the list of teachers identified as guardians periodically depending on the feedback obtained. The teachers so identified are notified to the director - student affairs.
- The names of the students who do not meet their respective teacher guardian are brought to the attention of the HOI/HOD/Director - Student Affairs. Also Situations where parents do not respond to the communication from teacher guardian are brought to the notice of HOI/HOD/Director - Student Affairs.
- A copy of the quarterly report of functioning of teacher guardian scheme is sent to the director, student affairs.

Functioning of the teacher guardian scheme

- At the time of admission to a new programme in the university, all the students and their parents are briefed about the teacher guardian scheme.
- All first year students compulsorily have to join the scheme. The parents are provided with the contact address, telephone number, e-mail address of the teacher guardian of their ward/child. The teacher guardian in turn meets the parents of his/her ward during the time of orientation day establishes a contact with parents. The contact address of parents, e-mail and phone number are ascertained at this time. Parents are suggested to keep in regular touch regarding their ward's academic performance, attendance, health, habits etc.,
- In the first six months of the programme, student has to contact the respective teacher guardian at least once or twice in a month, or more often when the situation demands
- Every teacher reports to the HOI/HOD of the college about the contacts with the student once in three months.
- The student informs the respective teacher guardian if he/she is going to be out of town, or is changing the place of residence.
- In case of minor ailments the teacher directs the student to the respective department for medical help. When a student gets admitted to the hospital for any reason, the teacher remains aware of this fact and contacts the parents depending on the urgency of the situation.

- If the teacher has consistently shown inadequate contact with the student and is unable to establish rapport with a group of students, he/she will not continue in the scheme.
- In higher classes, students who fare badly in academics, who absent themselves from class for various reasons may be given the benefit of the scheme upon the request of the parents, and the parents have to pay for this.
- In situations where the parents or the student concerned does not respond to the teacher guardian, the same is reported to the HOI/HOD /Director - Student Affairs.

Mentorship Scheme:

Currently this scheme is initiated and operational in MMMC (Manipal campus) as it has a large number of international students; however University is in the process of extending this scheme to other institutions/units. This scheme is designed keeping in mind the cultural background and special needs of the international students. Mentors are the faculty of MMMC at Manipal campus.

The objectives of the mentorship scheme are to:

- Help the students to get acclimatized to campus life in Manipal
- Provide academic counseling
- Give personal and professional guidance
- Promote cultural integration
- Support co-curricular and welfare activities of the students
- Arrange remedial measures for students who are at the risk of failure

Students who have settled into the programme will benefit from the mentorship scheme, which will give:

- Encouragement to maintain the tempo of their learning
- Guidance on how to further improve their academic performances

Advice on the need to be regular in attending classes and actively participating in group activities suggestions on how to maximize and focus their academic endeavors

Off shore campus

Melaka

All students are assigned mentors, usually six to eight to one faculty member in the Phase I and about 8 – 12 in Phase II. Counsellors are also available.

2.3.11 Were any innovative teaching approaches/methods/practices adopted/put to use by the faculty during the last four years? If yes, did they improve learning? What were the methods used to evaluate the impact of such practices? What are the efforts made by the institution in giving the faculty due recognition for innovation in teaching?

Constituent units deploy several innovative approaches/methods/practices to improve the learning process. These approaches/methods /practices help in augmenting the traditional forms/methods of learning and provide holistic education to the students thereby enhancing their learning experience. Few examples of such innovations are described below:

- Mini projects in every subject are emphasized more than short assignments. Students are encouraged to form groups and identify a problem which is socially and economically relevant to the present day context. Students groups are encouraged to obtain/buy components to demonstrate the proof of concept/prototype. Faculty members are given freedom to permit the students to buy components relevant to the projects. Based on the outcome of the exercise, faculty members are given due credit in their performance evaluation system.
- The faculty members who have pursued higher education in nursing have tested the effectiveness of self-directed learning, concept mapping and problem based learning in the teaching learning process of the students. The institution encourages the faculty for adopting innovative strategies. There is an innovative centre and Phillips BOP chair, which financially supports new innovations. The performance appraisal system gives higher points for the teacher who has more contribution to the innovative methods. They are monetarily benefitted based on the rating obtained.
- Each clinical area has a teacher to supervise, help and evaluate students learning. Teachers conduct regular clinical teachings and pre and post conferences. Students have given good feedback on these.

More examples are available in the evaluative reports of constituent institutions/units. Impact of such practices is captured through the student feedback about the faculty members, course and their overall experience in the programme. In recognition of faculty member's efforts in deploying innovative approaches in teaching, constituent institutions/units provide 'Best Teacher Awards'.

2.3.12 How does the institution create a culture of instilling and nurturing creativity and scientific temper among the learners?

For this purpose, the constituent units conduct competitions among the students. Few examples of how University encourages creativity and nurtures scientific temper are given below:

- BOP chair University organises ideation workshop for students.
- Technology Business Incubator (TBI) conducts competitions focused on generating innovative ideas on an annual basis and the most innovative ideas are supported by venture capitalist for funding and incubation centre at MIT provides infrastructure support.
- Melaka Manipal Medical College (MMMC) organizes ‘Mould your Microbe’.
- Inspire programme organised by SOLS for encouraging students at 10+2 level to take up further education in Science domain.

More details are provided in the reports of the respective colleges.

In addition, the university encourages and supports students to participate in various academic conferences for presenting research papers. Each student is eligible for a financial support of Rs. 5000 during the tenure of his / her academic programme.

2.3.13 Does the institution consider student projects mandatory in the learning programme? If yes, for how many programmes have they been (percentage of total) made mandatory?

- * Number of projects executed within the institution.
- * Names of external institutions associated with the institution for student project work.
- * Role of faculty members in facilitating such projects.

Student projects are part of learning programmes wherever the prescribed syllabus by the respective statutory bodies or respective boards of studies makes it mandatory as a part of the programme. In the field of technical and management education, each student has to work on a project and submit the report, which is evaluated by the teachers. For example, in case of engineering programme:

- It is mandatory for both undergraduate (UG) and postgraduate programmes (PG). In UG programmes, it is a group/individual activity, for PG programmes, it is always an individual activity.

- Several domain-specific industries are associated with this activity.
- The faculty members generally act as project guides along with experts from industry.

More details are available in evaluative reports of constituent institutions.

2.3.14 Does the institution have a well-qualified pool of human resource to meet the requirements of the curriculum? If there is a shortfall, how is it supplemented?

Yes. The university has well qualified pool of human resources meeting the compliance requirement of statutory/regulatory bodies. Occasional shortfall is bridged with adjunct/guest/visiting faculties wherever required.

2.3.15 How are the faculty members enabled to prepare computer-aided teaching/learning materials? What are the facilities available in the university for such efforts?

All full time faculty members have been provided with individual laptops with internet facility, which facilitates preparation of computer-aided teaching/learning materials.

Libraries are equipped with digital databases, subscriptions to online journals/repositories which enable faculty members to prepare learning material using latest information.

There is a full-fledged Audio Visual Department in the university, which assists the faculty members in preparing the self-learning e-materials. Details of support and facilities provided by this department are as follows:

The Audio Visual Department was setup in the University with the objective of providing centralized services to the departments, its constituent units and associate teaching hospitals in the field of photography, video coverage and audio systems. The department is well-equipped with sophisticated machinery which is handled by trained and competent personnel.

The department is located in the University building and archives all the important events and activities of the University and its constituent units, including the rare medical procedures conducted in the hospitals, which are important for teaching. The major role of the department is to provide photo coverage, video coverage and audio systems to all the events at University, constituent colleges and associate hospitals and to maintain the archives.

The photography section is functioning with full swing assisting in various academic activities and other programmes organized by University and its constituent units and hospitals:

- Taking photographs or video clippings of the clinical features of patients in wards and outpatient departments.
- Passport size photographs of faculty and students.
- Taking photographs or video clippings of intra-operative steps during surgery in operation theater
- Taking photographs of histopathology or smear slides through microscope.
- Taking photographs of specimens, pictures from textbooks or journals, X-rays or CT films & etc.
- Assisting faculty and students for presentations and posters
- Covering all the events in the campus like annual day, convocation, conferences, workshops, guest lectures, cultural activities etc.

The department is well equipped with following accessories:

- Digital SLR and non SLR camera & accessories.
- Electronic flash.
- Photomicrography unit & accessories.
- Studio lighting.
- PC & accessories.
- Color laser printer
- X-ray illuminator

The services of the videography department include

- Video coverage of the events organized by University and its constitutions units and associate hospitals
- Video coverage of the clinical procedures of patients in wards and outpatient departments of associate hospital
- Sound system for the events at the campus
- Assisting PhD students for their research oriented activities
- Preparing documentary for institutional/ research institutions of University in research work
- Preparing Teaching-Learning materials for faculty

Major equipment includes

- Video cameras HD
- VCR
- Digital voice recorder
- DVD players
- LCD Projectors with projection screen
- Video editing machines

- TVs
- Sound systems include
 - Speakers
 - Microphones
 - Mixers
 - Amplifiers

The University encourages faculty members to prepare self-learning packages for the benefit of its students. Every year, each unit of the University, invites the faculty members to submit the learning materials prepared by them. They are incentivised for the same. In addition, the adjudged best learning materials – the first three – are rewarded with a cash prize and a certificate

2.3.16 Does the institution have a mechanism for the evaluation of teachers by the students / alumni? If yes, how is the evaluation feedback used to improve the quality of the teaching-learning process?

Feedback system is in place to evaluate the faculty members in the duration of the course.

The feedbacks are reviewed by concerned HOI/HoD and informed to the faculty member for remedial measures to be deployed if required.

In addition, at the time of course completion, students give feedback on various components of University services, academic and non-academic. These feedbacks are reviewed at the university level during the annual meetings conducted by Director - Student Affairs and the suggestions are incorporated into the processes, wherever possible.

Student feedback forms the basis while deciding the “good teacher awards” (A sample copy of feedback form is enclosed as **Annexure 2.5**)

2.3.17 Criteria Specific to Health Sciences

2.3.17.1 To what extent is the institution geared to use computer-based telemedicine facilities?

The institution has most of the necessary infrastructure to use computer-based telemedicine facilities and is prepared to move to this when the regulatory body suggests such changes.

2.3.17.2 Provide the following details about each one of the teaching programmes:

- A. Complete timetable
- B. Number of didactic lectures

- C. Number of students in each class
- D. Number of medical procedures that the students get to see
- E. Details of the labour theatre, operating rooms, treatment rooms in medicine, post-operative and post-natal care facilities
- F. Mannequins for student teaching
- G. Number of students inside the theatres at a given time
- H. Number of procedures in the theatres per week, month and year

Outpatient teaching:

- A. Number of students
- B. Average attendance: new and old cases
- C. Total period of posting for UG students in the op
- D. Special clinics and their details
- E. Casualty training and night emergencies
- F. Organization of OP teaching

Hospital teaching:

- A. Coordinator of hospital teaching
- B. Institution-hospital distance
- C. Resident staff: accommodation for staff and students inside
- D. Total number of beds in different sections including the sub-specialty beds
- E. Average number of students at a time in a given ward; their seniority and Class
- F. Number of hours that the student spends in the ward per day
- G. Number of hours that the staffs spends in the wards

Clinical teaching:

- A. Time table for bedside clinics
- B. Details of student case sheets
- C. Corrected case-sheets:
- D. Periodic assessment of clinical acumen: frequency, modalities, and review
- E. Clinico-pathological conferences
- F. Frequency and details of student participation
- G. Details of postgraduate grand rounds

H. Sub-specialty training facilities for UGs and also PGs.

All the above aspects of Teaching-Learning Process are followed as per requirements of statutory bodies and the details are available in **Annexure 2.6a** and also in evaluative report of the departments/schools/colleges.

Off shore campus

Melaka

#	Particular	Details
1	Complete time table	Annexure 2.6 b
2	Number of didactic lectures	-d0-
3	Number of students in each class	-d0-
4	Number of medical procedures that the students get to see	About 3 / 4 procedures per week.
5	Details of the labour theatre, operating rooms, treatment rooms in medicine, post-operative and post-natal care facilities	Labour theatre and other facilities of the Ministry of Health’s Malacca General Hospital and Muar Specialist Hospital being utilized for students’ clinical training postings
6	Details of the labour theatre, operating rooms, treatment rooms in medicine, post-operative and post-natal care facilities:	No. of labour theatres = 17; Labour rooms – 8, treatment rooms – 4
7	Mannequins for student teaching	Medicine - 24 Paeds - 8 Ophthal - 9 ENT - 15 O&G - 27 Surgery - 45 Ortho - 111 Total - 239
8	Number of students inside the theatres at a given time	7 – 8 students
9	Number of procedures in the theatres per week, month and year	3 - 4 / week depending on no of cases in the aforementioned Hospitals = 15 – 16 per month = 150 per year
<u>Out-Patient Teaching:</u>		
1	Number of students	8 - 10 per posting twice weekly
2	Average attendance:	New 20 -25 and old cases 10-15

3	Total period of posting for UG students in the OPD	Year 5 – 3 weeks Year 4 – 4 weeks
4	Special clinics and their details	Neurology postings (Medicine)
5	Casualty training and night emergencies	Accident & Emergency (Ortho) – 3 wks CCU rounds – One day weekly during Medicine postings
6	Organization of OP teaching	Coordinated by Medicine & Orthopaedic depts.
Hospital Teaching:		
1	Co-ordinator of hospital teaching	Semester coordinator appointed every semester in rotation
2	Institution-Hospital distance	Malacca GH – 2 kms; Muar – 60 kms
3	Resident staff: Accommodation for staff and students inside	Not applicable
4	Total Number of beds in different sections including the sub-specialty beds	Malacca Hospital – 800 beds; Muar Hospital – 400 beds
5	Average number of students at a time in a given ward; their seniority and class	Avg no. of students 12; Year 5 Sem 10
6	Number of hours that the student spends in the ward per day	Year 4 & 5 – 7 hours Year 3 (Sem 6) – 4 hours
7	Number of hours that the staff spends in the wards	4 – 5 hours
Clinical teaching:		
1	Time table for Bedside clinics	8 am – 12.30 pm & 2 – 5 pm
2	Details of Student Case sheets	Each department prepares Logbooks for students which must be completed before end of posting and submitted
3	Corrected case-sheets: by whom?	By Faculty from respective posting department
4	Periodic assessment of clinical acumen: frequency, modalities, and review	On daily basis after each case clerked.
5	Clinico-pathological conferences	Not applicable
6	Frequency and details of student participation	Daily after each clinical round of clerking cases
7	Details of Postgraduate grand rounds	not applicable
8	Sub-specialty training facilities for UGs and also PGs	Not applicable

2.3.17.3 How are the following principles of teaching learning implemented by the institution?

A. Learner-Centered Teaching methods

The teaching process uses a mix of various methodologies for ensuring the achievement of the objectives in the knowledge, problem-solving, psychomotor and attitudinal domains. The college firmly believes that lectures alone are generally not adequate as a method of training and are a poor means of transferring/acquiring information and even less effective at skill development and in generating the appropriate attitudes. However, as these cannot be done away with lectures are made interactive wherein there is ample scope for students to interact. Appropriate use of AV aids is emphasized upon. Every effort is made to encourage the use of active methods related to demonstration and on first-hand experience. Students are encouraged to look at the totality and not just a sum of parts. The students are taught to integrate various system findings and arrive at the diagnosis. While planning the management, aspects of health socio-economics and ethics are stressed upon.

Clinics are organised in small groups of preferably not more than 10 students so that a teacher can give personal attention to each student with a view to improve his skill and competence in handling of the patients. While the curriculum objectives often refer to areas of knowledge or science, they are best taught in a setting of clinical relevance and hands on experience for students who assimilate and make this knowledge a part of their own working skills. The college uses the facilities of a clinical skills lab to provide hands-on training to students.

Efforts are being made to encourage integrated teaching between traditional subject areas using a problem-based learning approach starting with clinical or community cases and exploring the relevance of various pre-clinical disciplines in both understanding and resolving of the problem. Attempts are being made to de-emphasize compartmentalization of disciplines so as to achieve both horizontal and vertical integration in different phases.

In a nutshell, the teaching-learning methods used are:

1. Interactive lectures
2. Small group teaching
 - Practicals
 - Bed-side clinics
 - Seminars/self-directed learning
 - Demonstrations
 - Clinico-pathological discussions

- Group discussions
 - PBLs
3. Projects
 4. Community based learning
 5. Hands-on in clinical skills lab
 6. E-learning modules
 7. Self-directed/directed self-learning

The institution has always believed that all learning should be student-centric. This would enable our students to develop not just knowledge, but skills required to compete in today's globalized world. A few of the methods used to make learning student-centric are:

- i. Assignments (either individual or group)
- ii. Case presentations
- iii. Clinical society meetings
- iv. Conference presentations
- v. Community surveys
- vi. Field visits
- vii. Journal clubs
- viii. Poster presentations
- ix. Projects including research
- x. Role-plays and health teaching
- xi. Seminars
- xii. Problem based learning system (PBLs)
- xiii. Directed Self-learning/Self-Directed learning

The student collects the matter, designs the execution, prepares the presentation and submits/presents to the department which is then evaluated by the teachers. There are three phases of learning during these activities: prior to, during. And post event. The students are given feedback on these aspects by identifying the lacunae and are guided to improve in the next activity. The students are also encouraged to develop skills in their area of interest.

B. ICT-enabled flexible teaching system

In the pre- and para-clinical subjects, e-learning modules have been prepared and are made available to the students online as e-learning material. In addition, almost all faculty members use ICT in their teaching methodology. The

institution subscribes to a lot of e-learning material including books and journals, which enables students to have flexible learning.

C. Distance education

Not applicable

D. Self-Directed Active Learning system

This is done by allotting assignments, projects and seminars to students. In addition, the pre-, and para-clinical subject e-learning modules have been prepared.

MMMC provides time slots for self-directed active learning. At identified slots in the time table, these topics are reviewed by teachers to assess what the students learnt and provide clarifications/additional information.

E. Problem based learning (PBL)

MMMC has PBL process. Other Health sciences Institutions introduced PBLs as a mode of learning. Topics have been identified and the draft objectives have been laid down. Each faculty member has been sensitized on using PBL as a teaching-learning methodology.

F. Evidence-based medicine

During the teaching of community medicine in the fourth semester, the students are taught about evidence-based medicine. They are also taught the same during the clinical discussions as a part of their training programme.

G. Emphasis on development of required skills, adequate knowledge and appropriate attitude to practice medicine

At the beginning of the session of a particular subject, the students are informed of the knowledge, skills and attitude that they need to acquire at the end of that subject/course. Every department has laid down these in line with what has been mentioned by the regulatory body. Attitude assessment is a part of on-going evaluation. During every case discussion, the faculty member guides the student and helps them in achieving the desired attitude. As a part of community outreach programme; when the students are in the community, there is a continual evaluation of their attitudes towards the patient and the community in general, including respect for socio-cultural differences.

The attitude of students in team-work is assessed in their organization of extra-curricular activities and community development programmes.

All Health sciences students are mandatorily trained in Basic Life Support (BLS) Skills and optional training on Advanced Coronary Life Support (ACLS) as a part of Skills Lab

Off shore campus

Melaka

Implementation of the following principles of teaching learning

#	Principle	Implementation
1	Learner centered teaching methods	Didactic lectures
2	ICT enabled flexible teaching system.	Use of e-Learning (Moodle) in teaching and for research.
3	Distance Education.	Distance Education - Not Applicable
4	Self-directed active learning system.	Self-Directed Learning sessions is part of curriculum with subsequent review
5	Problem based learning.	Problem based learning sessions also in curriculum – students expected to make presentations.
6	Evidence based medicine.	Evidence based medicine – Imparted at clinical postings and reviews subsequently in campus.
7	Emphasis on development of required skills, adequate knowledge and appropriate attitude to practice medicine.	Practice in the Clinical Skills Learning Centre; Workshops / seminars on skills lab training; Personal development skills seminars

2.3.17.4 Does the teaching hospital carry out an established initial assessment of the patients cared for, in terms of

A. Outpatient services?

B. Emergency services?

C. In-patient services?

Yes, the hospital carries out an established initial assessment for all the patients in the above mentioned categories. The same are documented in the patient's case record.

2.3.17.5 Does the teaching hospital provide

a. Laboratory services as per the requirements of the patients including established laboratory quality assurance programme, and

b. Laboratory safety programme?

- a. Our laboratory services take care of almost all the requirements of our patients. All our laboratories adhere to a quality assurance programme and the central patient care are accredited under ISO 15189:2007 by national accreditation board for laboratories.
- b. All our laboratories adhere to laboratory safety programme.

2.3.17.6 Does the teaching hospital provide imaging services as per the requirements of the patients including

a. Established quality assurance programme for imaging services and

b. Established radiation safety programme?

a) Yes, our teaching hospitals provide imaging services as per the requirements of the patients. In addition to x-ray and ultrasound, we also have high-end CT and MRI machine in our hospitals.

There are also facilities for interventional radiology.

b) Quality assurance and radiation safety programme as laid down by AERB are adhered to. There is a radiation safety officer to supervise radiation safety aspects.

2.3.17.7 Does the teaching hospital provide continuous and multi-disciplinary nature of patient care services?

Yes, our teaching hospitals provide continuous and multi-disciplinary nature of patient-care services. We have all the basic specialties and most of the super-specialties in our hospitals. The teaching hospitals follow a unit-based system for providing patient-care.

2.3.17.8 Does the institution have a medical records department staffed by trained and qualified personnel and whether the institution has a well-documented discharge process of the admitted patients?

Yes, we have a medical records department staffed by trained and qualified personnel. We have a well-documented discharge process for all our admitted patients.

2.3.17.9 Does the institution perform medico legal/post-mortem procedures with a view to train the undergraduate and postgraduate students in medico-legal procedures?

Yes. The forensic medicine faculty members perform medico-legal/post-mortem procedures. In addition, one of the strengths of the institution is conduct of clinical autopsies for academic reasons.

Facilities provided at the Teaching Hospitals of University

Manipal Campus – Kasturba Hospital Manipal

Mangalore Campus – Kasturba Medical College Hospital, Attavara, Mangalore

Melaka Campus (govt. hospitals attached to the college)

2.4 Teacher quality

2.4.1 How does the institution plan and manage its human resources to meet the changing requirements of the curriculum?

Recruitment of Faculty

University has been a pioneer in attracting academic staff from all over the country right from the beginning. Its robust HR policy facilitates retention and also helps University to recruit the committed and knowledgeable academicians from all over the country.

Before the beginning of any academic year, HOI reviews the teaching and non-teaching staff requirements based on new courses/programmes introduced, additional intake and statutory requirements etc. and communicates the same to the HR department for initiating the recruitment process. HRD looks at the availability of these resources within the constituent institutions and if not available, advertises the requirement in leading newspapers/websites. Further, the interviews are scheduled and the candidates are selected by the faculty selection committee of University. In case there are urgent requirements in between the academic year (due to attaining retirement age or leaving the institution), on need-basis HR invites applications and fills the positions after completing recruitment formalities.

Reorientation and Training of faculty

Individual institutions organize required workshops/training programmes to the faculty members to understand the changing trends and reorient them towards the same.

Manipal Centre for Professional and Personal Development (MCPD) assists the institutions in organizing such programmes.

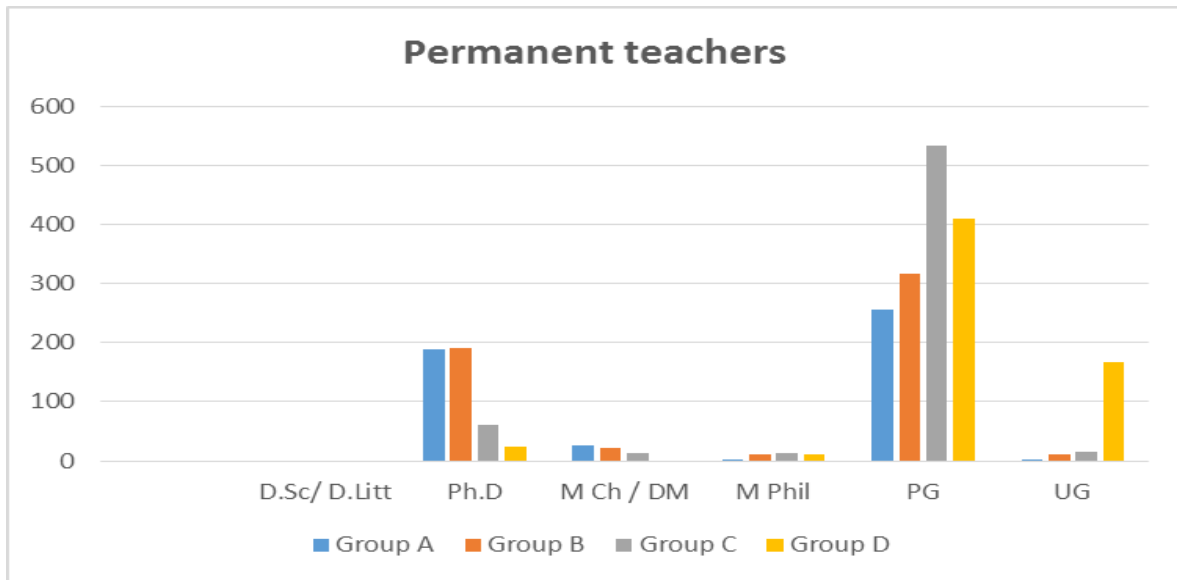
All newly joined faculties will undergo induction training along with other necessary training programmes/workshops.

2.4.2 Furnish details of the faculty

Manipal, Mangalore and Bangalore Campus

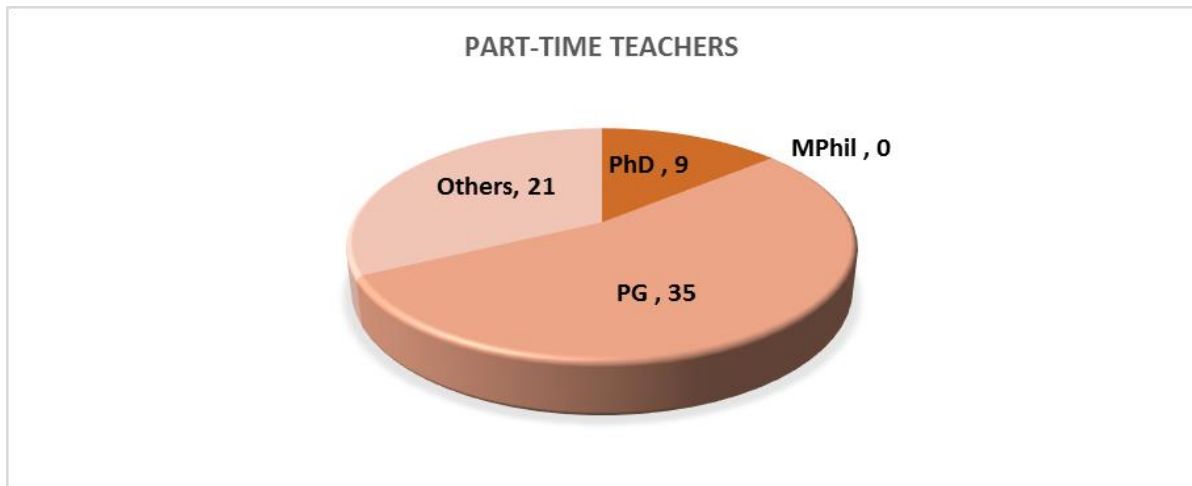
Permanent teachers as on Dec. 31, 2014									
Highest Qualification	Group - A		Group - B		Group - C		Group - D		Grand Total
	Female	Male	Female	Male	Female	Male	Female	Male	
D.Sc/ D.Litt	0	0	0	0	0	0	0	0	0
Ph.D	49	140	63	127	15	45	6	17	462
M Ch / DM	2	23	0	21	2	11	0	0	59
M Phil	0	1	4	7	6	8	5	6	37
PG	89	167	124	193	207	327	207	202	1516
UG	0	2	3	8	6	10	108	59	196
Grand Total	140	333	194	356	236	401	326	284	2270

Group	Designations
Group - A	Professor /Additional Professor/Associate Professor - Sr.Scale
Group - B	Associate Professor/ Selection Gr Lecturer/ Assistant Prof-SI Grade / Reader
Group - C	Assistant Professor / Assistant Prof-Sr Scale / Senior Resident /Reader(Dental)/Senior Gr Lecturer
Group - D	Lecturer / Assistant Professor / Specialty Medical Officer /Assistant Prof. on contract/Assistant Lecturer/Tutors /Junior Resident



Temporary teachers: NIL

Part-time teachers			
Highest qualification	Male	Female	Total
PhD	7	2	9
MPhil	0	0	0
PG	24	11	35
Others	16	5	21
Total	47	18	65



Dubai Campus

Highest Qualification	Professors		Associate Professors		Assistant Professors		Senior Lecturers		Lecturers		Total
	M	F	M	F	M	F	M	F	M	F	
Permanent teachers											
D.Sc./D.Litt	-	-	-	-	-	-	-	-	-	-	0
Ph.D.	5	-	6	2	7	4	-	1	-	-	25
M. Phil.	-	-	-	-	1	-	-	-	-	-	1
PG	1	1	-	1	5	-	18	15	2	4	47
Temporary teachers: NIL											
Visiting teachers											
Ph.D.	2	-	1	-	3	2	-	-	-	-	8
M. Phil.	-	-	-	-	-	-	-	-	-	-	-
PG	2	-	-	-	9	5	5	6	-	1	28

Melaka Campus

Highest Qualification	Professors		Associate Professors		Assistant Professors		Senior Lecturers		Lecturers		Total
	M	F	M	F	M	F	M	F	M	F	
Permanent teachers											
D.Sc./D.Litt	-	-	-	-	-	-	-	-	-	-	-
Ph.D.	1	-	-	1	-	-	-	-	-	1	3
M.Phil.	-	-	-	-	-	-	-	-	-	-	-
PG	25	7	21	8	9	4	-	-	3	-	77
Temporary teachers: NIL											

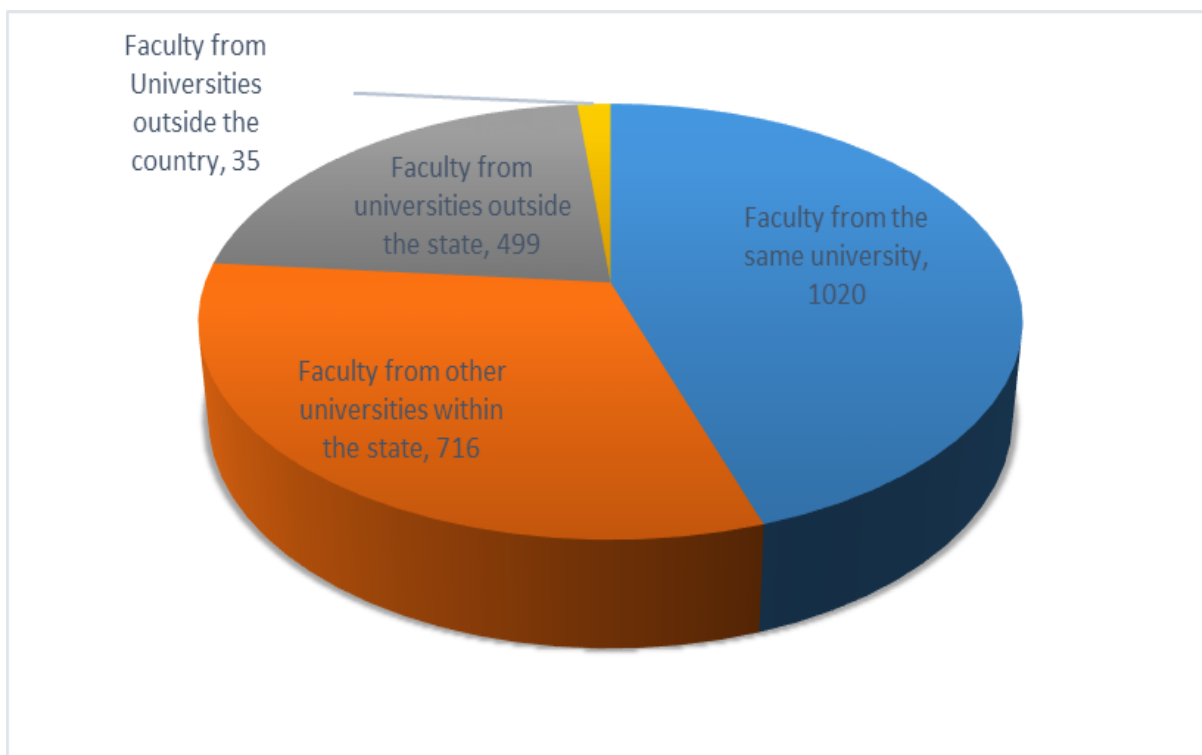
University prefers to have permanent academic faculty on its rolls which will ensure commitment and continuation of teaching activities.

2.4.3 Does the institution encourage diversity in its faculty recruitment? Provide the following details (department/school-wise).

As indicated in 2.4.1 right from 1950’s Manipal has encouraged recruitment of faculty from all over the country without any prejudice to Religion, Sex ,Caste etc.and even today the same policy continues. The following table strongly supports the same.

#	Department/school	Total faculty (excluding tutors/Senior registrar)	% of faculty from the same university		% of faculty from other universities within the state		% of faculty from universities outside the state		% of faculty from Universities outside the country	
			Nos.	%	Nos.	%	Nos	%	Nos	%
1	Kasturba Medical College, Manipal	413	170	41.16	106	25.67	137	33.17	0	0
	a. Statistics	7	0	0	4	57.14	3	42.86	0	0
	b. Public Health	9	3	33.33	0	0	6	66.67	0	0
	c. Virology	1	1	100	0	0	0	0	0	0
	d. Library & Info Science	3	0	0	3	100	0	0	0	0
2	Kasturba Medical College, Mangalore	378	191	50.53	145	38.36	41	10.85	1	0.26
3	Melaka Manipal Medical College, Manipal	153	96	62.74	39	25.49	11	7.19	7	4.58
4	School Of Allied Health Sciences, Manipal	123	91	73.98	6	4.88	26	21.14	0	0
5	Manipal College Of Nursing, Manipal	53	40	75.47	9	16.98	4	7.55	0	0
	a. .School Of Nursing, Manipal	15	10	66.67	2	13.33	3	20	0	0
6	Manipal College Of Pharmaceutical Sciences, Manipal	72	47	65.28	12	16.67	13	18.06	0	0
7	Welcomgroup Graduate School Of Hotel Administration	30	3	10	8	26.67	19	63.33	0	0
8	Manipal College Of Dental Sciences, Manipal	82	52	63.41	25	30.49	5	6.10	0	0
9	Manipal College Of Dental Sciences, Mangalore	77	32	41.56	39	50.65	6	7.79	0	0

10	Manipal Institute Of Technology, Manipal	627	223	35.57	247	39.39	145	23.13	12	1.91
	a. Atomic & Molecular Physics	10	1	10	4	40	5	50	0	0
	b. Faculty of Architecture	56	8	14.29	17	30.36	31	55.36	0	0
	c. Natural Sciences	4	1	25	0	0	2	50	1	25
11	School Of Management, Manipal	19	6	31.58	9	47.37	4	21.05	0	0
	a. Commerce	24	7	29.16	8	33.33	8	33.33	1	4.16
12	School Of Life Sciences, Manipal	24	4	16.67	10	41.67	8	33.33	2	8.33
13	School Of Regenerative Medicine, Bangalore	11	2	18.18	6	54.55	3	27.27	0	0
14	School Of Nursing, Mangalore	11	7	63.64	4	36.36	0	0	0	0
15	School Of Information Sciences, Manipal	24	17	70.83	3	12.50	4	16.67	0	0
16	School Of Communication	25	8	32	4	16	10	40	3	12
	a. Geopolitics & IR	5	0	0	0	0	5	100	0	0
	b. European Studies	4	0	0	3	75.00	0	0	1	25.00
	c. Philosophy & Humanities	8	0	0	1	12.50	0	0	7	87.50
	d. Gandhian & Peace Studies	1	0	0	1	100	0	0	0	0
	Directorate of Research	1	0	0	1	100	0	0	0	0



2.4.4 How does the institution ensure that qualified faculty are appointed for new programmes/emerging areas of study (Biotechnology, Bio-Informatics, Material Science, Nanotechnology, Comparative Media Studies, Diaspora Studies, Forensic Computing, Educational Leadership, etc.)? How many faculty members were appointed to teach new programmes during the last four years?

At the time of preliminary discussions about the introduction of new programme, HR requirements are projected by the concerned constituent institutions offering that programme.

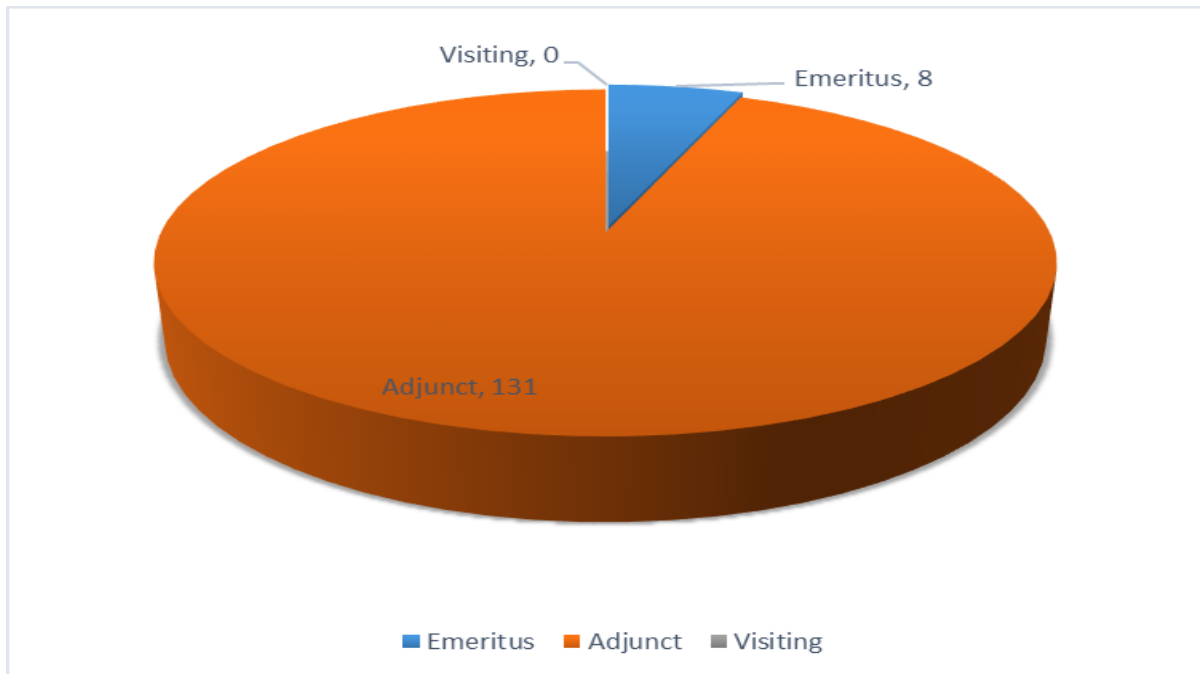
Vacancies for faculty positions are advertised in several leading newspapers and posted on official website. Selection is made by a faculty selection committee constituted by the university for the purpose. The Selection Committee includes external experts in the chosen field. The Selection Committee focuses on knowledge, attitude, communication skills and inclination towards Research of each candidate.

Apart from these, HOIs/HODs through their networking at professional levels identify potential candidates. Existing faculty members with suitable qualifications and experience to handle the subjects in the new programme from the same or other constituent institutions are also identified and utilized in delivering the programme. Requirements of statutory bodies, if any, are complied. **Details of faculty positions sanctioned and filled are available constituent institution-wise in evaluative report of constituent institutions.**

2.4.5 How many emeritus/adjunct faculty/visiting professors are on the rolls of the institution?

Emeritus, adjunct and visiting professors		
Emeritus	Adjunct	Visiting
8	131	0

Emeritus, Adjunct and Visiting professor



2.4.6 What policies/systems are in place to academically recharge and rejuvenate teachers? (e.g., providing research grants, study leave, nomination to national/international conferences/seminars, in-service training, organizing national/international conferences etc.)?

- University encourages faculty members to attend workshops, symposia, training programs, and conferences at national and international levels by granting special casual leave and providing a financial support of Rs 50,000 / Rs. 75,000 per year towards expenses related to the same.
- Faculty members are encouraged to publish their research output in journals, periodicals, magazines etc., for which they are awarded defined points. Incentives are provided to faculty members based on the accumulation of points in the form of cash or sponsorship for attending international conference, registration fees and travel expenses. MCPD also conducts training sessions on different aspects of ‘teaching learning process and professional development’.
- Directorate of Research University, conducts training workshops, seminars on research orientation, how to apply for research grants, information about

grants from various sources etc., to encourage faculty members to take up research.

- Sabbatical Leave provision is also available in case a faculty member would like to relocate to another place in pursuit of research.
- University encourages institutions to organize conferences/international conferences by providing logistics and infrastructural support.
- Faculty development programmes are conducted in specialized areas to train the faculty members and update them in their respective domain.

(Please refer **Annexure 2.7** for more details regarding Leave Policy, Conference Facility, Good Teacher Award, Research Incentive Policy etc.)

2.4.7 How many faculty received awards/recognitions for excellence in teaching at the state, national and international level during the last four years?

Faculties from the constituent units of University have received several awards/recognitions for excellence in teaching at the state, national and international level indicating the wealth of talent and knowledge assets developed by the University.

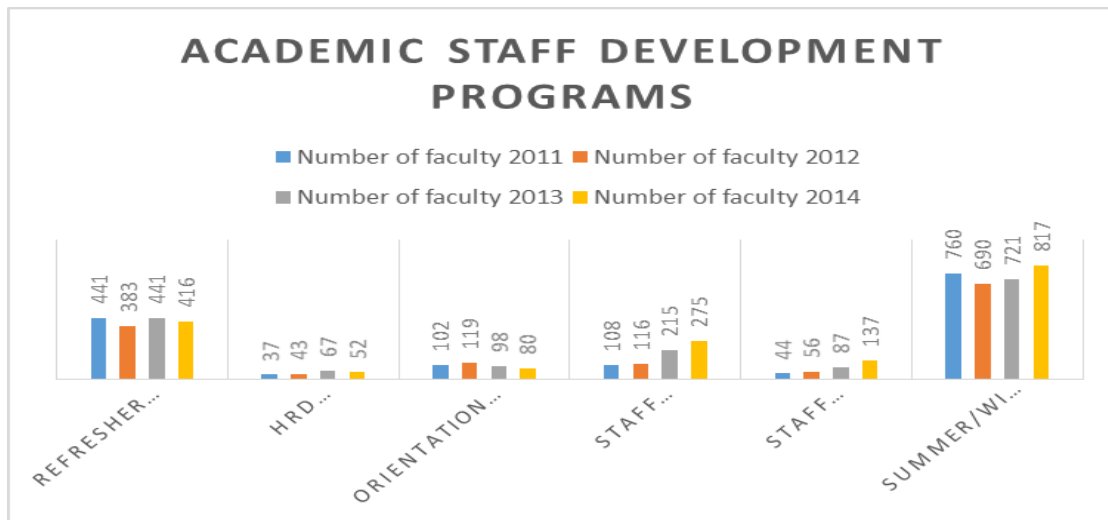
The following table highlights faculty achievements from the year 2011 to 2014. For details of the award kindly refer Annexure 2.8a:

#	Institutions	No. of awards/recognitions received
1	Kasturba Medical College, Manipal	72
2	School of Allied Health Sciences, Manipal	22
3	School of Life Sciences Manipal	17
4	Dept. of Statistics, KMC Manipal	2
5	Dept. of Public Health,, KMC Manipal	3
6	Manipal College of Nursing, Manipal	20
7	Manipal College of Pharmaceutical Sciences, Manipal	52
8	Melaka Manipal Medical College, Manipal	24
9	Manipal College of Dental Science - Mangalore	7
11	Manipal Institute of Technology. Manipal	44
12	Department of Atomic and Molecular Physics, MIT Manipal	7
13	School of Management, MIT, Manipal	1
14	Department of Commerce, SOM Manipal	4
15	Department of Geopolitics & International Relations	5
16	Welcomgroup Graduate School of Hotel Administration, Manipal	5
17	School of Regenerative Medicine, Bangalore	3
	Total	288

2.4.8 How many faculty members underwent staff development programmes during the last four years (add any other programme if necessary)?

Staff Development programmes for the year 2011, 2012, 2013 & 2014

Academic staff development programmes	Number of faculty			
	2011	2012	2013	2014
Refresher courses	441	383	441	416
HRD programmes	37	43	67	52
Orientation programmes	102	119	98	80
Staff training conducted by the university	108	116	215	275
Staff training conducted by other institutions	44	56	87	137
Summer/winter schools, workshops, etc.	760	690	721	817



Please refer evaluative report of constituent institutions.

2.4.9 What percentage of the faculty has

	Been invited as resource persons in workshops/seminars/conferences organized by external professional agencies?	Participated in external workshops/seminars/conferences recognized by national/international professional bodies?	Presented papers in workshops/seminars/conferences conducted or recognized by professional agencies?	Teaching experience in other universities/national institutions and other institutions?	Industrial engagement?	International experience in teaching?
KMC, Manipal	49%	85%	83%	22%	5%	9%
SOAHS, Manipal	41.22%	78.07%	52.63%	14.03%	2.63%	0.87%
SOLS, Manipal	96%	100%	100%	44%	20%	10%
Dept. of Library & Info Science	NIL	100%	100%	NIL	NIL	NIL
Dept. of Statistics	86%	100%	86%	71%	86%	Nil
Dept. of Virus Research	100%	100%	100%	NIL	NIL	NIL
MCODS Manipal	35.8%	86.6%	83.6%	16.4%	0%	5.9%
MCON, Manipal	50.98%	88.24%	74.51%	41.18%	0%	7.84%
MCOPS, Manipal	100%	100%	100%	70%	42%	3%
MMMC Manipal	2014- 16.45%	2014- 33.45%	2014- 20.45%	2014- 7.44%	2014- 0.73%	2014- 7.10%
KMC Mangalore	20%	53.31%	35%	3%	1.65%	NIL
MCODS Mangalore	46%	100%	100%	2%	Nil	1%
Faculty of Architecture	13.72	9.8	3.92	27.45	49.02	Nil
Dept. of Atomic & Molecular Physics	60%	100%	100%	40%	30%	10%
MCNS	11%	16%	16%	Nil	Nil	Nil
SOM, Manipal	65%	90%	100%	40%	50%	28%

Dept. of Commerce	52%	76%	72%	72%	64%	4%
SOC, MANIPAL	2014 – 13%	2014 – 33%	2014 – 33%	50%	8%	9%
Dept. of Geopolitics & Int. Relations	100 %	100 %	100 %	20%	NA	20%
Dept. of Philosophy & Humanities	100%	100%	100%	100%	NA	88%
SOIS, MIT, Manipal	54%	100%	38%	29%	29%	8%
WGSMA, Manipal	22.58 %	93.55%	67.74%	38.70%	54.84%	9.67%
SORM Bangalore	60%	90%	90%	30%	30%	80%

2.4.10 How often does the institution organize academic development programmes (e.g.: curriculum development, teaching-learning methods, examination reforms, content/knowledge management, etc.) For its faculty members aimed at enriching the teaching-learning process?

Constituent units of University update the curriculum keeping focus on requirements of statutory bodies and the different stakeholders. Academic development programmes (curriculum development, examination reforms) are implemented in a cycle for four years and for PG on an annual basis. University conducts various types of professional development programmes on a regular basis. University has established Manipal Centre for Professional and Personal Development (MCPD) which conducts faculty development programmes with the help of internal and external experts and trains the faculty on different dimensions aimed at enriching the teaching learning process. The programmes organised by MCPD since January 2012 is listed below. The centre also collects feedback on its programmes and uses the same for continual up gradation of its programmes.

Programmes organized by MCPD from January 2012 to December 2014

Sl#	Name of the workshop	Dates	Participants	College/university	Number of participants
1.	Pedagogic and personal effectiveness workshop	4-6 January, 2012	Faculty	SoIS	22
2.	E-learning workshop	10 January, 2012	Health sciences faculty	University	36

3.	Teacher as leader - academic leadership workshop	17January, 2012	Faculty from constituent colleges	University	43
4.	Teacher as leader - academic leadership workshop	19January, 2012	Faculty from constituent colleges	University	37
5.	Teacher as leader - academic leadership workshop	20January, 2012	Faculty from constituent colleges	University	38
6.	Theatre workshop on medical humanities	27-29 January, 2012	MBBS students	KMC	32
7.	Professional and personal effectiveness workshop	17-18 February, 2012	Non-teaching staff	University	37
8.	Professional and personal effectiveness workshop	24-25 February, 2012	Non-teaching staff	University	37
9.	Professional and personal effectiveness workshop	2-3 march, 2012	Non-teaching staff	University	35
10.	Professional and personal effectiveness workshop	16-17 march, 2012	Non-teaching staff	University	35
11.	Teacher as leader - academic leadership workshop	22 march, 2012	Faculty from Constituent Colleges	University	34
12.	Professional and personal effectiveness workshop	23-24 march, 2012	non-teaching staff	University	37
13.	Professional and personal effectiveness workshop	30-31 march, 2012	non-teaching staff	University	34
14.	Professional and personal effectiveness workshop	12-13 April, 2012	junior executives	University	36
15.	Professional and Personal effectiveness workshop	19-20 April, 2012	Junior executives	University	44

16.	Frame it - workshop on designing instructional objectives	22 June 2012	Faculty members	University	36
17.	Frame it - workshop on designing instructional objectives	23 June 2012	Faculty members	University	41
18.	Pedagogic and personal effectiveness workshop	10-14 July, 2012	Faculty members	University	32
19.	Pedagogic and personal effectiveness workshop	24-28 July, 2012	Faculty members	University	40
20.	Ink talk programme	24 august, 2012	Faculty members and students	University	450
21.	“search” - a workshop on information literacy	27 august, 2012	Faculty members	University	30
22.	“search” - a workshop on information literacy	28 august, 2012	Faculty members	University	41
23.	Palliative care workshop	7-8 September, 2012	Bangalore		
24.	Dental workshop	21-23 September, 2012	Members of Indian society of periodontology	South India	31
25.	PG orientation programme	5-6 October, 2012	Postgraduates	MCOODS, Manipal	33
26.	Harmony: body - mind balancing	27-30 October, 2012	Faculty members	University	45
27.	Teacher as communicator	15-17 November, 2012	Faculty members	University	111 (41+38+32)
28.	Team building	4December, 2012 (half day)	Marena staff members	University	16
29.	Pedagogic workshop	7-8 December, 2012	Palliative care faculty members	Ernakulum	55
30.	Guest lecture by Dr N De Jong, Maastricht University, Netherlands	19 December, 2012	University faculty members	University	30

31.	Pedagogic and Personal Effectiveness workshop	20-22 December, 2012	Health science teachers, KLE university, Belgaum	Belgaum	40
32.	Guest lecture by Dr.Veerabadra Gowda	1January, 2013	Mu faculty members	University	40
33.	Pedagogic and Personal Effectiveness Workshop	4-7 January, 2013	MSAP faculty members	University	32
34.	Workshop on assessment in higher education	10-12 January, 2013	University faculty members	University	55
35.	Teacher as communicator	24January, 2013	University faculty members Mangalore	University	55
36.	Teacher as communicator	25January, 2013	University faculty members Manipal	University	21
37.	Pedagogic and personal Effectiveness workshop	21-26 February, 2013	University faculty members	University	43
38.	Pedagogic and personal Effectiveness workshop	22-23 March, 2013	AJ Shetty Dental college, Mangalore	Mangalore	48
39.	Pedagogic & Personal Effectiveness Workshop	10th & 11th April, 2013	Faculty of MES Dental College Perinthalmanna	Perinthalmanna	45
40.	Pedagogic & Personal Effectiveness Workshop	19th to 21st April, 2013	Members of the Indian Society of Periodontology	Mumbai	60
41.	National Workshop on Assessment in Higher Education	17th & 18th May, 2013	MU, Faculty	MU	28
42.	Ethical Issues in Biomedical Research	29th & 30th May, 2013	MU Faculty	MU	51
43.	Teacher Training Programme	12th & 13th June, 2013	Canara College, Mangalore	Mangalore	60
44.	VIPASSANA workshop	15th June 2013	MU Faculty	MU	53

45.	Pedagogic & Personal Effectiveness Workshop	21st to 23rd June, 2013	Members of the Indian Society of Periodontology	Kottayam	35
46.	Pedagogic & Personal Effectiveness Workshop	2nd to 4th July 2013	Dubai Campus	MU	60
47.	Workshop Curriculum Design	9th July, 2013	MU Faculty	MU	63
48.	Pedagogic & Personal Effectiveness Workshop	15th to 19th July, 2013	MU faculty	MU	37
49.	Pedagogic & Personal Effectiveness Workshop	22nd to 26th July, 2013	MU faculty	MU	37
50.	PBL workshop	26th July, 2013	Nursing faculty	MU	30
51.	VSO workshop	24th August, 2013	VSO members	MU	25
52.	Research Methodology	29th August, 2013	Interns of Dental College	MCODS	60
53.	Assessment workshop	17th September, 2013	Dental College	MCODS	35
54.	Pedagogic & Personal Effectiveness Workshop	7th & 8th October, 2013	SVS Institute of Dental Sciences, Mahabubnagar	Hyderabad	50
55.	Pedagogic & Personal Effectiveness Workshop	2nd to 4th December, 2013	Architecture and MIC faculty	MU	30
56.	Palliative Care workshop	7th & 8th December, 2013	Palliative Care members	Bangalore	35
57.	Effective Electronic Presentation	21st, 28th December, 2013 and 4th January, 2014	MU faculty	MU	145
58.	Enhancing English Language	8 Friday's (from 17th January onwards)	MU Non-teaching staff	MU	30

59.	Research Methodology Workshop	11th January, 2014	Dental PG Students –	MCODS, Manipal	35
60.	Teacher Effectiveness workshop	25th January, 2014	MU Faculty	MU	67
61.	National workshop on MCQ (DESIGN)	17th & 18th February, 2014	Faculty	MU & other faculty members	80
62.	Enhance English Language Skills	14 hours	MU Non-Teaching staff	MU	30
63.	Pedagogic & Personal Effectiveness workshop	24th – 26th February, 2014	Wayanad	Kerala	30
64.	Professional and Personal Effectiveness workshop	6th to 8th March, 2014	M.Sc/PG students	Biochemistry	24
65.	Patent Filing Camp	22nd March, 2014	Faculty	MU Faculty	44
66.	Personality Development Workshop	24th, 26th and 29th March, 2014	Non-Teaching Staff	MU	109
67.	Relationships.. with yourself and other self	31st March, 2014	Faculty	MU Faculty and Staff	50
68.	Personality Development Workshop	9th, 16th, 23rd & 30th April, 2014	Non-Teaching Staff	MU	120
69.	Enhancing English Language	15th, 16th, 22nd, 25th & 29th April, 2014 and 2nd & 6th May (14 hours)	Non-Teaching Staff	MU	30
70.	Mini-workshop on Knowledge, Memory and Learning	26th April, 2014	Faculty	MU	60
71.	Curriculum Committee Meeting	9th May, 2014	Faculty	MU	45
72.	Research Methodology Workshop	10th, 17th and 24th May, 2014	Students of MMMC	MMMC	142
73.	Evolution of Teaching and Learning in Higher Education	15th May, 2014	Faculty	MU	46

74.	Mini-workshop on Virtual Patients in Health Professions Education	16th May, 2014	Faculty	MU	10
75.	Guest Lecture by Partha Dabke	24th July, 2014	Faculty	MU	20
76.	Guest Lecturer by Dr. Sheetal	30th July, 2014	Faculty	MU	30
77.	Mini-Workshop on Emotional Intelligence	9th August, 2014	Faculty	MU	35
78.	IPR workshop	14th August, 2014	Faculty	MU	60
79.	Pedagogic & Personal Effectiveness workshop	25th to 28th August, 2014	Faculty	MU	52
80.	Enhancing English Language	14 hours	Non-Teaching Staff	MU	26
81.	Teachers' Day Programme	5th September, 2014	Faculty	MU	200
82.	A workshop on power of collective energy	18th September, 2014	VSO Members	MU	30

2.4.11 Does the Institution have a mechanism to encourage

- **Mobility of faculty between universities for teaching?**
- **Faculty exchange programmes with national and international bodies?**

If yes, how have these schemes helped in enriching the quality of the faculty?

University has supported mobility of faculty members between universities. Several faculty members have gone on deputation to various universities in India at all levels including senior administrative positions. University has tie ups with following international universities for faculty exchange.

- Lancaster university, UK
- Group T international university, Leuven, Belgium
- ESIGELEC, France
- Bremen university, Germany
- Volda University, Norway
- University of New South Wales, Australia (short-term teaching assignments)

Mobility of faculty to other Universities (Within Manipal Group and outside)

#	Name of the faculty	Designation	Institution / Dept.	University / Institution to which visited for teaching purpose	Duration of visit	
					From	To
1	Dr. Dhanasekar B	Professor	Manipal College of Dental Sciences, Manipal / Prosthodontics	Melaka Manipal College of Dental Sciences, Malaysia	05/07/11	04/07/13
2	Dr. Nanda Kishor M S	Assistant Professor	School of Communication, Manipal / Geopolitics & IR	pursue post-doctoral studies at Leiden University, Netherland*	01/09/14	31/08/15
3	Dr. Shantharama Patil	Professor	Faculty of Architecture, Manipal / Architecture	Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim	07/04/14	06/04/15
4	Dr. Raghuvir Pai B	Professor	Manipal Institute of Technology, Manipal / Mechanical & Manufacturing Engineering	MIU Malaysia Campus	27/06/11	17/07/12
5	Dr. Jagadeesh Pai B	Associate Professor	Manipal Institute of Technology, Manipal / Civil Engineering	MIU Malaysia Campus	08/09/11	18/07/12
6	Dr. M Srinivasulu	Associate Professor Senior Scale	Manipal Institute of Technology, Manipal / Chemistry	MIU Malaysia Campus	08/09/11	01/08/12
7	Mr. Subrahmanya	Assistant Professor	Manipal Institute of Technology, Manipal / Computer Engineering	MU -Jaipur	16/08/11	15/02/12
8	Dr. D Srikanth Rao	Professor	Manipal Institute of Technology, Manipal / Mechanical & Manufacturing Engineering	MU -Jaipur	10/08/11	31/07/12
9	Mr. Yusuf Haidar	Assistant Professor Senior Scale	Manipal Institute of Technology, Manipal / Computer Engineering	MU -Jaipur	10/08/11	30/10/12
10	Dr. Sripathi PUNCHITHAYA K	Associate Professor Senior Scale	Manipal Institute of Technology, Manipal / Physics	MU -Jaipur	20/08/11	10/06/13
11	Mr. Giridhar Kini	Professor	Manipal Institute of Technology, Manipal / Electronics & Communication Engineering	MU -Jaipur	21/07/12	25/05/13
12	Dr. V I George	Professor	Manipal Institute of Technology, Manipal / Instrumentation & Control Engineering	MU -Jaipur	08/08/12	15/01/14

13	Dr. Anjaiah D	Professor	Manipal Institute of Technology, Manipal / Mechanical & Manufacturing Engineering	Dubai Campus	29/08/12	19/07/14
14	Mr. Sawan Shetty	Assistant Professor	Manipal Institute of Technology, Manipal / Mechanical & Manufacturing Engineering	Dubai Campus	29/08/12	31/08/15
15	Mr. Nitesh Kumar	Assistant Professor	Manipal Institute of Technology, Manipal / Mechanical & Manufacturing Engineering	Dubai Campus	29/08/12	19/07/14
16	Mr. Karanth Shyama Subraya	Assistant Professor	Manipal Institute of Technology, Manipal / Computer Engineering	Dubai Campus	17/09/12	19/07/14
17	Mr. Keshav Jee Sharma	Associate Professor Senior Scale	Manipal Institute of Technology, Manipal / Civil Engineering	MU -Jaipur	01/05/13	31/01/14
18	Mr. Rohit N Shenoy	Assistant Professor	Manipal Institute of Technology, Manipal / Mechanical & Manufacturing Engineering	MIU Malaysia Campus	08/12/13	15/12/15
19	Dr. Balachandra	Professor	Manipal Institute of Technology, Manipal / Information & Communication Technology	MIU Malaysia Campus	05/01/14	16/01/15
20	Mr. Vijaya S R	Assistant Professor Senior Scale	Manipal Institute of Technology, Manipal / Electronics & Communication Engineering	MIU Malaysia Campus	05/01/14	05/06/15
21	Dr. Vijaya Arjunan	Associate Professor	Manipal Institute of Technology, Manipal / Computer Engineering	Dubai Campus	01/09/14	31/08/15
22	Mr. B Shivamurthy	Assistant Professor Selection Grade	Manipal Institute of Technology, Manipal / Mechanical & Manufacturing Engineering	Dubai Campus	01/09/14	31/08/15
23	Dr. Murthy B R N	Associate Professor	Manipal Institute of Technology, Manipal / Mechanical & Manufacturing Engineering	MIU Malaysia Campus	06/05/15	05/05/16
24	Dr. Shah Mohammed Abdul Khader	Assistant Professor Senior Scale	Manipal Institute of Technology, Manipal / Mechanical & Manufacturing Engineering	MIU Malaysia Campus	06/05/15	05/05/16

25	Mr. B Kishore	Assistant Professor Senior Scale	Manipal Institute of Technology, Manipal / Computer Engineering	MIU Malaysia Campus	06/05/15	05/05/16
26	Dr. Ashwin K	Associate Professor	Kasturba Medical College, Mangalore / Anatomy	American University of Antigua	23/06/11	02/07/12
27	Dr. Murlimanju B V	Assistant Professor	Kasturba Medical College, Mangalore / Anatomy	American University of Antigua	11/02/12	28/12/13
28	Dr. Sujatha D'Costa	Selection Grade Lecturer	Kasturba Medical College, Mangalore / Anatomy	American University of Antigua	14/09/13	13/09/17
29	Dr. Chandana Bhargavi	Assistant Professor	Kasturba Medical College, Mangalore / Anatomy	American University of Antigua	01/08/12	31/07/16
30	Dr. Kishan K	Assistant Professor	Kasturba Medical College, Mangalore / Physiology	American University of Antigua	11/02/12	31/07/16
31	Dr. Pratik Kumar Chatterjee	Associate Professor	Kasturba Medical College, Mangalore / Physiology	American University of Antigua	11/02/12	01/07/12
32	Dr. Pemminati Sudhakar	Assistant Professor	Kasturba Medical College, Mangalore / Pharmacology	American University of Antigua	16/08/12	31/01/16
33	Dr. Bharathi Balachandran	Selection Grade Lecturer	Kasturba Medical College, Mangalore / Microbiology	American University of Antigua	15/09/08	30/08/17
34	Dr. Divya Monteiro Pai	Senior Resident	Kasturba Medical College, Mangalore / Anaesthesiology	Posted of Manipal Hospital, Goa	04/06/12	
35	Dr. Kumari Deep Mala	Senior Resident	Kasturba Medical College, Mangalore / Obstetrics & Gynaecology	Posted of Manipal Hospital, Bangalore	29/06/11	
36	Dr. B Seetharama Rao	Professor	Kasturba Medical College, Mangalore / Orthopaedics	Melaka Manipal Medical College, Melaka, Malaysia	01/12/14	30/11/16
37	Dr. Raghavendra Bhat	Professor	Kasturba Medical College, Mangalore / General Medicine	Melaka Manipal Medical College, Melaka, Malaysia	19/05/15	18/05/16
38	Mr. Sunil Bhadri	Assistant Professor Senior Scale	School of Communication, Manipal	Hochschule Bremen University of Applied Sciences, Bremen, Germany	20/04/12	20/07/12
39	Dr. Padma Rani	Associate Professor	School of Communication, Manipal	Hochschule Bremen University of Applied Sciences, Bremen, Germany	15/04/13	15/07/13
40	Mr. Varadesh Hiregange	Assistant Professor Senior Scale	School of Communication, Manipal	Hochschule Bremen University of Applied Sciences, Bremen, Germany	30/04/13	12/07/14

41	Mr. Padmakumar K	Assistant Professor Selection Grade	School of Communication, Manipal	Volda University, Norway.	01/09/12	20/09/12
42	Ms. Maitreyee Mishra	Assistant Professor Senior Scale	School of Communication, Manipal	Volda University, Norway.	12/09/13	23/09/13
43	Ms. Anupa Lewis	Assistant Professor	School of Communication, Manipal	Volda University, Norway.	08/09/14	18/09/14
44	Mr. Naresh Nayak	Assistant Professor Senior Scale	Welcomgroup Graduate School of Hotel Administration, Manipal / Accommodation Operations	Dubai Campus	08/10/14	22/10/14
45	Mr. Rajiv Mishra	Asst. Professor Selection Grade	Welcomgroup Graduate School of Hotel Administration, Manipal / Food & Beverages Management	Sikkim Manipal University (DDE), Manipal (As Adjunct Faculty)	05/09/13	31/03/15
46	Prof. Ramesh Bhonde	Professor & Dean	School of Regenerative Medicine, Bangalore	Colombo University, Srilanka	2013	
47	Dr. Jyothi Prasanna	Associate Professor	School of Regenerative Medicine, Bangalore	Colombo University, Srilanka	2013	
48	Dr. Sudha Warriar	Associate Professor	School of Regenerative Medicine, Bangalore	Cirtin University, Perth, Western Australia	2014	
49	Mr. Murali Krishna Mamidi	Senior Grade Lecturer	School of Regenerative Medicine, Bangalore	Colombo University, Srilanka	2013	
50	Dr. Anujith Kumar	Associate Professor	School of Regenerative Medicine, Bangalore	Colombo University, Srilanka	2013	
51	Dr. Ashish Kulshrestha	Assistant Professor	Kasturba Medical College, Manipal / Anaesthesiology	MCOMS, Nepal	20/09/06	
52	Dr. Aman Mahajan	Assistant Professor	Kasturba Medical College, Manipal / Surgery	MCOMS, Nepal	20/09/06	
53	Dr. Lakshmi N Naik	Assistant Professor	Kasturba Medical College, Manipal / Medicine	MMMC, Melaka, Malaysia	16/07/04	
54	Dr. Harsha H Shukla	Assistant Professor	Kasturba Medical College, Manipal / Ophthalmology	MMMC, Melaka, Malaysia	05/11/03	
55	Dr. Kanwarjot Singh Grover	Assistant Professor	Kasturba Medical College, Manipal / Orthopaedics	MCOMS, Nepal	02/05/05	
56	Dr. Geetha T V	Professor	Kasturba Medical College, Manipal / Pathology	AU, Antigua	01/09/06	
57	Dr. Prakasa Rao Jonnakuty	Professor	Kasturba Medical College, Manipal / Pathology	AU, Antigua	01/04/11	

58	Dr. Sandeep Vijayan	Associate Professor	Kasturba Medical College, Manipal / Orthopaedics	National University Hospital, Singapore	24/08/13	06/03/14
59	Dr. Chakravarthy Marx S	Assistant Professor	Kasturba Medical College, Manipal / Anatomy	AU, Antigua	24/05/11	30/06/16
60	Dr. Ravindra Maradi	Associate Professor	Kasturba Medical College, Manipal / Biochemistry	AU, Antigua	01/12/13	31/12/14
61	Dr. Anand Rao	Professor	Kasturba Medical College, Manipal / Surgery	MMMC, Melaka, Malaysia	18/11/14	17/11/16
62	Dr. Deepthinath R	Professor	Melaka Manipal Medical College, Manipal / Anatomy	Teaching assignment at American University of Antigua School of Medicine, Antigua	01/03/08	16/01/13
63	Dr. Vasavi Rakesh	Assistant Professor	Melaka Manipal Medical College, Manipal / Anatomy	Teaching assignment at American University of Antigua School of Medicine, Antigua	09/01/13	31/08/16
64	Dr. Prasad A.M.	Associate Professor	Melaka Manipal Medical College, Manipal / Anatomy	Teaching assignment at American University of Antigua School of Medicine, Antigua	23/02/12	22/02/13
65	Dr. Daphne Vincent Santhosh	Assistant Professor	Melaka Manipal Medical College, Manipal / Microbiology	Teaching assignment at American University of Antigua School of Medicine, Antigua	01/09/12	09/03/13
66	Dr. Somashekar Shetty B	Professor	Melaka Manipal Medical College, Manipal / Biochemistry	Teaching assignment at American University of Antigua School of Medicine, Antigua	16/02/09	13/03/14
67	Dr. Guruprasad Rao	Professor	Melaka Manipal Medical College, Manipal / Biochemistry	Teaching assignment at American University of Antigua School of Medicine, Antigua	16/06/14	15/06/16
68	Dr. Brahmaiah Chari K R	Assistant Professor	Melaka Manipal Medical College, Manipal / Pathology	Teaching assignment at American University of Antigua School of Medicine, Antigua	29/01/15	28/01/16

69	Dr. Durgaprasad S	Professor	Melaka Manipal Medical College, Manipal / Pharmacology	Teaching assignment at American University of Antigua School of Medicine, Antigua	29/09/12	30/06/16
70	Dr. Swathi K S	Assistant Professor	School of Management, Manipal	Manipal University, Dubai Campus	30/10/14	10/11/14
71	Dr. Yogesh Pai P	Associate Professor	School of Management, Manipal	Manipal University, Dubai Campus	12/12/14	23/12/14
72	Dr. Shivananda Baliga B	Associate Professor	Kasturba Medical College, Manipal / Biochemistry	Deputation - Antigua	17/04/15	
73	Dr. Supratim Datta	Assistant Professor	Kasturba Medical College, Manipal / Pharmacology	Deputation - Sikkim	05/09/05	
74	Dr. Sanjay Kumar	Assistant Professor	Kasturba Medical College, Manipal / Physiology	Deputation - Sikkim	14/12/10	
75	Dr. Sameer Bhandari	Assistant Professor	Kasturba Medical College, Mangalore / Biochemistry	Deputation - Sikkim	20/07/09	
76	Dr. Kunal	Assistant Professor	Kasturba Medical College, Mangalore / Physiology	Deputation - Sikkim	09/07/12	
77	Dr. Prakash Tomar	Assistant Professor	Kasturba Medical College, Mangalore / Pharmacology	Deputation - Sikkim	12/05/13	
79	Dr. Prashant Balasaheb Musmade	Associate Professor	Manipal Colleg of Pharmaceutical Sciences, Manipal / Pharma Quality Assurance	Long Term Fellowship Leave	08/02/15	
80	Dr. Amrut Rao K	Assistant Professor	Kasturba Medical College, Manipal / Anaesthesiology	Long Term Fellowship Leave	25/10/14	
81	Dr. Dinesh B V	Associate Professor	Kasturba Medical College, Manipal / General Surgery	Overseas Assig Leave, Malaysia	26/05/15	
82	Dr. Raghu A R	Professor	Manipal College of Dental Sciences, Manipal / Oral Pathology	Sabbatical Leave	15/10/13	
83	Mr. Praveen K Shetty	Assistant Professor Senior Scale	Manipal Institute of Technology, Manipal / Humanities & Management	Sabbatical Leave	25/09/14	
84	Mr. Nafeez Syed	Assistant Professor Selection Grade	School of Allied Health Sciences, Manipal / Physiotherapy	Study Leave	04/04/15	
85	Mrs. Rituparna Chakraborty	Senior Grade Lecturer	Melaka Manipal Medical College, Manipal / Microbiology	Study Leave	08/07/15	

86	Mr. Ujjal Bose	Lecturer	Melaka Manipal Medical College, Manipal / Pharmacology	Study Leave	16/10/14	
87	Mr. Satisha Prabhu	Assistant Professor Senior Scale	Manipal Institute of Technology, Manipal / Mechanical & Manufacturing Engineering	Study Leave	18/01/14	
88	Mr. Harish Kumar J R	Assistant Professor Selection Grade	Manipal Institute of Technology, Manipal / Electronics & Communication Engineering	Study Leave	31/07/13	
89	Mr. Rakesh L	Assistant Professor Senior Scale	Manipal Institute of Technology, Manipal / Mechanical & Manufacturing Engineering	Study Leave	10/12/13	
90	Mr. Kevin Amith Mathias	Assistant Professor Senior Scale	Manipal Institute of Technology, Manipal / Mechanical & Manufacturing Engineering	Study Leave	16/07/14	
91	Mr. Dibya Jivan Pati	Assistant Professor	Faculty of Architecture, Manipal / Architecture	Study Leave	01/03/13	

Faculty members at MIT conduct training programmes for IT companies in India.

Dubai campus conducts several academic staff development programmes as detailed below:

Academic Staff Development Programmes	Number of faculty per each year given
Refresher courses	-
HRD programmes	-
Orientation programmes	
2010 – 2011	76
2011 - 2012	72
2012 - 2013	76
2013 -2014	78
Staff training conducted by the university	
2010 – 2011	76
2011 - 2012	72
2012 - 2013	76
2013 -2014	78
Staff training conducted by other institutions	-
Summer / Winter schools, workshops, etc.	

Academic Staff Development Programmes	Number of faculty per each year given
2010 – 2011	76
2011 - 2012	72
2012 - 2013	76
2013 -2014	78

Sl no	Particular	Percentage of Faculty
1	Invited as resource persons in Workshops / Seminars / Conferences organized by external professional agencies? School of Business School of Design & Architecture School of Life Sciences School of Media & Communication School of Engineering & IT	 33 6 43 37.5 25
2	Participation in external Workshops / Seminars / Conferences recognized by national/ international professional bodies? School of Business School of Design & Architecture School of Life Sciences School of Media & Communication School of Engineering & IT	 47 21.4 57 37.5 50
3	Presented papers in Workshops / Seminars / Conferences conducted or recognized by professional agencies? School of Business School of Design & Architecture School of Life Sciences School of Media & Communication School of Engineering & IT	 33 21.4 57 37.5 50
4	Teaching experience in other universities / national institutions and other institutions? School of Business School of Design & Architecture School of Engineering & IT School of Life Sciences School of Media & Communication	 94 36 100 57.14 12.5
5	Industrial engagement School of Business School of Design & Architecture School of Media & Communication	 75 7.1 75

	School of Engineering & IT	20
	School of Life Sciences	28.57
6	International experience in teaching	
	School of Business	6
	School of Design & Architecture	7.1
	School of Media & Communication	12.5
	School of Engineering & IT	10
	School of Life Sciences	14.28

Diversity of Faculty

Department / School	% of faculty from the same university	% of faculty from other universities within the Dubai	% of faculty from other Emirates within UAE	% of faculty from other countries
School of Life Sciences	-	-	-	100%
School of Business	-	-	-	100%
School of Media & Communication	11%	-	-	89%
School of Design & Architecture	25%	-	-	75%
School of Engineering & IT	-	-	-	100%

The University has more than 30 visiting professors who bring in their vast industry experience and also are able to educate the students on the modern trends in the industry.

The University has, at present, a Deputation mechanism to transference of faculty from the home campus. This Deputation program has brought a great benefit to the alignment of teaching techniques and level of teaching at our campus. It must also be noted that this scheme is a good motivational and employee retention tool as this policy give scope for the employee to gain exposure to new cultures and new challenges.

Melaka campus: Faculty selected by panel interviews after careful screening of candidates with reference to their teaching, clinical and research proficiency, and also if recognized by the Medical Councils of India and Malaysia.

As the need arises, the same process as described above in order to obtain the most suitable teacher for that subject. Appointments for Medical Ethics and Accident & Emergency have been made in the last three years. By constant review of the curriculum

and monitoring of developments in the medical field, appropriate appointments are made to keep up with such developments.

Faculty attends regular CME and CPD programmes, related conferences, workshops and seminars. The College sponsors two FAIMER candidates annually; most staff has been through the Cochrane workshops. These academic activities will be considered in the annual appraisals.

Most staff are computer-savvy; however workshops / training programmes on SPSS, Research, and such like are carried out regularly.

Sl no	Particular	Percentage of Faculty
1	Invited as resource persons in Workshops / Seminars / Conferences organized by external professional agencies?	18.7
2	Participation in external Workshops / Seminars / Conferences recognized by national/ international professional bodies?	28.0
3	Presented papers in Workshops / Seminars / Conferences conducted or recognized by professional agencies?	22.7
4	Teaching experience in other universities / national institutions and other institutions?	25.3
5	Industrial engagement	2.7
6	International experience in teaching	21.3

2.5 Evaluation Process and Reforms

2.5.1 How does the university ensure that all the stakeholders are aware of the evaluation processes that are operative?

Constituent units of University follow a transparent evaluation process, which is communicated to the students/parents through

- Handbook at the time of induction, by faculty through lesson plans and
- Through university circulars from time to time.

A **web based Student Information System (SIS) portal** has been launched with effect from September 17, 2013 for the benefit of students studying at constituent units of the University. The SIS portal can be accessed using the URL, <http://sis.manipal.edu>. Also a link to SIS Portal has been provided under the Quick Links in the home page of www.manipal.edu.

The SIS portal can be accessed by students and their parents by using the Student Roll No (9 digit) and Date of Birth (dd/mm/yyyy) as User-id and Password.

The SIS portal provides the below mentioned information of a student.

1. General Information
2. Academic Performance details *
 - Attendance
 - Sessional Marks
 - Grade Book (Internal Assessment Marks + University Exam Marks)
3. Academic Dues details
4. Hostel Room Information

* For MIT students, link to AMS portal <http://websismit.manipal.edu> has been provided

Off shore campus

Melaka

Students are briefed at the beginning of their semesters and again just prior to exams. External and internal examiners are briefed before the evaluation takes place; part-time academic staff (specialists in hospitals) is also briefed before the commencement of the semesters and at the time of their appointment

Semester assessments and examination results are compiled at the end of the semesters in an Academic Progress Report, which are conveyed to students and parents.

2.5.2 What are the important examination reforms initiated by the university and to what extent have they been implemented in the university departments and affiliated colleges? Cite a few examples which have positively impacted the examination management system

Over the years, University has initiated several reforms in the Examination system. University Examination system is a role model for other Universities. Few of University reforms are listed below:

- Bank of question papers
- Coding of answer sheets
- Central valuation
- Double valuation (including a third valuation wherever required)
- OMR valuation of MCQs
- Scheme of answers
- Continuous internal evaluation
- Adherence to the examination schedule and announcement of results
- Onscreen marking system
- Online Degree verification system

Central as well as Double Valuation system is in practice. Answer scripts are coded. All answer papers are evaluated by the internal and external examiner separately. Two separate halls are allotted for internal and external valuations. For every theory paper the scheme of evaluation is prepared by the paper setter/internal examiner (“Key Answers”) and is provided to the examiners for evaluation. If there is a difference of more than 15 per cent marks (rarely) between the evaluation by internal and external, then, the paper is subjected to a third valuation by the HOD/senior faculty member. Average of the two nearest marks is taken for evaluation.

The Board of Studies (BoS) submits the sets of question papers to the question bank, prepared according to the specification table. Preparation of question paper bank is a continuous process. A minimum of 20 question paper sets are maintained in each subject’s question paper bank. The question paper banks are replenished every year/semester.

Constituent institutions of the university carry internal assessment as per the guidelines laid down in regulation of the respective course. It varies from course to course. For medical courses, continuous assessment is conducted as per MCI regulation; for dental courses, DCI regulation is followed.

The request received by the external examiners for empanelling for the examinership is sent to board of studies for recommendation for UG/PG examinations. Only recommended examiners will be invited for the examination.

DMS: the document management system (DMS) is introduced whereby, the degree certificates, marks cards, result sheets and all other documents related to examinations are scanned and digital copies are generated and stored with unique index number. This helps us to retrieve the information quickly and saves time, space and paper. MCQs and OMR have been introduced for sessional examinations, university theory examination and OSPE for practical examinations.

On Screen Marking (OSM)

University has adopted the digital marking of University exam answer scripts of all its institutions in Manipal, known as 'On Screen Marking' (OSM) from 01 July 2014. Under this all the examiners (internal/external) evaluate the scanned answer scripts on a computer screen with the help of a software. OSM has the advantages of simultaneous marking of answer scripts by internal and external examiners, error free totalling of marks by the system and mark by question option wherein the a particular question can be marked for all the scripts for better judgement. OSM has totally abolished the physical handling of answer scripts by the examiners and also reduced the paper consumption to a certain extent

Off shore campus:

Dubai

The major reform made by the University concerns the semester evaluation system and internal assessment system, grading system and grade points. For every paper, 50 % marks are allotted internally by the subject teachers. This helps to evaluate the student in aspects other than written examination system. The project and viva system introduced both in the UG and PG programmes also help the evaluation of students based on their creativity and efficiency in various aspects of their studies. Assignment, seminar presentation, internal exams etc., and active participation in the class form the basis of internal evaluation. However, personal impressions of the teacher about the student have some weightage when class test or a seminar is evaluated by him/her. The college as its own has introduced the following evaluation systems:

- a) Internal assessment examination before the University Semester examination
- b) Evaluation through Seminars, class presentations, Assignments, short form quiz programmes etc.
- c) Multiple choice 'test the learning'-type objective pattern test and Group-participated / collectively participated assessment tests.

Melaka

Evaluation methods more student-centric and emphasizes competency in clinical settings through OSCE and Clinical assessments. Effective implementation is monitored by scrutiny of end-results and by feedback.

Reforms with reference to evaluation include Peer evaluation, Double Evaluation, Random 3rd Person Moderation, Question bank, and Internal Assessments

2.5.3 What is the average time taken by the University for Declaration of examination results? In case of delay, what measures have been taken to address them? Indicate the mode/media adopted by the University for the Publication of examination results (e.g. Website, SMS, email, etc.).

Target time for declaration of results vary from 10-30 days after the last examination depending upon the course, the system of valuation and the number of students. Almost all results are declared within the targeted time.

In case of delay, root cause analysis is done, discussed in Examination Committee meeting and suitable actions are taken. Examination results are displayed on university website and in college notice boards.

Off shore campus

Dubai

The average time taken to declare the examination results is about 5-6 weeks after the last examination is over. So far, the results declaration was never delayed and hence there had never been a situation of fallback measures to manage delayed results.

The Dubai Campus has in place a comprehensive system of monitoring the progress and performance of the students, and the results are communicated to the students concerned and their parents without fail. At present, this information is passed on to the parents by email communication. The one to one teacher-parent communication has been beneficial as an effective feedback for the parents and teachers on which they could take timely and appropriate action. It has also been advantageous as the most measurable feedback from parents for the teachers on the effectiveness of the teaching-learning-evaluation process in practice in the Campus. The Results for each semester examination is published in the University Web-site and also displayed in the Notice Board for the reference of the students, also in addition MBA results are communicated to students in their personal e-mail id.

Melaka

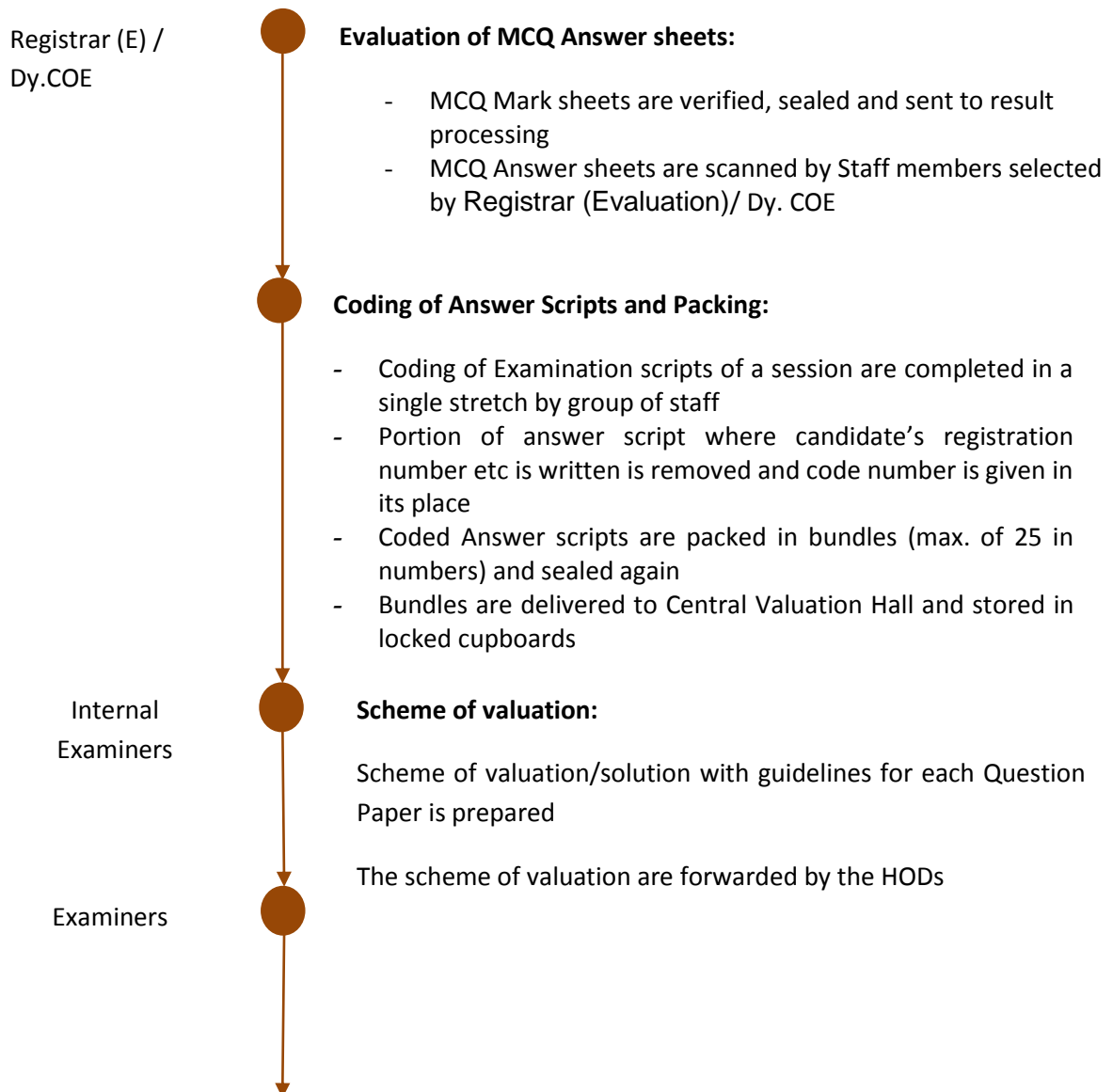
Semester assessments are declared within two weeks of assessments carried out. University and College exams are normally declared and published within 72 hours after exams.

2.5.4 How does the university ensure transparency in the evaluation process? What are the rigorous features introduced by the university to ensure confidentiality?

University has an exemplary evaluation process in place which has transparency inbuilt into it and ensures that there are no stakeholder grievances. Confidentiality is rigorously enforced through various foolproof measures which are in place at all levels of the examination process.

Following flow chart illustrates the Evaluation Process.

EVALUATION PROCESS



Registrar (E) /Dy.
COE

Verification of entries by staff:

- Entry of marks in evaluation sheet
- Entry of marks in Consolidated mark sheet
- Entries are checked and verified by the staff on duty in the valuation hall.
- Correction of errors if any, by examiners

Examiners

Practical Examination:

- Following are submitted to Registrar (Evaluation) in sealed cover immediately after examination.
- Sealed Answer scripts/marklist of following are submitted :
 - Practical
 - Clinical
 - Viva voce
- Attendance is recorded
- Work done statement of practical examination

Dissertation/ thesis evaluation:

- Examiners selected from panel suggested by BOS are appointed for evaluation
- Dissertation/thesis copies are dispatched on receiving the acceptance letter
- Examiners are given specific period to send their report (10 weeks for PhD Thesis).

Viva-voce examination for PG/PhD:

- PG Viva-voce is conducted as per examination schedule published in advance
- M Tech/MCA/MS/PhD viva voce examination dates are notified after receipt of valuation reports from examiners.

Registrar (E)
/Dy. COE



Processing of Results (DP-07-06 R0)



Issuing of vouchers to examiners for purpose of claiming

Remuneration bill, TA/DA, Valuation vouchers and attendance certificate are submitted by examiner

Details are checked and verified by staff and certified by



Disposal of Answer Sheets:

- Shifting of all answer sheets/booklets to the store-room after paper seeing
 - Answer sheets/MCQ papers/Mark lists/Evaluation sheets etc are arranged and bundled systematically and shifted to store room.
 - Arranged and kept in racks till disposition time
 - Theory & Practical papers: 6 months
- After storing period, answer sheets are shifted to another room meant for shredding
- Disposable answer sheets are shred to fine pieces by staff in Store room
- The shredded paper bits are sold for recycling to paper merchants through tenders.

Soon after the completion of the written examination, the sealed bundles of answer books are made to reach the office of the Registrar - Evaluation without delay. The answer papers from different colleges (if there is more than one college having the same examination) are mixed and coding of these answer papers is done in one-work-session (coding means giving a “dummy” number to each answer paper in place of the registration number of a student so that the identity of the student is not disclosed while evaluating).

The coded papers are bundled and kept ready for central valuation, which commences on the succeeding day of the theory examination.

Central as well as Double Valuation system is in practice. All answer papers are evaluated by the internal and external examiners separately. The marks are not awarded directly on the answer paper but on a separate evaluation sheet. This prevents the influence of one examiner on the other. For every theory paper, guidelines (scheme of valuation/“key answer”) are provided for evaluation.

Normally this is prepared by the paper setter himself/herself. Both the internal and external examiners are required to follow these guidelines. Once the internal examiners complete the valuation, the external examiners are invited to evaluate the same – again, in the central valuation hall of the office of the Registrar -Evaluation.

The marks given by internal and external examiners are noted and if the difference is not more than 15 per cent, the average of the two are awarded to the student as his/her theory marks. If there is a difference of more than 15 per cent marks (rarely), the paper is subjected to a third valuation by a HOD/senior faculty. In such cases, the average of the two marks which are closest among the three evaluations is awarded to the student.

As there are two complete and separate evaluations by internal and external examiners there is no provision for revaluation. Central valuation is carried out by the office of the Registrar - Evaluation in a confidential hall at University, Manipal and KMC, Mangalore. Two separate halls are allotted for internal and external valuations.

After applying grace marks, if any (as per the regulations and accreditation bodies); by the Registrar / Deputy Registrars - Evaluation, the results are published within 10-30 days after the last examination (practical or theory, whichever is later) and is sent to the institutions for declaration.

Off shore campus

Dubai

The system of internal assessment for UG being practiced in this Campus under University guidelines provides for continuous student-assessment by their teachers in the prescribed curriculum, knowledge, communication skills, attendance and interest and progress in CGP grading scheme formulated by the University. 50 percent of the maximum marks in each paper is assigned for the internal assessment and the remaining 50% marks for the semester University examination.

The internal evaluation is based on predetermined transparent system involving periodic written tests, assignments, seminars and attendance in respect of theory courses and based on written tests, lab skill/records/viva and attendance in respect of practical courses. Major components of Internal Assessment include Assignments, Test(s), Attendance, Seminar and other class participation exercises. The relative weightage of each of these components are discussed in advance by the respective teacher in the class room and also incorporated in the course-plan/ teaching-plan distributed at the beginning of the semester.

To ensure transparency of the evaluation process, the internal assessment marks awarded to the students in each course in a semester is published on the notice board at least TWO weeks before the commencement of external examination. Each student is asked to verify his/ her internal marks and acknowledge it by endorsing their signature in the statement of final internal marks.

The importance given to maintain confidentiality in the process of preparing question papers, conducting examination, evaluating the answer scripts and finally displaying the results- all are of high class in nature.

- a. Preparing question papers – 5 sets of Question papers are prepared by each subject faculty and submitted in a sealed envelope to the COE, who in turn forward the same to the Registrar (Evaluation), University, India, at least one month before the commencement of examinations.
- b. Conducting examination- Registrar (Evaluation), University, India select one set out of the 5 sets given, and makes the required number of copies and put them in sealed envelopes, makes pockets and sends to the COE, University- Dubai few days before the examination. COE, Dubai opens the Question sealed question papers just 30 minutes before commencement of examination, in the presence of the Room Invigilators, tally the number of copies with Examination diary and give to the Room invigilators for distribution in the exam-hall and conducting the exams.
- c. Evaluating the answer scripts – The system of evaluation is done as per scheme of double evaluation, whereby the first evaluator independently values the paper and submits the marks to the COE. The second evaluator independently evaluates the same paper and submits his marks to the COE. Both marks are compared and if there exist a difference of more than 15% between these two evaluations, then the COE instruct for a 3rd valuation and all three Marks lists are sent to Registrar (Evaluation), University, India for further processing.

The results are finalized and displayed in the University Web-site as well the Department Notice Board for the referencing of the students

Melaka

- For Modified Essay Questions (MEQs) and Multiple Choice Questions (MCQs) answer scripts are double-coded to prevent bias. For OSCE and Clinical examinations, students pick cases through ‘blind’ balloting.
- Continuous Assessment amounts to 30% of final scores
- Two final year examinations of Year 5 (University) conducted annually and 5 sets each of MEQs and MCQs per final examination; similarly Two Year 4 (College) examinations with 1 set of MEQs and MCQs

2.5.5 Does the university have an integrated examination platform for the following processes?

- **Pre-examination processes – Time table generation, OMR, student list generation, Invigilators, squads, Attendance sheet, Online payment gateway, etc.**
- **Examination process – Examination Material Management, Logistics, etc.**
- **Post-examination process – Attendance capture, OMR-based exam result, Auto processing, Generic result processing, Certification, etc.**

This university has partially integrated examination platform for pre- and post-examination processes. ISIS - Integrated Student Information System is used, where by candidate list and internal assessment mark lists are entered and generated by the respective institutions using this.

Hall tickets are also generated and printed through ISIS. Results are being uploaded into ISIS once results get published from ROE office.

Off shore campus

Dubai

The University has an integrated examination platform for conducting the affairs of the examination and the activities are classified in THREE groups' namely Pre-Examination process, Examination Process and Post-Examination process.

Pre-Examination process

- a. Time table generation – The Heads of the Department submit their respective time-tables to the controller of examination in University DC and after cross verifying the same the COE, University DC submits to the Registrar Evaluation's office in Manipal, India. Once it is approved the official copy is sent to COE, University DC and the displayed on notice boards for the information of students/department/faculty members etc.,
- b. OMR – Not applicable
- c. Student List generation- Exam registration forms are filled in by students at least 6 weeks prior to semester examination and on payment of the due fees, their names are registered by the respective department. Subsequently that list is submitted to the COE University DC's office and thereby sent to Registrar Evaluation's office at Manipal India.
- d. Invigilators- Faculty members are appointed as invigilators by the COE. Each faculty will have to invigilate certain number of turns according to the requirement of each semester examination.
- e. Squads- the Chairpersons of all the departments are designated as members of the examination squad.

- f. Attendance sheet – Students attendance is recorded in the ‘Invigilators diary’ which has details of date of exam, course code and title, program name, student registrations and signatures against the same duly countersigned by the invigilators in the examination room.
- g. Online payment gateway – Currently not applicable, and the SAP system which is under implementation provides for the same.
- h. Others -
 - A pre-examination orientation meeting is held to brief the faculty on the do’s and don’ts of doing invigilation and the detailed guidelines are explained.
 - Exam-halls, where the exams are to be conducted are arranged according the planned seating arrangements.
 - Exam hall tickets are generated and issued by the respective Departments, based on the eligibility criteria of satisfying minimum attendance percentage required.
 - Internal marks of the respective subjects is prepared and sent along with Registration List to Registrar (Evaluation), University, India, for processing the internal assessment marks and entering into the system.

Examination Process

- a. Printing and making available of adequate number of stationeries required such as main answer books, additional sheets, attendance list evaluation sheets and mark list etc.,
- b. Students will be guided to take their examination on the specified date in a particular exam-hall, as allotted by the Examination-cell, by checking the hall-ticket.
- c. A ratio of 1:20 is maintained between Invigilators and number of examinees in a hall. Squads formed for checking the appropriateness of the conduct of examinations, make surprise visit to the halls and conduct checking the hall for the appropriateness of the exams conducted.
- d. After completion of the daily examinations, the bundles for each subject is collated and kept in safety measures.

Post-Examination process

- a. Attendance capture – Students attendance is registered in the ‘Invigilators Diary’ by the respective invigilators and submitted to the controller’s office.
- b. OMR-based exam results, auto processing – Not applicable
- c. Generic result processing, certification – the generic results processing and notification of results, is mentioned in detail in point 2.5.4

Post examination, every subject faculty is expected to complete the valuation of their subject within THREE working days of the completion of examination.

2.5.6 Has the University introduced any reforms in its PhD evaluation process?

University has strengthened its Research performance by emphasising on improvements in the PhD Evaluation process. Several measures are in place to ensure quality of Research and completion of evaluation on time which are described below:

Reforms in PhD evaluation process:

➤ **Introduction of doctoral advisory committee (DAC)**

To monitor the research work of the candidate from submission of research proposal till submission of thesis to the university

➤ **Introduction of course work**

The candidate has to do course work of 8-12 credits during the first year of research work.

➤ **Introduction of research publication by the candidate**

Two journal publications in the field of research are mandatory prior to submitting the thesis.

➤ **Introduction of guidelines for submitting list of examiners**

University guidelines should be followed while submitting list of examiners to the university through DAC. Brief CV of the examiner and the list of selected recent publications in the field related to the candidate's research work are mandatory.

➤ **Introduction of evaluation timeframe**

The examiners are offered 10 weeks to review the thesis. This enables them to complete the assessment in optimum time frame which is beneficial to all the concerned.

➤ **Introduction of anti - plagiarism policy**

Plagiarism in the thesis in any form is viewed seriously and penalized as per University Norms. Software "Turnitin" is made available for this purpose. It is responsibility of the DAC to verify the authenticity of the thesis.

2.5.7 Has the university created any provision for including the name of the college in the degree certificate?

Yes, the name of the college is included in the degree certificate.

2.5.8 What is the mechanism for redressal of grievances with reference to examinations?

University has a robust mechanism in place to address all grievances arising out of the examination process. There are processes in place to handle different types of examination related grievances. Following are description of processes addressing examination related grievances.

A) Errors in the question papers (spellings, omissions, etc.):

If any student points out errors in the question papers during the examination, the Chief Superintendent should contact Registrar of Evaluation (ROE) immediately. The ROE will verify with the question paper supplied and requests the BOS chairperson about the correctness of the grievance made by the students. If, the error is genuine, then ROE will instruct the Chief Superintendent to announce the correction in the question paper at the Examination hall during the Examination.

B) Out of syllabus questions in the question paper:

If the students recognize out of syllabus questions, they can submit a representation in detail immediately after the examination through the chief superintendent regarding the matter. The ROE will refer the matter to the chairperson, BoS. If the grievance is not genuine, no action will be taken. If the chairperson BoS admits the grievance is genuine, the marks of out of syllabus questions will be deducted from the total marks of the subject and the paper will be evaluated out of the reduced maximum marks. Then, the marks obtained will be proportionally converted to the maximum marks of the subject.

C) Queries about results

University follows Double Valuation system where two examiners evaluate the paper as per the common scheme of valuation (key), which will be provided during the valuation. The average marks of two evaluations will be awarded to the students. If the difference is more than 15 per cent, then it will go for the third valuation and the student will be awarded the average marks of closest two marks out of three evaluations. In case any student has a concern related to the evaluation, he/she can apply for personal paper seeing and can go through his/her answer paper and check whether all the questions are evaluated and whether there is any error in the totalling, etc.

D) Malpractice committed by students:

The chief superintendent should make the malpractice report in the format as prescribed in the University examination bye-laws. The malpractice reported will then be referred to the malpractice enquiry committee and the committee after conducting enquiry, suggests the actions to be taken. The Vice Chancellor will take the final decision regarding the recommendations of the committee.

E) Correction of name of the students:

The University will take the names to be printed in the result sheets/marks card/certificates from the certificate/marks card of immediate preceding qualifying examination. For the admission to the undergraduate courses, name is taken as printed in the 10+2 qualifying exam certificate/marks card. For the admission to the postgraduate courses, name is taken as printed in the degree certificate/marks card. No change in the name will be entertained once a student receives degree certificate from the university and leaves the university.

Off shore campus

Dubai

Regarding the internal marks awarded at college level, student can apply to the COE, through the respective Departmental Head for redressing any grievance regarding evaluation immediately after the mark list is exhibited on the notice board. Students can apply for paper seeing if they are dissatisfied with the marks awarded. Upon receipt of the application the COE evaluate the case and if found scope for further investigation arranges for paper seeing by the student and any mistakes in totaling is rectified. Since the original valuation itself is a double valuation, no fresh valuation will be considered

2.5.9 What efforts have been made by the university to streamline the operations at the office of the controller of examinations? Mention any significant efforts which have improved the process and functioning of the examination division/section?

Over the years, University has identified continual improvement opportunities aimed at streamlining the operations at the office of the Registrar Evaluation. These have improved operational efficiency and effectiveness of the conduct of examination. Listed below are few such efforts:

- Entry to various sections inside the office is restricted through access card.
- A camera is installed to monitor movements round the clock (24 x 7 x 365).
- Movement of staff is recorded (in and out).
- Each staff member is given “login id” to enter into the system and logs are captured.
- Entries into the systems are verified twice (names, marks etc.). The process is counter checked again by different set of people.
- The jobs are equally and effectively distributed among the staff members ensuring optimum productivity and stress free work environment.
- Document Management System (DMS) is adopted by the university in the year 2010. All the physical documents pertaining to the students (mark cards, provisional certificates, degree certificates, result sheets, etc.) Have been scanned and converted into digital form and stored in the system. Also, present documents are periodically scanned and stored in the DMS. We could manage storing space as well as increase the speed of document retrieval time after using the DMS in our department. The response time with respect to the student queries is significantly reduced after implementation of DMS as the search and retrieval speed of the document is reduced drastically.

Off shore campus

Dubai

Significant efforts which have improved the process and functioning of the examination division/section.:

- Periodical review of the operations of the Controller of Examinations by examination Committee chaired by the Director to improve the level of operations.
- Introduction of the SAP system to facilitate the process and function of the examination division/section.
- Identification of separate In-charge person to monitor the receipt, issue and replacing the answer-scripts bundles safely in the examination cell.
- Highly secured filing system and safe-keeping of all confidential files in the Examination cell.
- Scheme of two invigilators in every hall for better supervision.
- General adherence to the Parent University guidelines

Melaka

- With feedback after audit, new teaching and evaluation methods are implemented.
- Based on feedback, departments now use mock OSCE exams in their teaching and end of posting assessments are often carried out bedside.

2.5.10. Criteria specific to Health Sciences

2.5.10.1 Does the mechanism of evaluation programme address all components (input, process, output and outcome) and context, as well as the totality of medical education system of relevance, quality, equity and cost effectiveness (social accountability of medical education)?

Yes. Programme evaluation incorporates all these aspects.

2.5.10.2 What are the efforts of the institution in the assessment of educational outcomes of its students? Give examples against the practices indicated below:

A. Compatibility of Education Objectives and Learning Methods with Assessment Principles, Methods and Practices.

The two are compatible and complement each other. The curriculum design ensures this. Further, there is a blueprint (specification table) for examination based on the education objectives and learning methods and outcomes.

B. Balance between Formative and Summative evaluations

The institution uses a mix of both formative and summative assessments. The formative assessment constitutes 20 per cent of the final marks and the summative constitutes 80 per cent (this is as per the MCI guidelines).

C. Increasing Objectivity in Formative Evaluations

Efforts have been made to make the formative assessment as objective as possible by introducing MCQs to the extent of 20 per cent. Also, a particular staff member evaluates the same question for the entire batch of students. The questions are set in such a manner (structured essay questions, short answer questions, etc.) To ensure that there is minimal subjectivity in interpreting the questions.

Objective structured clinical examination (OSCE) and objective structured practical examination (OSPE) have been introduced to bring in more objectivity in the evaluation system.

D. Formative (theory/orals/clinical/practical) internal assessment; choice based credit system; grading/marking

During the formative assessment, every effort is made to conduct the examination in a pattern similar to the university examination. The marks obtained are used to calculate the internal assessment marks. A student has to score a minimum of 35 per cent in the internal assessment to qualify for the final summative examination.

E. Summative (theory/orals/clinical/practical) assessment as per the regulations of MCI

The summative assessment consists of theory, viva-voce and practical/clinical examinations as prescribed by the medical council of India.

F. Theory – structure and setting of question papers (essays, long answers, short answers, MCQs, etc.) and question bank with answer keys.

The theory paper (100 marks) consists of

- i. MCQ (20 per cent)
- ii. Long essay - two questions of 10 marks each.
- iii. Short essay - 15 questions of four marks each.

The key for evaluation is provided to the evaluators. (Please refer **Annexure 2.8b** for the sheet of evaluation scheme)

G. Objective structured clinical examination (OSCE)

OSCE has been implemented in various departments both for formative and summative evaluation. We are in the process of implementing OSCE.

2.6. Student Performance and Learning Outcomes

2.6.1 Has the institution articulated its graduate attributes? If so, how does it facilitate and monitor its implementation and outcome?

Yes, at the time of introducing any programme, the objectives of the same are established that articulates the attributes which a graduate exhibits on completion of that programme. These are reinforced subject-wise through learning objectives and by defining parameters for continuous assessment. Feedback from companies recruiting the students, alumni, outgoing batch of students help in monitoring the effectiveness of implementation and provide inputs which are discussed at board of studies for review of curriculum.

Off shore campus

Melaka

#	Practice	Example
1	Compatibility of education objectives and learning methods with assessment principles, methods and practices	With the objective of producing safe and competent doctors, our assessments are heavily geared towards assessing the clinical abilities of students in Years 4 and 5; weightage of this component is 40%
2	Balance between formative and summative evaluations	Greater emphasis on summative relative to formative – Formative comes as a small percentage in Continuous Assessment assessing attitudes.
3	Increasing objectivity in formative evaluations	Students subjected to a 'Portfolio defense' to explain their findings, reports, etc.
4	Formative (theory / orals / clinical / practical) internal assessment; choice based credit system; grading / marking.	Peer Assessment, Orals, theory.
5	Summative (theory / orals / clinical / practical)	Bedside clinical assessments, mock OSCEs, theory
6	Objective Structured Clinical Examination (OSCE)	OSCE are considered to an important aspect of both Year Iv and V year-end assessment and comprise 25% of the Clinical Assessment component

2.6.2 Does the institution have clearly stated learning outcomes for its academic programmes? If yes, give details on how the students and staff are made aware of these?

Yes, the programmes offered by the constituent units have clearly stated learning outcomes which are informed to the students through handbook or through course/subject plans. HoI/HoD ensures that the stated learning outcome of the academic programmes offered in their units is made aware to all staff through periodic meetings.

2.6.3 How are the institution's teaching, learning and assessment strategies structured to facilitate the achievement of the intended learning outcomes?

Board of studies prescribes the curriculum along with the evaluation system for the same. HoI/HoD in discussion with the faculty member ensures that the parameters for formative and summative assessments are clearly defined and understood by all faculty members. Periodic monitoring by the HOI/HOD, feedback from students on faculty/course results of the examinations, alumni feedback and inputs from companies coming for campus recruitment help facilitate the achievement of intended learning outcomes.

2.6.4 How does the institution collect and analyze data on student learning outcomes and use it to overcome the barriers to learning?

Constituent units collect and analyze data on student learning outcomes in the form of exam results, student feedback, class committees, alumni feedback and recruiting companies' feedback and capture the details required for further refining of curricula and pedagogies. In addition, feedback from external examiners is also elicited in some programs.

2.6.5 What are the new technologies deployed by the institution in enhancing student learning and evaluation and how does it seek to meet fresh/future challenges?

E-learning

In University's drive for continuous excellence, it has designed a unique learning experience of online education. Now students can learn at their own pace and in a manner that suits their style of learning. The courses provide one with lively and interactive, multi-sensory learning, combining the simplicity of classroom teaching with a powerful visual medium that captures one's imagination. This is a whole new realm of educational experience.

The content for e-learning is provided by the faculty of University. Hence the experience is like learning in a virtual classroom. The multimedia content of all

the courses is interactive and provides the students the ability to assess his knowledge by taking online tests at the end of each chapter.

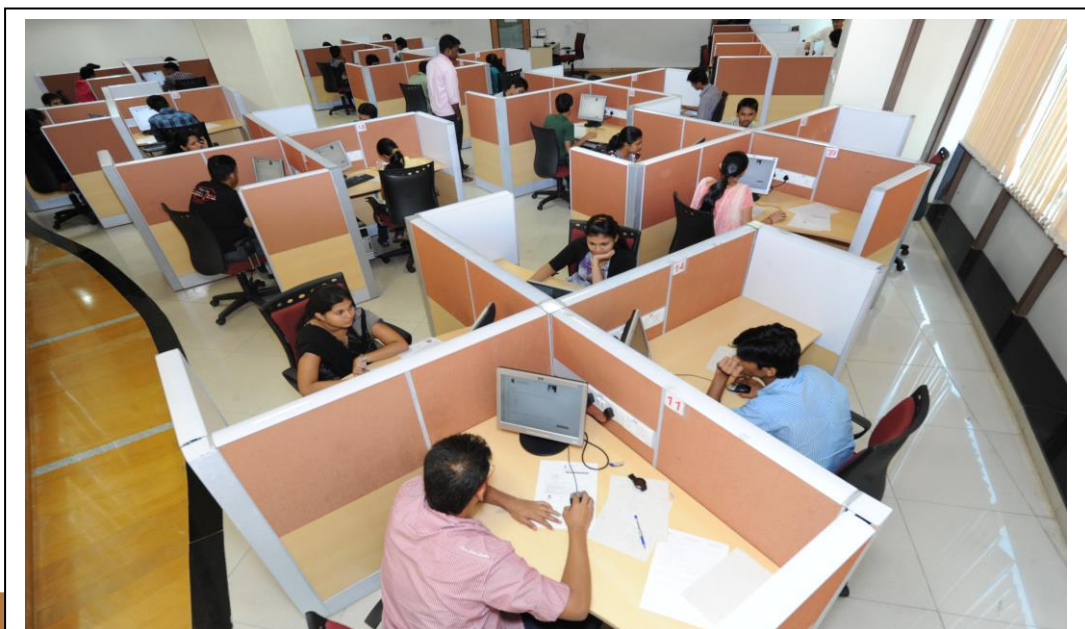
E-learning is a web application that the students can access across the campus. E-learning centres have been set up at Manipal and Mangalore campuses, which provide a perfect ambience for learning. In addition to this, students can also access e-learning content at their hostels and in some places of the campus; they can also access it wireless.

By initiating projects like e-learning, University is also keeping pace with the changing technology, thereby providing the students with the best of the educational experience.

Students using E-learning facility



E-learning facility at MAHE



State-of-the-art classrooms

University provides state-of-the-art classrooms to its students with latest audiovisual facilities, wired/wireless internet connectivity and with suitable provisions to use laptops. Video conferencing facility is available in select classrooms to facilitate interactions with faculty members from across the globe. This helps in providing a world class teaching learning experience which will be an essential requirement in the future.

Online attendance/student feedback

University has introduced online attendance system in a few of its constituent institutions/departments. Online feedback on faculty members and course/subject evaluation is also introduced in most of the institutions/departments. This helps in saving and conserving paper and also provides reports in different formats which helps faculty to track and monitor student performance. Rising expectations from stakeholders makes this a prime requirement of future education scenario.

Student computing

University has provided wired and wireless computing infrastructure, in the entire campus, to provide access to information from their rooms/residences. Students are connected to the internet, e-learning and information portals through high-speed internet gateway in the hostels. Internet kiosks also have been established in key strategic locations to provide internet access. University is providing each incoming UG/PG student in engineering, medicine and dentistry, a laptop with all campus services, for their computing, communication and presentation requirements. There are about 8000 notebooks on campus connecting students.

This will be a basic requirement in the future and University has addressed the same well in advance.

Faculty computing

University has taken an initiative to provide laptops to all its faculty members, free of cost to promote extensive faculty computing, innovative teaching methods and research activities. Nearly 2422 faculty members (as per November 2012 update) have been given laptops and this unique initiative of University is certainly first of its kind in India. The professional notebooks from HP, Lenovo and Apple have created a huge impact on the teaching-learning process in the university. In future, this is going to be a prime facility provided to faculties and University has been one of the first movers in this direction.

Library system

All central libraries are connected through electronic public access catalogue (EPAC) - the library search engine, which is a web-enabled search engine that can be accessed on intranet, as well as on the internet. EPAC can be used to browse/search for an item (book/non-book), along with its details and the availability, in a particular library. Online journals subscribed by the library can also be searched and accessed through EPAC. The health sciences library through its micro site provides electronic access to various full-text and bibliographical databases. The health sciences library is well equipped with modern facilities and resources in the form of CD-ROM, online databases, online journals, e-learning, video cassettes, books, journals, back volumes of journals, theses and who publications. This will be basic requirements for world class libraries in the future and University has addressed this requirement well ahead of its times.

Evaluation & Examination



Best practices:

1. Online Entrance
2. Online Counselling
3. Double evaluation
4. Use of IT and e-Learning platforms
5. Use of state-of-the-art computerized mannequins (Meti-man) / SIM - man

3.1 Promotion of Research

3.1.1 Does the institution have a Research Committee to monitor and address issues related to research? If yes, what is its composition? Mention a few recommendations which have been implemented and their impact.

University has the following committees/directorates to formulate policy (ices) for facilitating, promoting, monitoring and tracking research.

A) University Level

1. Scientific Advisory Committee

A Scientific Advisory Committee has been constituted by the University with Prof G Padmanabhan of IISc B'lore as chairman of the committee. This committee consists of internationally reputed scientists. The committee meets once a year. It reviews, assesses, advises and articulates the research activities of the University. In addition, a poster presentation of all PhD works is organized on the day the committee meets. All the research scholars have an opportunity to present and discuss their research projects with the committee members.

Members of the Scientific Advisory Committee:

Sl no	Name of the Committee Member	Role	Affiliation
1	Prof G Padmanaban	Chairman	Indian Institute of Science
2	Prof M S Valiathan	Advisor	MAHE
3	Dr. Ramesh babu Devalla	Member	Mahatma Gandhi Institute of Medical Sciences, Wardha
4	Prof. K. Dharmalingam	Member	Aravind Medical Research Foundation Aravind Eye Hospital, Madurai
5	Prof. K. Veluthambi	Member	Madurai Kamaraj University, Madurai
6	Dr. B. Ravindran	Member	Institute of Life Sciences, Bhubaneshwar
7	Dr K Satyamoorthy	Member Secretary	Director, SOLS, Manipal

In the meeting on 12th January 2013, the Committee members suggested that:

- The publications, conferences conducted, diagnostic data and others should be mentioned in the form of tabular column or in the form of graphs, since this will be easy for assessing and justifying the work done.
- the articles should be published in mainstream journals irrespective of consideration of high impact factor
- Having contact with the reviewers, editors and network of such contacts may result in publications..

2. Research Committee

Research committee formulates broad policy guidelines for research in the University. This Committee consists of the following members:

1. Vice-Chancellor, MAHE, Manipal
2. Pro Vice-Chancellors (Malaysia and Mangalore)
3. Registrar
4. Director Research (Health Sciences)
5. Director Research (Technical)
6. Associate Director (Research and Consultancy), MIT
7. Director, MCPD
8. Deputy Director, MCPD
9. Director, SOLS

Important Decision taken:

Recently the committee has recommended new guidelines for Research incentives for publications which has been implemented from April 1, 2013.

The guideline for research incentives have been amended on November 30, 2013 and January 28, 2015. Changes have been made in the award of points for books and book chapters and for research points.

3. Directorate of Research (Health Sciences and Technical)

With a view to provide impetus to Research a Directorate of Research was established in the year 2012. The directorate

- Monitors and tracks progress of projects involving research grants
- Conducts informative seminars.
- Organizes workshops to encourage research
- Guides constituent units to identify and apply for funding from various national and international agencies.

Important Decision taken:

- The Directorate has recommended Unique Tracking Number (UTN) for each research grant proposal and through this number the proposal is tracked from granting stage till completion. This recommendation has been implemented from 2012 onwards. This has helped us in scaling up the research output of the University in terms of publications, PhDs and grants.
- Conducting Manipal Research Colloquium and Students Research Poster Competition annually.
- Conducting Summer Training program annually.
- Decision to develop Research Management System internally.
- Publication of five research journals in Medicine, Dentistry, Engineering,

Management and Pharmacy.

- Publication of Manipal Research Review twice in a year.
- Revision of research incentive policy according to the requirements.
- Directorate of Research has been publishing Research Bulletin once in every three year which covers research activity of the Manipal University.
- Established Manipal University Students Research Forum (MUSRF) and conducting lecture series through MUSRF.
- Manipal University policy on Academic Dishonesty and Plagiarism has come into force on May 16, 2014
- Conducting International Conference on Computational Methods in Engineering and Health Sciences every year.
- Conducting Pre-Conference workshop in “Computational Methods for Interdisciplinary Research” every year.

4. PhD Protocol Approval Committee

PhD Protocol Approval Committee (PPAC) at University level approves the PhD registrations scrutinized and forwarded by Doctoral Advisory Committee from constituent institutions/units. Composition of PPAC is as follows;

PhD Protocol Approval Committee (PPAC)

Health Science stream:

1. Vice-Chancellor, MAHE, Manipal	Chairman
2. Pro Vice-Chancellor, MAHE, Manipal	Member
3. Registrar, University, Manipal	Member
4. Deputy Registrar - Academics (Health Science)	Convener
5. Dr K Satyamoorthy, Director, MLSC, Manipal	Member
6. Dr Sreekumaran Nair, Prof and Head, Dept. of Statistics, MAHE, Manipal	Member
7. Dr Pragna Rao, Professor, Dept. of Biochemistry, KMC, Manipal	Member
8. Dr M K Unnikrishnan, Prof & HOD, Pharmacy Practice, MCOPS	Member
9. Head of the Institution (parent institution of the candidate)	Member
10. Head of the Department (parent department of the candidate)	Member
11. Guide of the candidate	Member
12. Co-guide of the candidate, if any	Member
13. Subject expert, if necessary	Spl. Invitee

Technical stream:

1. Vice-Chancellor, MAHE, Manipal	Chairman
2. Pro Vice-Chancellor, MAHE, Manipal	Member
3. Registrar, MAHE, Manipal	Member
4. Deputy Registrar - Academics (Technical)	Convener
5. Dr Sundar Sarukkai, Director, Manipal Centre for Philosophy & Humanities	Member
6. Associate Director (R & D), MIT, Manipal	Member

7. Dr Somashekara Bhat, Professor, Dept. of E & C, MIT, Manipal	Member
8. Dr Asha Kamath, Sel. Gr. Lecturer, Dept. of Community Medicine, KMC	Member
9. Head of the Institution (parent institution of the candidate)	Member
10. Head of the Department (parent department of the candidate)	Member
11. Guide of the candidate	Member
12. Co-guide of the candidate, if any	Member
13. Subject expert, if necessary	Spl. Invitee

Important Decision taken:

The protocols approved and recommended for senate approval by this committee are incorporated in the published academic senate reports.

Number of Protocols approved in last three years

Area	2012	2013	2014
Health sciences	105	117	108
Technology & Management	68	64	49

5. PhD Core Committee

University has a PhD Core Committee which approves PhD guides. The Committee has following structure and responsibilities:

Structure

- 1) Vice-Chancellor, MAHE, Manipal
- 2) Pro Vice-Chancellor, MAHE, Manipal
- 3) Registrar, MAHE, Manipal
- 4) Deputy Registrar – Academics (Health Science / Technical), MAHE, Manipal

Responsibilities of the PCC are:

- 1) Approval of PhD guides / Co-guides
- 2) Approval of inclusion of additional specialization of guide / co-guide
- 3) Approval of change of guide / co-guide
- 4) Inclusion of new co-guide
- 5) Approval of extension of duration of research
- 6) Approval of change of title of thesis

Important Decision taken

The list of guides recommended by this committee is submitted to the Academic Senate for its approval. The approved list is a part of the academic senate report.

Number of Approved guides of University:

Area	Number
Health sciences	563
Technology and Management	470

6. Intellectual Property Advisory (IPA) Board

University has established Intellectual Property Advisory (IPA) Board which facilitates protection and upliftment of intellectual properties generated during the scientific pursuit (of knowledge/resource) in the University and offer scope for ingenuity and commercialization.

Pro Vice-Chancellor, MAHE, Manipal is the Chairman for this Board.

Composition of IPA Board

1. Pro Vice-Chancellor, MAHE - Chairman
2. Registrar, MAHE- Member
3. Director, SOLS, Manipal - Member
4. Principal, MCOPS, Manipal - Member
5. Associate Director, Innovation Center, MIT, Manipal Member
6. Associate Director, R&D, MIT, Manipal - Member
7. HOI of the Concerned Institute - Member
8. Deputy Director -Legal, MAHE, Manipal - Convener

Important decision taken

The Board has framed the IP policy for University. **Please Refer to Annexure 3.1**

7. Research Funding Facilitation Cell

University has set up Research Funding Facilitation Cell to provide support to faculty members interested in submitting research project proposals for funding from national and international agencies.

Cell Composition

1. Dr J Ajith Kumar, Secretary, RFFC, Assoc. Prof, TAPMI Manipal
2. Dr Balaji, Member, Asst. Prof Dept. of Biotechnology, MIT Manipal
3. Mr Ganesh Kamath, Member, Sr. Gr. Lecturer, MMMC Manipal
4. Mr Prakash Y Peralam, Member, Lecturer & I/c Medical Mycology Lab, Dept. of Microbiology, Dy. Quality Manager (Tech.) NABL Accreditation Working Committee, II floor, Center for Basic Sciences, KMC Manipal

Important Decision /Support provided:

The RFFC was constituted on February 14th 2011. Since then the following activities have taken place under its banner:

1. A survey amongst faculty members of University on their funding needs. This survey was conducted during Feb-March 2011.
2. A presentation to the VC on April 1st 2011 on the findings of the survey and recommendations for the future.
3. Three internal meetings: on March 10th, April 1st and April 24th, 2011, respectively. These meetings were held to discuss various plans and agendas for the future of RFFC.
4. A seminar on 'Health Research Funding', at Manipal, on May 14th, 2011.
5. A seminar on 'Research Funding for Science and Engineering' at Manipal, on May 28th, 2011.
6. A training programme on 'Pub Med Basics' at Manipal, on July 28th 2011.

RFFC role was taken over by Research Directorate from August 2012 onwards

B) At Constituent units level**1. Institutional Research Committee (IRC)**

Constituent units have Institutional Research Committees, which oversee research in their respective institutions and recommend measures for improvement. Structure of this committee is defined and members are rotated periodically. Research papers recommended by this committee are processed for University support.

2. Doctoral Advisory Committee (DAC)

Doctoral Advisory Committee in constituent units scrutinizes PhD proposals for registration and reviews six-monthly reports of the registered candidates. Structure of Doctoral Advisory Committee as per University guidelines is as follows:

1. Head of the Institution / Deputy Registrar-Academic: Chairman
2. Associate Director (R&D) / Research Coordinator for Ph D programme
3. Head of the Department
4. Guide
5. Co-guide (if recommended)
6. Two Subject Experts

The PhD protocols recommended by this committee are forwarded for next level presentation to PPAC at the University level.

3.1.2 What is the policy of the university to promote research in its affiliated/constituent colleges?

University encourages research in all its units. It has taken many steps to improve the quality and quantum of research activities. To promote research, the University provides the following facilities:

- Establishing of 20 Dr T M A Pai endowment chairs of Rs 10 lakhs each to attract and nurture the best talent in research and education
- University Research Scholarship for full time research scholars
- Seed money for initiating preliminary research activities
- Research incentive for publications in journals
- Considering research performance in terms of publications during faculty member grading for promotions
- Financial assistance to attend and present papers at conferences
- Providing grants for Post-doctoral research work to be undertaken by the faculty members (MIT)
- Special Academic Allowance for those having doctoral qualification

3.1.3 What are the proactive mechanisms adopted by the institution to facilitate the smooth implementation of research schemes/projects?

Pro-active mechanisms adopted by University to facilitate the smooth implementation of research schemes/projects are;

- Advancing funds for sanctioned projects
- Providing seed money
- Simplification of procedures related to sanctions/purchases to be made by the investigators
- Autonomy to the principal investigator/coordinator for utilizing overhead charges
- Timely release of grants
- Timely auditing
- Submission of utilization certificate to the funding authorities

In addition to the above, recently University has established Directorate of Research (Health Sciences and Technology) with directors for both disciplines.

Directorate of Research

Vision:

To nurture and promote research activities of global standards

Mission:

To instill 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 programs 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

Manipal Center for Clinical Research (MCCR) as detailed in criteria 3.1.4 functions under the Directorate of Research.

Planned Activities by Research Directorate (Health Sciences/Technical)

1. Orientation, training and awareness programmes to Heads of Institute (HoIs), Heads of Department (HoDs), PhD guides and co-guides, investigators, researchers and doctoral committee members
2. The topics suggested for orientation shall include grant writing, research methodology, patent filing, scientific writing and editing, statistics, industry-institute interaction
3. Similar orientation training programs may be extended to research scholars of University, whenever required.
4. SciVal training by Scopus, Gurgoan on August 8, 2015 for faculty of Manipal and Mangalore campus. Mangalore campus will be connected by video conference for their training.
5. Manipal Research Colloquium and Students Research Poster Competition in April 2016.
6. International Conference on Computational Methods in Engineering and Health Sciences (ICCMEH) with UPM, Malaysia and KIT, Japan on December 19-20, 2015.
7. International Conference in Healthcare and Technical Research (ICHTR) on December 22-24, 2015
8. 4th Edition of Manipal Research Review
9. Awareness program about research quality, research grants and publications in August 22, 2015.
10. Awareness program about research ethics and preventing student's plagiarism in November 2015.
11. Awareness program about preparation of budget and other financial aspects in December 2015.
12. Awareness program about citation index and H-index in January 2015.

13. Following centers are planned to boost the research activities in the University and its constituent units:

- **Clinical Epidemiology Unit (CEU):** The Center encourages research in clinical settings with emphasis for maximum utilization of hospital clinical data. This unit is part of national and global clinical epidemiology unit (INDIACLEN and INCLEN). This unit is established with the following aims:
 - To incorporate the faculty members of various specialties from Manipal University (both Manipal and Mangalore campuses). All faculty members of CEU to take up at least one clinical epidemiology project (Ph D Scholars, PG and interns will be assigned to the project, under the guidance of respective faculty members). All such projects will be well monitored by the CEU
 - To conduct various training programs, to train the researchers in clinical setting, to do research and increase the interest in concept of clinical epidemiology.
 - To apply funding for various national and international agencies.
 - To emphasis on frugal research and development within applied clinical epidemiology

- **Center for Bioethics:** Bioethics is a branch of ethical inquiry that examines the nature of biological and technological discoveries and responsible use of biomedical advances, with particular emphasis upon their moral implications individual and common humanity. University plans to develop a center for this branch which will be a hub of learning bioethics in India and neighboring region for multidisciplinary researchers and practitioners of medical and allied health sciences.

- **Centre for Community Oncology (CCO):** Cancer is one of the ten leading causes of death in India. It is estimated that there are nearly 2 – 2.5 million cancer cases at any given point of time in India. Evidence shows that one-third of cancers are preventable, one-third curable if detected and treated early, one-third can be assured of quality life through palliative care. Coastal Karnataka despite relatively better literacy rate and socioeconomic conditions, has poor awareness regarding cancer and risk factors and also limited access to screening facilities. To meet these urgent needs of the community, the University plans establishment of a **Centre for Community Oncology (CCO)**.

The CCO envisages to be a centre for excellence for the prevention and control of cancer in the community. The objectives of the Centre will be to:

- 1) provide effective cancer control through primary, secondary and tertiary prevention activities in the community
- 2) establish professional training programs for general practitioners, nurses, allied health professionals and other health professionals involved in cancer management
- 3) provide consultancy services for establishing Preventive Oncology activities
- 4) establish specialty registries such as breast cancer family registry
- 5) facilitate cancer research and obtain research grants.

- **Centre for Integrative Medicine and Research (CIMR):** Integrative Medicine and health reaffirms the importance of the relationship between practitioner and patient, focuses on the whole person, is informed by evidence, and makes use of all appropriate therapeutic and lifestyle approaches, healthcare and disciplines to achieve optimal health and healing. The focus is on wellness and healing of the entire person (bio-psycho-socio-spiritual dimensions) not just on the disease condition. This concept has originated in the western countries and is increasingly gaining acceptance due to its holistic approach. To functionalize this concept, MAHE plans to start a center titled “**Centre for Integrative Medicine and Research (CIMR)**”.

The objectives of the Centre will be to:

1. Increase awareness of Integrative Medicine (IM) and create a collaborative environment among practitioners of conventional and alternative medicines.
2. Make IM available to clients initially for male infertility and urolithiasis, and then to other medical conditions.
3. Establish a research environment to investigate medical pluralism and drug interactions to support evidence based practice of IM.
4. Establish a centre for excellence (regional centre for clinical Trial) for AYUSH and IM
5. Establish short-term and long term training courses on IM
6. Obtain national and international grants for research activities
7. Set up an ADR reporting centre for AYUSH and IM

**Details of Research programmes conducted by Research Director
(Health Sciences and Technology)**

#	Name of Faculty	Topic	Date	Place	No. 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	25 Sep 2012	Counseling Hall, manipal.edu	50
13.	Dr. Neeta Inamdar and European Union Representatives	European Union's Seventh Framework Programme (FP 7)			
14.	Dr. M K Unnikrishnan	How to prepare a winning research proposal	22 Jan 2013	MCOPS, Manipal	100
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

#	Name of Faculty	Topic	Date	Place	No. of Participants
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

#	Name of Faculty	Topic	Date	Place	No. of Participants
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 Acharya	Informative session on introduction to plagiarism and understanding of the plagiarism software and its reports	August 25, 2014	Interact, Manipal	150

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

Off shore campus

Dubai

Dubai campus extends following facilities to the teachers involved in research:

- Duty Leave and sharing costs is granted to the teachers who are presenting papers at conferences, seminars and workshops.
- The library provides PROQUEST search engine, e-journals and inter-library borrowing facilities for teachers and students. Teachers can use the free internet facility to browse the Web to seek current information and to submit research proposals and research papers.

3.1.4 Whether interdisciplinary research is promoted?

- * **Between/among different departments/schools of the university and**
- * **Collaboration with national/international institutes/industries.**

Interdisciplinary research is encouraged among constituent units of University and also in collaborations with national/international institutes/industries.

Currently the Directorate of Research (Health Sciences and Technical) facilitates, encourages, monitors and tracks such initiatives.

Following are few initiatives in Inter disciplinary Research:

a) Manipal Multidisciplinary Developmental Research Centre (MMDRC)

MMDRC encourages research focused on development emphasizing interdisciplinary approach. The central theme of research under this Centre is Ecology and Sustainable Development, a philosophy that University has committed itself to for a long time. Scholars from different streams like medicine, engineering, management, geopolitics, media studies and cultural studies work together on research projects relating to sustainable development. University, which has many international linkages, invites experts from different parts of the world and involves their expertise in this area to find out solutions to ecological problems in this coastal region of India and elsewhere in the world.

The outcomes of the research taken up under this Centre are implemented as actions with the support of local governmental agencies under University Public Private Partnership initiatives.

B) Manipal Centre for Clinical Research, Manipal (MCCR)

Manipal Centre for Clinical Research (MCCR) was established on May 1, 2010 to augment clinical research at University. This centre has two divisions namely MCCR Manipal Campus and MCCR Mangalore campus.

The Centre coordinates sponsored clinical research conducted at:

- Kasturba Hospital, Manipal
- Shirdi Sai Baba Hospital, Manipal
- Dr TMA Hospital, Udupi
- Dr TMA Pai Rotary Hospital Karkala
- KMC Hospital, Attavar, Mangalore
- KMC Hospital, Ambedkar Circle, Mangalore
- Lady Goschen Hospital, Mangalore and
- Govt. Wenlock Hospital, Mangalore.

The Centre mainly involved in conducting Phase II, Phase III and Phase IV clinical trials.

c) Base of Pyramid (BoP) Chair

University has set up a BoP chair which encourages and monitors projects undertaken in collaboration with MNCs like Phillips, Nokia etc., targeted at the healthcare requirements of the rural population.

d) Manipal Advanced Research Group (MARG)

The Manipal Advanced Research Group (MARG) was formed in early 2006. Conceived as a specialized academic Centre of Excellence built on a strong foundation of basic science, one of the primary goals is to incubate and grow new research projects in the fundamental sciences and interdisciplinary areas through innovative schemes and research programmes. Given the wide variety of expertise available and represented at University, this initiative also seeks to establish synergies between fundamental research in the natural sciences and engineering which has led to setting up of Dept. of Natural Sciences at Manipal Institute of Technology.

e) Medical Imaging Research Suite (MIRS)

Philips and University have jointly started the programme on Clinical Competency Development (CCD) to focus on development of Smart Examination Imaging Tools (SEIT) using Open source imaging tools like TCI/TK, ITK/VTK. A lab, Medical Imaging Research Suite (MIRS), has been set up by University at KMC Manipal. The primary objective of the lab is to help the medical application developers reduce lead time for such clinical applications development and do rapid prototyping.

f) Central Instrumentation Facility

The Innovation Centre at MIT Manipal has set up a state-of-the-art Central Instrumentation Facility (CIF) in order to support multidisciplinary research areas

including Material Sciences, Biotechnology, Organic photovoltaic, Nanotechnology and other emerging frontier areas of research.

The rationale behind the new facility is to support the interested researchers/faculty and students of University and the people of the region for their academic, research and commercial activities.

Poster presentation by student at MIT Innovation center



This project funded by the National Institute of Health (NIH)-Fogarty International Center is a training programme that is a collaborative effort between the University of Alabama at Birmingham (UAB) and three universities in Asia, viz., MAHE University in India, University of Keleniya (UK) in Sri Lanka and the Aga Khan University (AKU) in Karachi, Pakistan. The purpose of this initiative is to strengthen and sustain, through collaborative research and training, the capability of Indian, Sri Lankan and Pakistani scientists to contribute to environmental and occupational-related health research in the region. This grant funded from 2006 to 2012 was on a “no cost extension” till February 2013.

Highlights of this project:

Faculty exchange/Training between University & UAB

Since 2006 thirteen faculty members of University were awarded fellowships to attend the six-week Summer Institute in International Public Health at School of Public Health, University of Alabama at Birmingham.

UAB Faculty conducted Workshop/Seminars in University

- Since 2000, Dr Nalini Sathiakumar, Professor of Epidemiology, School of Public Health (SOPH), UAB, USA conducted several workshops/seminars/Guest lectures on various topics such as research methodology, ethics in research, Epidemiology and Projections of HIV/AIDS burden, Scientific writing, research proposal development etc., for Postgraduate students, PhD students and health sciences faculty.
- During the grant period several Faculty Training Workshops were conducted under the ITREOH programme in Manipal, Colombo and Malaysia for the faculty of University, India, Aga Khan University, Pakistan and University of Kelaniya, Sri Lanka.

R- Manual for health science researchers was published by University Press in 2012 under ITREOH (Software for statistical analysis)**Pilot Research Project/Research training:**

A total of ten Pilot Research Projects of six University faculty members were supported by both UAB-AITRP and UAB-ITREOH Programme. Also in the past three years, four competitive Indo-US research grant proposals were prepared by the UAB and University faculty.

MPH Curriculum Development and initiation of MPH programme in the department of Public health, University.

One of the major achievements under the UAB-ITREOH, NIH sponsored training grant is the development of an internationally accepted and locally adapted curriculum for Master of Public Health (MPH) course in University, India, Aga Khan university, Pakistan and University of Kelaniya, Sri Lanka. After a series of curriculum development meetings in 2008 and 2009, MPH curriculum was implemented in University.

H) Department of Atomic and Molecular Physics

A centre for advanced research in laser spectroscopy for biomedical application in Manipal was initiated in 1997. The Centre for Laser Spectroscopy was established in April 1997. During the last 10 years the centre has developed into a department of Atomic and Molecular Physics (DAMP) for advanced research and teaching in the vast area of atomic and molecular physics consisting of ultra-fast phenomena in atoms and molecules, light matter interactions, optics and quantum electronics, condensed matter physics, nanophysics and nuclear physics.

The department has very active research collaboration with the Atomic and Molecular Physics of Tata Institute of Fundamental Research (TIFR). University has signed a MoU with TIFR for joint research collaboration to promote basic research in the campus. An ultra-fast laser laboratory is being set-up in association with TIFR.

DAMP has active collaboration with many research institutes across India. Names of the research institutes are following

- Tata Institute of Fundamental Research, Mumbai
- UM-DAE Centre for Excellence in Basic Sciences, Mumbai University
- Bhabha Atomic Research Centre, Mumbai
- Raja Rammna Centre for Advanced Technology, Indore
- Indian Institute of Technology Delhi
- Indian Institute of Technology Bombay
- Indian Institute of Technology Guwahati
- Raman Research Institute, Bangalore

The Centre which initially focused exclusively on research has made its mark in the academic arena with the introduction of M.Sc. Photonics course that got launched in September 2009. This being the first step by University towards meeting the national and international needs of expertise in Photonics, the centre has also started a certificate course in ‘Laser Applications in Medicine and Biology’. Short courses of this kind which are application-oriented are conducted regularly round the year.

I) Department of Virus Research

The Department of Virus Research (DVR) was established on 1st May 2010, to augment the diagnostic virology capacity and to enhance research activities at the University. It is regional reference laboratory for influenza virus for the southwestern states of India and a grade-1 Virology network laboratory established by Indian council of Medical Research, Department of Health Research, and Government of India. It offers a Master’s programme in Clinical Virology a unique programme to create a cadre of Virologists who are not only comfortable within the four walls of the laboratory but also equally proficient in public health and industry settings as well as in policy and decision making groups at National and International levels. It supports the associated University hospitals and the health departments of the neighboring states with diagnostic services for viral diseases. DVR was in the forefront of for providing diagnostic support to combat the Pandemic Influenza A/H1N1/2009 as one of the eighteen notified laboratories by the Government of India.

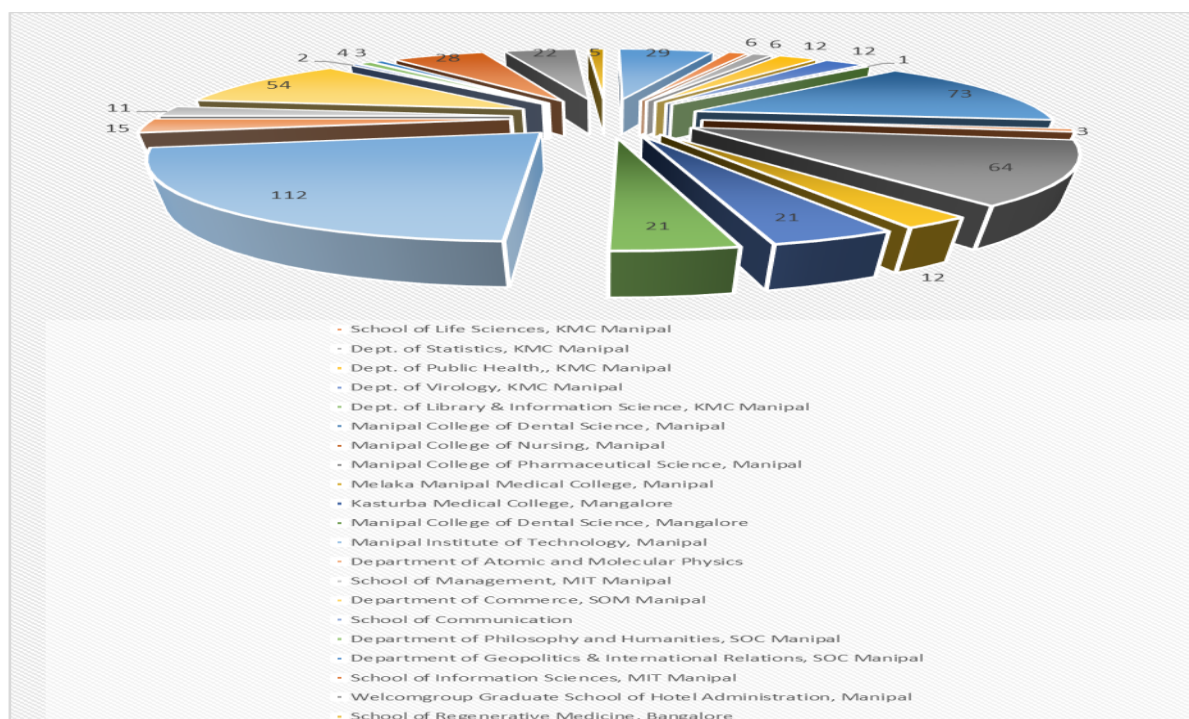
J) North East Studies Center (NESC): University is planning to start this center shortly which will be part of School of Communication under Manipal Institute of Technology. The main objectives of this center are:

1. Encourage preservation of local dialects, culture, tradition and performing arts
2. Organize regular seminars, workshops, training programs, symposia etc. to understand the region better and disseminate the knowledge to the rest of the country
3. Facilitate mobility of scholar for field studies and to encourage publication of scholarly works
4. Provide meaningful inputs to policy makers on the issues concerning the North East

3.1.5 Give details of workshops/training programmes/sensitization programmes conducted by the institution to promote a research culture.

Total no. of Workshops/Training/Sensitization programs conducted between year 2010 and 2014

Sl #	Institutions	No. of Seminars/conferences
1	Kasturba Medical College, Manipal	38
2	School of Allied Health Sciences, KMC Manipal	29
3	School of Life Sciences, KMC Manipal	6
4	Dept. of Statistics, KMC Manipal	6
5	Dept. of Public Health,, KMC Manipal	12
6	Dept. of Virology, KMC Manipal	12
7	Dept. of Library & Information Science, KMC Manipal	1
8	Manipal College of Dental Science, Manipal	73
9	Manipal College of Nursing, Manipal	3
10	Manipal College of Pharmaceutical Science, Manipal	64
11	Melaka Manipal Medical College, Manipal	12
12	Kasturba Medical College, Mangalore	21
13	Manipal College of Dental Science, Mangalore	21
14	Manipal Institute of Technology, Manipal	112
15	Department of Atomic and Molecular Physics	15
16	School of Management, MIT Manipal	11
17	Department of Commerce, SOM Manipal	54
18	School of Communication	2
19	Department of Philosophy and Humanities, SOC Manipal	4
20	Department of Geopolitics & International Relations, SOC Manipal	3
21	School of Information Sciences, MIT Manipal	28
22	Welcomgroup Graduate School of Hotel Administration, Manipal	22
23	School of Regenerative Medicine, Bangalore	5
Total		554



For more details please refer response to items 8-10 (Health Sciences institutions) and item no 30 (other institutions) in the evaluative report of constituent institutions.

Off shore campus

Dubai

Workshops/ training programmes/ sensitization programmes conducted by Dubai campus to promote a research culture on campus.

- A two-day Faculty Development Programme was conducted in January 2010 by Dr. David Langley, Director of the Center for Teaching and Learning at the University of Minnesota, organized by the University for the benefit of teaching fraternity. This workshop enabled all the faculty members of the Department of Management Studies to understand the “Ruts” in the teaching and learning process and Research development activities.
- A three-day “Workshop on Research Methodology and Statistics” was conducted by Dr. Sreekumar Nair, University, India in July 2011. This was a productive workshop for all the PhD registered faculty members and for those who had completed their terminal degrees a value addition and relearning process

24.12.2012	Dubai campus	Computer Simulation Technology Workshop Dr.-Ing. Mohamed El-Hadidy, Research Group leader at the Duisburg-Essen University ,CST-Middle East General Manager.
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School of Engineering & IT, Dubai Campus

Year	Total no. of Workshops/Training/Sensitization programs conducted
2010	1
2011	1
2012	3
2013	4
2014	2

Percentage of students who have done in-house research projects including inter-departmental projects:

Year	Total. No. of projects	No. of Internship projects	%
2011-2012	36	20	45
2012-2013	32	19	41
2013-2014	35	18	49

School of Life Sciences, Dubai campus

#	Conferences / Workshop	Funding	Number of participants
1	Fifth Biotechnology Meet 2010, Dubai, UAE	Funded by Dubai campus Key speakers: • Dr Aly Mohammad, Professor, UAE University, Al Aim, UAE • Dr Mariam Mattar, Executive Director, UAE Genetics Diseases Association, UAE Dr Kamal Khazanederi, Head, Molecular Biology CVRL, Dubai, UAE	200 (mostly students)
2	First Bioinformatics Workshop 2013, Dubai, UAE	Sponsored by Dubai campus Key speaker: Ms Layal Al Ait Institute of Microbiology & Genetics, Department of Bioinformatics, University of Gottingen, Germany	28 (mostly students)
3	Workshop on “pedagogic and personal effectiveness” by Manipal Centre for Professional Development (MCPD): 2nd-4th July 2013	Manipal University, Dubai	7

4	one day workshop on introduction to basic molecular biology techniques for senior secondary students: on 24th February 2013	American International School, Dubai	
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Percentage of students who have done in-house research projects including inter-departmental projects

Year	Total. No. of projects	No. of Internship projects	%
2012	5		100%
2013	13		100%
2014	12	-	75%

School of Media & Communication, Dubai Campus:

- 7th – 17th November 2012: The School partners with Sharjah International Book Fair
- November 2012 field visit: As part of Advanced Journalistic Writing, five postgraduate students specializing in Journalism reported on a classical art exhibit held in Abu Dhabi. The art exhibit was hosted by Swiss Art Gate foundation in collaboration with ProArt Gallery, both based in the UAE. The exhibition featured works of fourteen prominent artists from the 20th century such as Picasso, Matisse and Dali, to name a few allowing students to exercise reporting for an art and culture beat. They were able to meet artists and art collectors.
- 4th-7th March 2012: Leo Burnett, Ogilvy have shown interest in providing internship training and placement opportunities for Manipal Dubai media students. The festival provided an excellent platform for five aspiring advertising students to learn, interact and network at the 5th Dubai International Advertising Festival at the Madinat Jumeirah, Dubai. Dubai Lynx is like the “Oscar of Advertising” in this region. Young Lynx Learning Programme and Young Lynx Integrated Competition were the other attractions of the festival.
- MCRAW 2014: Two Day Symposium titled “Media & Social Responsibility” on 20th and 21st May 2014.
- MCRAW Seminar 2014 along with a Film Screening, ‘The Brain That Sings.’ The seminar encouraged discourse on the role of media as an effective tool for public and social awareness.
- Media students specializing in Television and Video Production were featured in the 100th issue of ETA Ascon- Bulletin Newsletter as they visited the Zenath Paper Yard, Qusais earlier this year, for their documentary, titled "The Incredible Bulk" on waste generation and management in the UAE.
- Spectrum: A View on PR World, a two-day workshop Public Relations by Account Director of Hill and Knowlton, Ms. Deema Termanini
- April 9, 2013: TEDx University Dubai 2014, ‘Better You’ Conference – sponsored by

ITL World Travel Management Company & Dubai campus.

- TEDxManipalDubaiTeachers was an independently organized TED-like event that was organized to mark and pay tribute to all Manipal University Dubai faculty on teachers' day celebrated on 5th September 2013.
- The School partners with Emirates Airline Festival of Literature (EAFoL) 2013 on 5th - 9th March: produced over 10 podcasts interviewing authors such as Dr. Shashi Tharoor, Anupam Kher, Dubai Abulhoub, Philip Adargh, Artemis Cooper, Shobhaa De among others that were published on official EAFoL's website as well as Manipal Dubai Internet Radio.
- The students carried out all tasks as a team, each student being given an equal opportunity (reporter, editor, producer, cameraperson and photographer) to cover the various sessions. The television specialization students used multi-camera and lighting set-ups to interview prominent guests and produce short videos and teasers exclusively for the festival's official youtube channel.
- 7th April 2010: Cultural Immersion Workshop at the Bastakiya Complex in association with the Sheikh Mohammed Center for Cultural Understanding
- 3rd May 2010: Autism Awareness Workshop
- June 2010: Seminar on 'The Young and the Media'
- 27th September, 2010: Lighting Workshop for Television Students
- 22nd December 2011: A seminar on 'Corporate Social Responsibility,' key note address by Ms. Sandhya Sundaran
- 26th December 2011: Seminar 'the highs and lows of the industry in the Emirates' by Fatma Abdullah.
- 28th December, 2011: Lighting Workshop for Still Photography
- 9th January 2012: Let's Make News'12 - Content Generation in Journalism:
- 17th March 2012: A Session with Pierre-Yves Mahé, Director of Spéos, Paris in Abu Dhabi
- 28th February and 1st March 2012: Manipal Media students team up with Broadcast PRO Middle East to produce content at CABSAT 2012
- 4th-7th March 2012: Five students attend Dubai International Advertising Festival:
- 8th March 2012: Celebrating International Women's Day: Women's Day Special 2012 was held at Manipal University Dubai Campus from 9am to 12 noon. The main objective of the event was to "Celebrate Womanhood" on the International Women's Day. To create a buzz and word of mouth on Women's Day Special, a bake sale was conducted as a pre-event promotion in the Manipal University canteen. Ms. Safia Bari, a renowned lady in the field of Social Service in UAE graced the event as a Special Guest spoke followed by dance, drama, songs and interactive games and exciting game stands, Henna corner and a face painting stand.
- 10th April 2012: Advertising students team up with RTA for their "Think and Drive Campaign": 'Th!nk and Dr!ve' campaign for road distractions was organized by the Advertising and Public Relations specialization of the Media Department at Manipal

University, Dubai on 10th April 2012. This campaign was conducted by the Traffic Awareness Section of the Roads and Transport Authority (RTA).

- 11th-17th April 2012: Manipal University, Dubai was proud co-partners with the 6th edition of the Gulf Film Festival.
- 14th May 2012: The Advertising and Public Relations specialization conducted the event 'ADFEST 2012'. The guests of honour were Mr. Avinash Udeshi, General Manager of Motivate Val Morgan Cinema Advertising and Ms. Vinisha Tauro, Business Support Assistant from Motivate Val Morgan.
- 15th May 2012: the first year students organized the event 'Jigsaw 2012', as a part of their course subject, Fundamentals of Event Management. Student activities, short media seminars and a small awards ceremony were held. The awards ceremony recognized students who consistently excelled in academics and in the field of sports in the Department with a certificate of merit.
- 26th October 2012: The media & communication students pay homage to Babu Gandhi at the Indian Consulate Dubai
- 3rd October 2012: Branding Workshop with Sanjay Arora, CEO of Shells Advertising:
- 21st November 2012: MA Journalism students attend and report on newly opened art exhibit at Cultural Complex Dubai
- 22nd November 2012: Dr.Maha Achour, CEO of StarVu introduces editing software, StarVu Workshop
- 27th November 2012: 'Tribute to Cannes Lions International Festival of Creativity 2012' – an advertising workshop held in conjunction with Motivate Val Morgan - sponsor ()
- 27th November 2012: Tribute to Cannes Lions International Festival of Creativity 2012
- 6th November 2012: Advertising Students attend Women's Linc
- 8th November 2012: Final year media & communications students specializing in Advertising, Public Relations and Event Management received first hand perspective from The Coca-Cola Company on the 5 x 20 initiative, a 10 year women empowerment program. The program aims to pull 12 million women worldwide out of poverty.
- 7th - 17th of November, 2012: Manipal University, Dubai was the official Media Partner for special highlight "India Focus" part of the 31st edition of the annual Sharjah International Book Fair (SIBF) which was held between at the Sharjah Expo Centre. Students interact and interview high profile personalities such as Anupham Kher, Arundhati Roy, H.M Naqvi, Manjushree Thapa among others.
- November 2012: Head - Content, Zee Networks talks about TV business in the Middle East
- 5th December 2012: Photography Workshop conducted with a special focus on 'lighting.' Funding was locally generated
- 9th – 16th December 2012: Manipal Dubai Media becomes official partners with the

9th Dubai International Film Festival

- 12th December 2012: Fight the Fraud – Student Participation in one day event on moral and ethics and undertake video coverage of the same
- 27th May 2013: Nitin Puri, CEO, BPG | Cohn & Wolfe, MENA delivered a guest lecture for the final year students of Media & Communication. The lecture aimed at how to create communication strategies – and how it requires an insightful understanding of the consumer’s mind, coupled with the ability to think across traditional and digital platforms.
- 2nd & 9th May 2013: Two day Workshop by PR Consultant, Mildred Fernandes on Copywriting and Public Relations with final year Advertising & Event Management students on respectively.
- 22nd September 2013: Consul General of India, Mr. Sanjay Verma conducted a seminar that covered his perspective on Indian media and its workings. He also spoke about important playlists that students should listen to and his keen interest in international radio shows. He explained the importance of media in society and how agenda setting works in the news industry.
- 24th September 2013: Students and faculty from the Moscow Gazprom School, Russia visited the School of Media & Communication. They were given a tour of the facilities and interacted with faculty and students.
- 24th October 2013: Meghna Kothari Director, McCollins Media conducted a workshop on the importance and role of Social Media for digital natives. The interactive session also shared insights of how Social Media is an effective tool for personal and professional branding for students.
- 5th October 2013: Seven workshops to educate young minds on the art of film-making, in collaboration with Children’s International Film Festival for over 40 school children. Media & Communication faculty Sabir Haque, Siddharth Seth, Sivaprasad Nandakumar and Sambhram Pattanayak shared expert insights on various topics such as effective script writing, shot sizes, types and angles, and editing.
- 14th November 2013: CS6 Adobe workshop, ‘Simon Walker’, Master Trainer of Adobe and the workshop was held in the Knowledge Village.
- 24th October – 2nd November 2013: Select media students covered the 7th edition of the Abu Dhabi International Film Festival: Produced podcasts, videos and photographs that were published on the festival official pages and on our online broadcast channel, Manipal Dubai TV. Key celebrity interviews include David Hasselhoff, Irfaan Khan and directors of Bhaag Zinda Bhag among other local personalities.
- 7th November 2013: Photography Workshop conducted with a special focus on ‘lighting.’ Funding was locally generated.
- 7th - 17th of November, 2013; Manipal University, Dubai was the official Media Partner for “India Focus,” a special highlight of the 32nd edition of the annual Sharjah International Book Fair (SIBF) Students interact and interview high profile personalities such as Kamal Hassan, Ruskin Bond, Ravinder Singh among others.

- 18th December 2013: Geoffrey Roe from Corporate Social Responsibility department, Al Ahli Holding Group, UAE delivered a guest lecture titled, “CSR in Action”.
- 6th-14th December 2013: Manipal University Dubai partnered with Dubai International Film Festival (DIFF). Interviews by students: with Priyanka Chopra, Ranveer Singh, Arjun Kapoor, Ali Abbas Zafar, Nawazzudin Siddiqui among others.
- 20th & 21st April 2014: Final year media students volunteer at the region's largest comic con (MEFCC)
- 23rd October 2014: Photography Workshop conducted with a special focus on ‘lighting.’ Funding was locally generated.
- 5th March 2015: Canon Photography Workshop conducted with a special focus on ‘DSLR Videography.’ Funding was locally generated
- 5th June 2015: Canon Photography Workshop conducted with a special focus on ‘Macrophotography.’ Funding was locally generated.
- TEDx University Dubai 2014, ‘Student 2.0’ sponsored by ITL World Travel Management Company & Dubai campus (November 27, 2014).
- April 10-16th 2012: Manipal University Co-partners for the 5th Gulf Film Festival

Percentage of students who have done in-house research projects including inter-departmental projects

Year	Total. No. of projects	No. of Internship projects	%
2010	120	0	65.21
2011	115	0	81.5
2012	96	0	74.41
2013	73	0	65.76
2014	83	0	53.54

School of Business, Dubai Campus:

#	Conferences / Workshop	Funding	Number of participants
1	Management Workshop	Self	50
2	Media Buying and Planning	Self	30
3	Achieving Personal Mastery	Self	50
4	Statistics Workshop (BBA)	Self	40
5	Statistics Workshop (MBA)	Self	25
6	Management Workshop	Self	50

- Two one-day workshops on Descriptive and Inferential Statistics was conducted at the Department of Management Studies; one each for the students pursuing the BBA (on 21/4/2013) and the MBA (on 27/4/2013) program. The program covered topics in Data transformation, describing the same, concepts of central tendency, dispersion & association and theory of inferential statistics with an overview of test for significance.

The workshop also introduced SPSS to the participants and basic modules were covered as a part of the course. Participants have been awarded certificates at the end of the workshop.

- **Percentage of students who have done in-house research projects including inter-departmental projects (Program: BBA)**

Year	Total. No. of projects	No. of Internship projects	%
2010	138	42	30%
2011	156	55	35%
2012	96	50	52%
2013	70	55	78%
2014	71	40	56%

School of Design & Architecture, Dubai Campus

5 Workshops & 2 Development Programs

#	Workshop / Development Programs	Funding	Number of participants
1	Dezine Konnect 2010 / 2011 / 2012 / 2013 / 2014 Design Workshop	Funded by Dubai campus Industry Professionals talks and one-to-one events	125 – 275 (students / alumni / professionals)
2	Entrepreneurship Development Program •	Sponsored by Dubai campus Key speaker: President, COA & President, IIA were the key note speakers.	300 (professionals & Students) with COA (Council of Architecture, India), IIA (Indian Institute of Architects)& NIASA (National Institute of Advanced Studies in Architecture) in May 2014.
3	Faculty Development Program	Sponsored by Dubai campus Key speaker: Prof. Jayashree Deshpande, Director of NIASA.	25 academicians from various Universities in India, and UAE in February 2014 under the auspices of Council of Architecture, India & NIASA (National Institute of Advanced Studies in Architecture).

Percentage of students who have done in-house research projects including inter-departmental projects

Year	Total. No. of projects	No. of Internship projects	%
2010	4	NA	5%
2011	3	NA	3%
2012	5	NA	5%
2013	6	NA	4%
2014	7		4%

3.1.6 How does the institution facilitate researchers of eminence to visit the campus as adjunct professors? What is the impact of such efforts on the research activities of the University?

University has a scheme of recognizing researchers of eminence as adjunct professors. They are involved in:

- Organizing professional conferences
- Delivering guest lecture to students and faculty members on the selected topics
- Supervising research scholars etc.,

The impact can be seen in the form of guest talks, seminars, conferences, workshops etc., at various constituent institutions. For more details refer table to item no. 3.1.5 and evaluative reports of constituent institutions. University also appoints eminent scientists as emeritus professors. At present there are five emeritus professors attached with the University.

Off shore campus

Dubai

The Department of Biotechnology regularly invites the experts of the field to visit the lab facilities and also discuss research topics with the faculty members. Over the years, these experts visited the labs and initiated the research collaboration. Dr Habiba from Khalifa University, Abu Dhabi recently visited and initiated joint collaborated research with Dr Naushad Rais in the field of human genetics, and joint project is basically to understand and map the genetic profile of local population who are suffering with diabetes conditions. This research collaboration with Khalifa University is really helped the Department of Biotechnology to address the local problem and also helped final year of M Sc students to work in the laboratories of Khalifa University, Abu Dhabi.

3.1.7 What percentage of the total budget is earmarked for research? Give details of heads of expenditure, financial allocation and actual utilization.

Rs 3,170.92 lakhs budgeted for research which is 2.374% of the total budget for 2014-15

#	Expenses	Budget 2014-15 (in lakhs)	Actual Expenses 2014-15 (in lakhs)
1	Sponsorship/Support for Conferences/Workshops	483.23	340.78
2	Towards Publication charges (Journals/Periodicals)	134.42	86.68
3	Operating /Consumables expenses for Research such as Dept of Atomic & Molecular Physics, Virus Research/Innovation Centre etc.	1,641.97	1,572.25

4	Investments/Infrastructure and equipments for facilities identified for Research such as Dept of Atomic & Molecular Physics, Virus Research/Innovation Centre etc.	438.83	495.93
5	Junior Research Fellowships	10.28	1.20
6	PhD Scholarships	187.64	230.14
7	TMA Pai Research Awards	0.30	0.54
8	TMA Pai Endowment Chairs	200.00	126.28
9	Best Research paper Awards	0.57	0.27
10	Research Incentive for Projects (From Outside Grants contributed by University) & publications	53.75	45.41
11	Sabbatical Leave Expenses (Related to Research)	-	-
12	DAC (Doctoral Advisory Committee) related expenses	0.04	0.43
13	Seed Money	19.90	7.81
	TOTAL	3,170.92	2,907.72

Off shore campus:

Dubai

The university has allocated a budget of AED25500 for the School of Life Sciences between years 2013-15 towards research activities. The budget was distributed among the faculty members to conduct research at Dubai campus after careful examination of the research proposals by the research committee.

3.1.8 In its budget, do the University earmark funds for promoting research in its affiliated colleges? If yes, provide details.

There are no affiliated units. All constituent units are provided funds for their research activities.

3.1.9 Does the University encourage research by awarding Post-Doctoral Fellowships/Research associateships? If yes, provide details like number of students registered, funding by the university and other sources.

The University does have post- doctoral fellows especially in the areas of philosophy, humanities and natural sciences. The University as a beginning awarded 8 post-doctoral fellowships. In due course, we would be having a reasonable number of post-doctoral fellows in various streams.

Details of Post-Doctoral Research at MIT for the last three years:

#	Particulars	2010	2011	2012
1	No. of projects approved	07	09	10
2	No. of projects undertaken	04	06	10
3	Total Grants sanctioned	Rs. 12.05 lakhs	Rs. 26.30 lakhs	Rs. 35.75 lakhs

For more details about the guidelines, project and publications, please refer **Annexure 3.2A**

Research Associateships: Candidates with Master's degree in Science/Engineering are engaged as junior/senior research fellows in sponsored research projects. Details are provided in evaluative report of constituent units.

Off shore campus

Dubai

The faculty members of the Department of Biotechnology do collaborate with local Universities such as Khalifa University Abu Dhabi and Zayed University Dubai in the student training and research projects. Dr Arif Hussain, Dr Faheem and Dr Naushad are the co-principal investigator on two research projects funded by Khalifa University and Zayed University.

3.1.10 What percentage of faculty have utilized the sabbatical leave for pursuit of higher research in premier institutions within the country and abroad? How does the university monitor the output of these scholars?

University has a provision for availing sabbatical leave for pursuit of higher research in premier. Institutions within the country and abroad. 12 faculties have availed this facility in the last 4 years.

3.1.11 Provide details of national and international conferences organized by the institution highlighting the names of eminent scientists/scholars who participated in these events.

University encourages all its Constituent units to organize conferences.

Conferences organized in the year 2014 are detailed in following table. **Annexure 3.2B** provides details of eminent scientists/scholars, outstanding participants.

Sl. No.	Constituent Colleges/Institutions and University Teaching Departments	Conference Conducted		
		Regional	National	International
1	Kasturba Medical College, Manipal	5	4	7
2	School of Allied Health Sciences, Manipal	1	2	0
3	School of Life Science Centre, KMC Manipal	0	1	2
4	Dept. of Lib & Info Science	0	1	0
5	Dept. of Statistics	0	0	1
6	Dept. of Public Health	0	0	1
7	Kasturba Medical College, Mangalore	5	4	0
8	Manipal College of Dental Sciences, Mangalore	0	1	0

9	Manipal Institute of Technology, Manipal	0	5	3
10	Faculty of Architecture, Manipal	0	1	3
11	Dept. of Atomic & Molecular Physics	0	1	1
12	Dept. of Geopolitics & International Relations	0	1	0
13	Dept. of Philosophy & Humanities	0	2	0
14	School of Information Science, MIT Manipal	0	1	0
15	School of Regenerative Medicine, Bangalore	0	2	21
16	Dubai campus	0	0	0
17	Melaka Campus	0	0	0
Total		11	25	39
Grand Total		75		

Additional Details are provided in the evaluative reports of constituent units.

Off shore campus

Dubai

National and international conferences organized by the university

School of Media & Communication:

- TEDx University Dubai 2013, 'Better You' Conference – sponsored by ITL World Travel Management Company & Dubai campus (April 9, 2013).
- 'Tribute to Cannes Lions International Festival of Creativity 2012' – an advertising workshop held in conjunction with Motivate Val Morgan - sponsor (27th November 2012).
- Photography Workshop conducted with a special focus on 'lighting.' Funding was locally generated (5th December 2012).
- Seminar on 'The Young and the Media' (2010)
- TEDx University Dubai 2014, 'Student 2.0' sponsored by ITL World Travel Management Company & Dubai campus (November 27, 2014).
- MCRAW 2014: Two Day Symposium titled "Media & Social Responsibility" on 20th and 21st May 2014.
- MCRAW Seminar 2014 along with a Film Screening, 'The Brain That Sings.' The seminar encouraged discourse on the role of media as an effective tool for public and social awareness.

School of Engineering & IT

Seminar / Conference / Workshop	Funding / Support Source	Support Details	Members Invited
Manipal International Conference on Technology Management. (March 25- 26, 2015) (MiCTM – 15)	ACM	<ul style="list-style-type: none"> • Provided members for the Technical and review Committee • Provided Guest Speakers for the conference • Promoted the conference in ACM Society including it in the mailing and website 	<ul style="list-style-type: none"> • Dr. Wathiq Mansoor, Member, ACM.
	CISCO Networking Academy – CISCO, Dubai UAE	<ul style="list-style-type: none"> • Provided Guest Speaker for the conference 	<ul style="list-style-type: none"> • Mr.Omar Shabban Director Global Operations CISCO Networking Academy – CISCO, Dubai UAE
	Yelataalk	<ul style="list-style-type: none"> • Provided Guest Speaker for the conference 	<ul style="list-style-type: none"> • Mr. Rajiv Kumar Founder Yela talk
	IBM Cloud Center for Excellence	<ul style="list-style-type: none"> • Provided Guest Speaker for the conference 	<ul style="list-style-type: none"> • Dr. Gopal Pingali IBM distinguished Engineer and Executive Director IBM Cloud Center for Excellence, Bangalore , India
	Dubai Chamber of Commerce Dubai, UAE	<ul style="list-style-type: none"> • Conducted Workshop on “ Green Building Technologies” 	<ul style="list-style-type: none"> • Mr. Jagath Gunawardena Senior Manager, Projects & Building Development Dubai Chamber of Commerce Dubai – UAE

Melaka

National and international conferences organized by the Melaka campus

1. Portfolio Development Workshop by Prof Alam Sher Malik on

26th January 2012.

Objective of the Conference: To introduce research to portfolio development

2. Scientific Poster Workshop on 25th April 2012.

Participants: Specialists and Medical Officers, Melaka Ministry of Health

Objective of the Conference: To help participants in the:

1. Understanding the concept of poster design methods
2. Ways of writing poster from Introduction, Methodology. Results and Discussion

3. Modified Essay Question Workshop by Prof Nabishah on 14th June 2012.

Participants: Faculty of MMMC

Objective of the Conference: To help participants in the:

1. Understanding the concept of assessment in medical education
2. Concepts of Modified Essay Question and Key Feature Questions

4. Medical Education Workshop by Prof J Hurley Myers, Southern Illinois

University on 16th June 2012. Participants: Faculty of MMMC

Objective of the Conference: To help participants in the:

1. Understanding the concept of e-Learning, Small group teaching and PBL in medical education
2. Concepts of Virtual patients, simulators and standardized patients

5. Fire Prevention Awareness On 21st June 2012.

(As part of Safety Health Committee Activities – Company’s Name: Fire Prevention Centre)

Participants: Staff, Faculty of MMMC

Objective of the Conference: To help participants in the:

1. Understanding the fire hazards at home and at the workplace
2. Concepts of prevention and strategies in reducing risk of fire at home and workplace

6. Basic Medical Education Workshop on 9th July 2012

Facilitators – Prof Ramnarayan and Prof Ciraj

Participants: Faculty members MMMC

Objective of the Conference: To help participants in the:

1. Understanding the concept of medical education with regards to Large Group Teaching and Small Group Teaching
2. Ways of using Microteaching to improve oneself

7. Quality Assurance Workshop Phase II on 12th July 2012.

Objective of the Workshop: To expose participants to issues pertaining to:

1. Data analysis concept in quality assurance projects
2. Presentation technique of QA projects

8. Cochrane: Data Extraction Workshop by Dr Jacqueline Ho on 3rd to 6th September 2012.

Objective of the Conference: To help participants in the:

1. Understanding the concept of systematic review and meta analysis
2. Cochrane collaboration in research
3. Data extraction in Cochrane

9. Developing Outcome Based Education For Lecturers on 21st to 23rd September 2012.

Objective of the Conference: To help participants in the:

1. Understanding the concept of outcome based education
2. Concepts in Quality assurance and Malaysian Qualification Framework & Malaysian Qualification Agency
3. Concepts in Programme Educational Objectives, Programme Outcomes, Course Outcomes

10. Scientific Writing, Poster And Oral Presentation Workshop on 8th to 9th October 2012. Participants: Specialists and Medical Officers, Melaka Ministry of Health

Objective of the Conference: To help participants in the:

1. Understanding the concept of scientific writing
2. Ways of writing poster from Introduction, Methodology. Results and Discussion
3. Ways of writing and presenting abstract
4. Techniques in oral presentation.

11. Faculty Development Workshop on 18th October 2012.

Facilitators – Prof Alam Sher Malik and AP Dr Rukhshana Malik

Participants: Faculty members MMMC

Objective of the Conference: To help participants in the:

1. Understanding the concept of medical education with regards to Ethics, Professionalism and Self Directed Learning
2. Ways of formulating Study Guide

12. Scientific Writing Workshop on 17th to 18th December 2012

Participants: Specialists and Medical Officers, Melaka Ministry of Health

Objective of the Conference: To help participants in the:

1. Overview of Publication
2. Ways of writing poster from Introduction, Methodology. Results and Discussion

3. Ways of writing and presenting abstract
4. Techniques in oral presentation.

13. Research Methodology Workshop on 5th to 6th February 2013

Participants: Pharmacists, Johor Ministry of Health

Objective of the Conference: To help participants in the:

1. Overview of Research
2. Ways of conducting studies
3. Ways of proposal presentation
4. Basic statistics

14. Research Methodology Workshop on 15th – 16th March 2013.

Participants: Medical & Health Officers and Support Staff, Johor Ministry of Health

Objective of the Conference: To help participants in the:

1. Understanding the concept of research methods
2. Ways of conducting sampling methods
3. Ways of calculating sample size.

15. Assessment Strategies In Medical Education on 16th March 2013.

(Facilitators – Prof Ciraj & Prof Elango)

Participants: Faculty members MMMC

Objective of the Conference: To help participants in the:

1. Understanding the concept of medical education with regards to Formative Assessment, Peer Assessment
2. Ways of using Blueprinting in Assessment

16. Modified Essay Question On 7th May 2013.

(Facilitators – Prof Erle Lim Chuen Hian)

Participants: Faculty members MMMC

Objective of the Conference: To help participants in the:

1. Understanding the concept of designing MEQ
2. Ways of incorporating MCQ into MEQ

17. Quality Assurance Workshop Final Phase on 8th May 2013.

Objective of the Conference: To help participants in the:

1. Understanding the concept of Quality Assurance
2. Ways of writing report for a QA project.
3. Implement correct techniques in presentation

18. Basic Medical Education Workshop on 17th June 2013.**(Facilitators – Prof Ramnarayan and Prof Tejinder Singh)**

Participants: Faculty members MMMC

Objective of the Conference: To help participants in the:

1. Understanding the concept of medical education with regards to Assessment and Small Group Teaching (Jigsaw)
2. Ways of learning to teach and teaching to learn

19. Cochrane: Data Extraction Workshop on 20th to 21st June 2013.**(Dr Jacqueline Ho)**

Objective of the Conference: To help participants in the:

1. Understanding the concept of systematic review and meta analysis
2. Cochrane collaboration in research
3. Data extraction in Cochrane

20. Moodle Workshop on 9th July 2013.

Objective of the Conference: To help participants in the:

1. Understanding the concept of e-learning
2. Use of Moodle platform in e-Learning

21. Poster And Oral Presentation Workshop on 9th September 2013

Participants: Specialists and Medical Officers, HPSF Muar

Objective of the Conference: To help participants in the:

1. Ways of writing poster from Introduction, Methodology. Results and Discussion
2. Ways of writing and presenting abstract
3. Techniques in oral presentation.

22. Workshop On Basic Statistics on 11th to 12th September 2013.

Participants: Specialists and Medical Officers, Hospital Melaka

Objective of the Conference: To make use of basic statistic techniques when conducting a research:

1. Descriptive statistics
2. Inferential statistics
3. Use of SPSS to analyse data

23. Scientific Writing, Poster And Oral Presentation Workshopon 23rd to 24th September 2013

Participants: Specialists and Medical Officers, Melaka Ministry of Health

Objective of the Conference: To help participants in the:

1. Understanding the concept of scientific writing
2. Ways of writing poster from Introduction, Methodology. Results and Discussion

3. Ways of writing and presenting abstract
4. Techniques in oral presentation.

24. Workshop On Basic Statistic on 14th to 15th November 2013.

(with Dr YH Chan, National University of Singapore)

Objective of the Conference: To make use of basic statistic techniques when conducting a research:

1. Descriptive statistics
2. Inferential statistics
3. Use of SPSS to analyse data

25. Poster And Oral Presentation Workshop on 20th February 2014

Participants: Pharmacists, Melaka Health Department

Objective of the Conference: To help participants in the:

1. Ways of writing poster from Introduction, Methodology. Results and Discussion
2. Ways of writing and presenting abstract
3. Techniques in oral presentation.

26. Cme Tips In Publication On 24th February 2014

Participants: Pharmacists, Doctors, Staff From Hospital JB

Objective Of The Conference: To Help Participants In The:

1. Ways Of Writing For Publication
2. Ways Of Writing Paper
3. Types Of Journal For Publication

27. Research Methodology Workshop Phase I on 16th To 17th April 2014

Participants: Specialists And Medical Officers, Muar Ministry Of Health

Objective Of The Conference: To Help Participants In The:

1. Understanding The Concept Of Scientific Writing
2. Ways Of Writing From Introduction, Methodology. Results And Discussion
3. Ways Of Writing And Presenting Abstract
4. Techniques In Proposal Presentation.

28. Cochrane: Developing A Protocol For A Cochrane Systematic Review By Dr Jacqueline Ho On 14th To 16th May 2014.

Objective Of The Conference: To Help Participants In The:

1. Understanding The Concept Of Systematic Review And Meta Analysis
2. Cochrane Collaboration In Research
3. Data Extraction In Cochrane

29. Launching Of Melaka Manipal Medical College Cochrane Network Site on 14th May 2014

Objective of the Launching: To help participants in the:

1. Increasing awareness on Cochrane among health care providers in Melaka
2. Increase activities pertaining to Cochrane activities within Campus and state of Melaka

30. Launching Of Melaka Manipal Medical College Cochrane Network Site on 28th May 2014

Objective of the Launching: To help participants in the:

1. Increasing awareness on Cochrane among health care providers in Malaysia
2. Increase activities pertaining to Cochrane activities within Malaysia through activities conducted by Malaysian Cochrane Network Sites

31. Ideal Consortium – Assessment Workshop (MCQ & OSCE) by Prof Richard Hays as Facilitator on 4th June 2014.

Objective of the Conference: To help participants in the:

1. Understanding the concept of assessment
2. Skills and techniques in developing MCQs
3. Skills and techniques in developing OSCEs

32. Basic Concepts Of Research & Proposal Writing on 5th June 2014

Participants: Specialists and Medical Officers (Postgraduate Students in A&E Dept, Universiti Malaya under AP Dr Risya Manickam)

Objective of the Conference: To help participants in the:

1. Understanding the concept of scientific writing
2. Ways of writing from Introduction, Methodology, Results and Discussion
3. Understanding various types of study designs
4. Techniques in proposal presentation.

33. Wpba & Portfolio Workshop by Prof Dujeeva, Director of MEU, NUS Singapore on 24 - 25th July 2014. Participants: Faculty members MMMC

Objective of the Conference: To help participants in the:

1. Understanding the concept of portfolio
2. Ways of using Work Place Based Assessment as an assessment mechanism

34. 1ST Global Manipal Alumni – Health, Science & Technology Convention on 7th – 8th August 2014. Participants: Manipal Alumni

Objective of the Conference: To help participants in the:

1. Advancement of knowledge and skills as presented by the various participants from Manipal Alumni

35. Research Methodology Workshop Phase II: Basic Statistics on 17th to 19th September 2014. Participants: Specialists and Medical Officers, Muar Ministry of Health
Objective of the Conference:

To make use of basic statistic techniques when conducting a research:

1. Descriptive statistics
2. Inferential statistics
3. Use of SPSS to analyse data

36. Standard Setting Workshop by AP Dr Rajasingam Shanmugam & Dr Elvind Yip, UniKL, Royal College of Medicine Perak on 3rd October 2014.

Participants: Faculty members MMMC

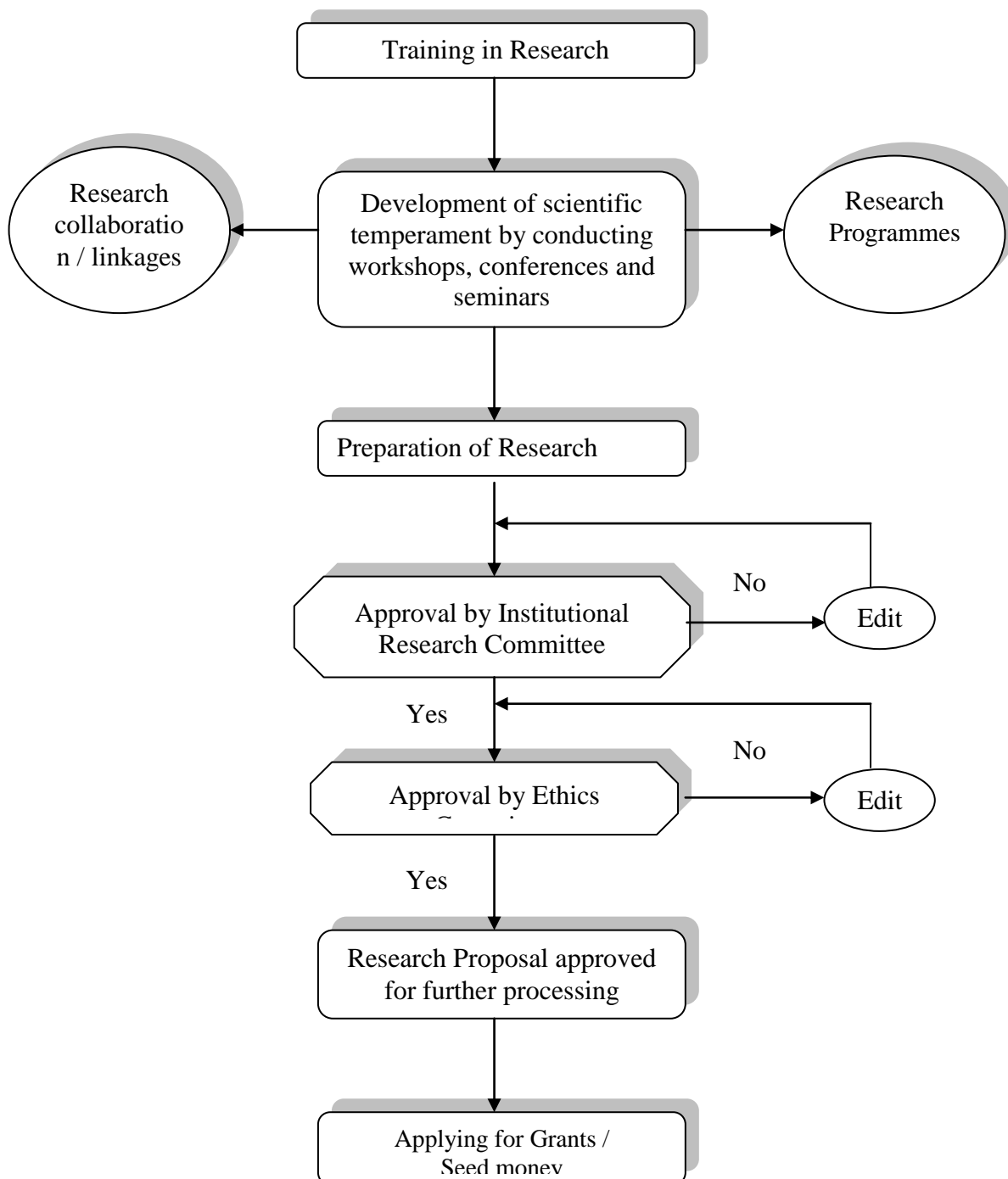
Objective of the Conference: To help participants in the:

1. Understanding the concept of standard setting
2. Ways of using Standard Setting in assessment mechanism

3.1.12 Criteria specific to health sciences

3.1.12.1 What are the initiatives of the institution in the following areas to facilitate a research culture?

Facilitation of Research Culture



a. Training in research methodology.

Workshops are conducted regularly. Every batch of postgraduate students has an orientation programme on research methodology. Further, the research protocols are scrutinized at the department level and by the scientific committee for scientific aspects and by the Institutional Ethics Committee for ethical aspects.

It is mandatory that every postgraduate (degree) student has to work on a topic under the guidance of a PG teacher and submit a thesis as a part of his study programme.

UG students are encouraged to do short term research projects with ICMR .Following table details their participation:

Year	2012	2013	2014
KMC Manipal	19	21	10
KMC Mangalore	49	47	35
Total	68	68	45

Students are trained for performing in depth analysis and minimum two journal articles along with the Thesis work

b. Development of scientific temperament.

Meetings and seminars are conducted regularly on matters related to scientific research and publication

c. Presence of Research Committee (Annexure 3.3)

Yes, Research Committee is in place to scrutinize and encourage research

d. Presence of Medical Ethics Committee.

Yes. The responsibilities of University, Ethics Committee is as follows:

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

There is SOP for the functioning of this committee and guidelines for submission to the committee. University funded projects, clinical trials, Bioavailability and Bioequivalence studies, and common trials at KMC Manipal and Mangalore are taken up by University Ethics Committee for ethical clearance.

e. Research collaboration with Pharmaceutical, Bio Medical and other industries.

Clinical trials are undertaken in collaboration with pharmaceutical industry and CROs. No of Clinical trials in the last three years: **190**

Additional Research projects are taken by Pharmaceutical College (MCOPS) with Pharmaceutical industry. Details of the same are as follows:

No of Research projects with Pharmaceutical industry between the year 2012-13 and 2014-15:

2012-13

#	Name of donor	Name of the grant	Coordinator	Department	Amount sanctioned
1	Cholayil Pvt Ltd Chennai	Acute & Sub-acute toxicity studies of finished products	Dr C Mallikarjuna Rao Pharmacology	Pharmacology	2,25,00.00
2	Manipal Acunaova Ltd. Manipal	Intravenous test drug administration in rats	Dr C Mallikarjuna Rao Pharmacology	Pharmacology	98,000.00
3	Manipal Acunaova Ltd. Manipal	Intravenous test drug administration in rats	Dr C Mallikarjuna Rao Pharmacology	Pharmacology	98,000.00
4	Arjuna Natural Extracts Always	Effect of turmeric extracts on inflammatory edema and biomarkers of inflammations in animal models	Dr C Mallikarjuna Rao Pharmacology	Pharmacology	4,42,000.00
5	Cholayil Pvt Ltd. Chennai	Study entitled Acute and subacute Toxicity study of finished formulation	Dr C Mallikarjuna Rao Pharmacology	Pharmacology	45,000.00
6	Stemputics Pvt Ltd Manipal	Bone Marrow Derived Stem cell conditioned Media Based Anti-Wrinkle Serum	Dr N Udupa MCOPS		1,80,000.00
Total					10,88,000.00

2013-14

#	Name of donor	Name of the grant	Coordinator	Department	Amount sanctioned
1	Cholayil Pvt Ltd, Chennai	Acute and Chronic toxicity studies of CPL/IB0413, a finished product of Cholayil Pvt Ltd	Dr C Mallikarjuna Rao	Pharmacology	Rs.3.83 lakh

2	Stempeutics Research Pvt Ltd, Manipal	Marrow derived Stem Cell conditioned media based Anti-wrinkle serum	Dr N Udupa	Pharmacy Management	Rs 2.00 lakhs
3	Cholayil Pvt Ltd	Aute and Chronic Toxicity Study of CPL/IBO413	Dr Nandakumar	Pharmacology	Rs.1.07 lakhs
4	Enovate Pvt Ltd	Evaluation of test formulations EB-CJ-01/02 on mineralization/ calcium deposition in human osteoblast cell lines	Dr Nandakumar	Pharmacology	Rs.1.50 lakhs
5	Enovate Biolife Ltd, Mumbai	Preclinical Evaluation of E-ER-01/02/03 for Anxiolytic and antifatigue activity Anticancer Agents	Dr Nanda Kumar	Pharmacology	Rs .0.36 lakhs
6	Enovate Biolife Pvt. Ltd	Evaluation of test formulations E-B-CJ-01/ EB-CJ-02 on mineralization in human osteoblast cell lines & Evaluation of test formulations on mineralization/ calcium deposition in human osteoblast cell lines	Dr C Malikarjuna Rao & Dr K Nandakumar	Pharmacology	262,929.00
7	Dr N Udupa Travel Grant	3 rd World Conference on Cancer Science and Therapy, Double Tree by Hilton, San Francisco, California, USA (October 2013)	Prateek Jain	Biotechnology	Rs 3,000/-
8	VGST - Spice	Screening of milk samples for isolation of cholesterol oxidase producing lactobacillus species	Aditya Kiran G	Biotechnology	Rs 30,000/-

9	Indo-US 21 st Century Knowledge initiative	USA under 300 Roman Fellows for Post Doctoral Studies in USA under	Dr Manthan D Janodia	Pharmacy Management	Rs 11 lakhs
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2014-15

#	Name of donor	Name of the grant	Coordinator	Department	Amount sanctioned
1.	VGST	Screening of milk samples for the isolation of cholesterol oxidase producing lactobacillus species	Mr G Aditya Kiran	Pharmaceutica l Chemistry	Rs 28, 000.00
2.	Cholalyil Private Limited	Acute & Chronic toxicity study of finished formulation CPL/IB0413	Dr Nanda Kumar	Pharmacology	Rs 5,65,775.00
3.	Vision Group on Science & Technology	Design preparation and evaluation of water soluble nanoparticles	Mr Lalith Kumar	Pharmaceutics	Rs 6,00,000.00
4.	Arjuna Natural Extracts Ltd	Development & Evaluation of Gastro-retentive dosage forms of a plant extract	Dr Srinivas Mutalik	Pharmaceutics	Rs 2,08,000.00
5.	Sequent Research Ltd Laboratory	Development & Evaluation of Topical Formulations	Dr Srinivas Mutalik	Pharmaceutics	Rs 3,22,000.00
6.	Arjuna Natural Extracts Ltd Kerala	Effect of Turmeric extracts on inflammatory edema & biomarkers of inflammation in animal models	Dr Anoop Kishore	Pharmacology	Rs 3,78,609.00
7.	M/s Enovate Biolife Pvt Ltd, Mumbai	Evaluating the effect of test formulations on cardiac output on isolated rat heart experiment	Dr Nandakumar	Pharmacology	Rs 81,800.00
8.	Cholayil Pvt Ltd (Nitesh)	Acute & Chronic Toxicity studies	Dr C Mallikarjuna	Pharmacology	Rs 86,086.00

		of CPL/IB0413,a finished product of Cholayil Pvt Ltd	Rao		
9.	M/s Enovate Biolife Pvt Ltd (Nanda Kumar)	Evaluation of Inhibitory activity of test formulations by COM CRYSTAL-BINDING ASSAY in Vero cell lines	Dr C Mallikarjuna Rao	Pharmacology	Rs 51,402.00
10.	M/s Sequent Research Ltd	Development of topical formulations (analysis of 94 formulations)	Dr Srinivas Mutalik	Pharmaceutics	Rs 3,80,000.00
11.	M/s Enovate Biolife Pvt Ltd (Nanda Kumar)	Pre-clinical evaluation of EB-ER 01/EB-ER-02/EB-ER-03 ergogenic anti-fatigue activity	Dr C Mallikarjuna Rao	Pharmacology	-
12.	M/s VLCC Healthcare Ltd (Nitesh)	Acute toxicity studies of finished product of VLCC Healthcare Ltd	Dr C Mallikarjuna Rao	Pharmacology	Rs 25,820.33
13.	Enovate Biolife, Mumbai (Nanda Kumar)	Evaluation of test formulations EB-CJ-01/ EB-CJ-02 on Mineralization in human osteoblast cell lines	Dr C Mallikarjuna Rao	Pharmacology	Rs 1,32,585.00
14.	Sequent Research Ltd Lab, Mangalore	Development of topical formulations	Dr Srinivas Mutalik	Pharmaceutics	Rs 2,31,462.00
15.	BIRAC, New Delhi	Continuous Process for economic production of effervescent preparations of aminoacids and other supplements Phase-1	Dr Srinivas Mutalik	Pharmaceutics	Rs 2,10,000.00

16.	Enovate Biolife Pvt Ltd, Mumbai (Nanda Kumar)	Evaluation of Heezon (E-MA-H) on cAMP & cGMP levels in corpus cavernous tissue	Dr C Mallikarjuna Rao	Pharmacology	Rs 2,87,192.00
17.	Getwel Pharmaceuticals Gurgaon	Qualitative analysis of drug formulation by LC-MS-MS	Dr Krishnamurthy M Bhat	Quality Assurance	Rs 36,708.00
18.	Sequent Research Ltd Laboratory, Mangalore	Development of topical formulations (including analysis of 26 formulation)	Dr Srinivas Mutalik	Pharmaceutics	Rs 10,35,710.00
19.	Zodiac Pharma, Chittor Dist, AP (Nitesh)	Evaluation of aphrodisiac activity of Safed Musli extract U00SCB50408 13, a finished product of Zodiac Pharma	Dr C Mallikarjuna Rao	Pharmacology	Rs 59,832.00
20.	VLCC Personal care Limited, Gurgaon	Acute Toxicity Studies of Finished Product of VLCC Health Care Ltd	Dr C Mallikarjuna Rao	Pharmacology	Rs 28,118.00
21.	M/s Ennovate Biolife Pvt Ltd (Nanda)	Evaluation of Inhibitory activity of test formulations by COM CRYSTAL-BINDING ASSAY in vitro cell lines	Dr C Mallikarjuna Rao	Pharmacology	Rs 57,755.00
22.	Enovate Biolife Pvt Ltd, Mumbai	Evaluation of Heezon (E-MA-H) on cAMP & cGMP levels in corpus cavernous tissue	Dr C Mallikarjuna Rao	Pharmacology	Rs 2,87,192.00
23.	M/s Enovate Biolife Pvt Ltd, Mumbai	Evaluating the effect of test formulations on cardiac output on isolated rat heart experiment	Dr K Nandakumar	Pharmacology	Rs 81,800.00

24.	Cholayil Pvt Ltd	"Evaluation of Cholayil formations for anti-aging, anti stress, hematinic and immunomodulatory activities"	Dr C Mallikarjuna Rao	Pharmacology	Rs 5,38,148.00
25.	FIP Pharmabridge	Antimicrobial Stewardship Observership program at Tufts Medical Center , Boston ,USA	Mr John Preshanth KP	Pharmacy Practice	Rs. 38,000.00

f. Research linkages with other Institutions, Universities and Centers of Excellence. (national and international).

NIH, ICMR, ICRA, Sree Chitra Tirunal Institute for Medical Sciences and Technology, St. John's Research Institute, University of Alabama, University of Arizona, Monash University (Sunway Campus, Malaysia)

g. Research programmes in Basic Sciences, Clinical and Operational research, Epidemiology, Health Economics etc.

Operational and epidemiological research is conducted regularly by the community medicine department. This includes projects on operational aspect of RNTCP.

3.2 Resource Mobilization for Research

3.2.1 What are the financial provisions made in the institution budget for supporting students’ research projects?

The constituent units encourage the innovative research projects by the students and support it by finances provided by the university to the concerned unit. For example, Manipal Institute of Technology has made following provisions for three projects:

#	Project	Financial support (Rs.)
1	Formula car (Budgetary provision per year for travel reimbursements only)	7,00,000/-
2	Satellite project (Budgetary provision for full project duration)	1,00,00,000/-
3	Super computer (Budgetary provision for full project duration)	5,00,00,000/-

Formula Car



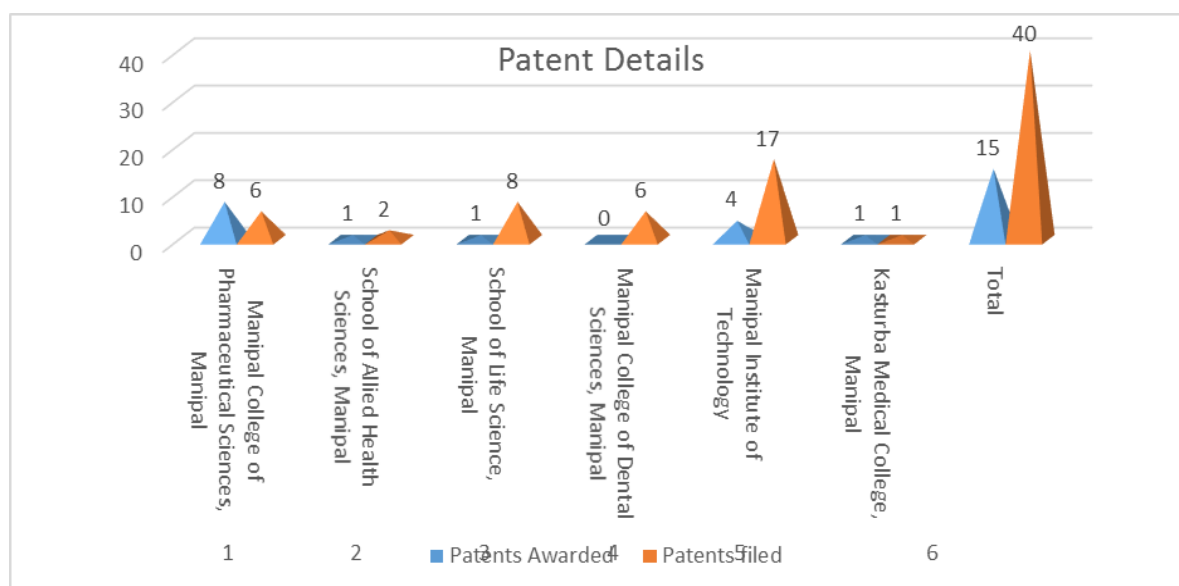
Photo showing research work in any conference outside Manipal.

Health Sciences PGs are provided up to Rs 10,000 to support their thesis work. U.G. Students are provided a one-time financial support of Rs 5000 during the tenure of their course to attend and present their research project/paper in any conference outside Manipal. Details are provided in item 3.1.7

3.2.2 Has the institution taken any special efforts to encourage its faculty to file for patents? If so, how many have been registered and accepted?

Yes. The University has created Innovation Centre in MIT which formulates policy and encourages the student, faculty and staff to file patents. It also holds various events like seminars, competitions to encourage innovative ideas in engineering and health sciences. Directorate of Research monitors patent registration and award. Directorate of Research plans to set up Technology Transfer Office which will evaluate research ideas for intellectual property and assist in patenting such inventions, managing patents and royalties and be an important part of the research eco systems including the incubator.

#	Institution	Patents Awarded	Patents filed
1	Manipal College of Pharmaceutical Sciences, Manipal	08	06
2	School of Allied Health Sciences, Manipal	01	02
3	School of Life Science, Manipal	01	08
4	Manipal College of Dental Sciences, Manipal	00	06
5	Manipal Institute of Technology	04	17
6	Kasturba Medical College, Manipal	01	01
	Total	15	40



List of Patents Awarded

#	Institute	Patents Awarded
1	MCOPS Manipal	Improved process for the preparation of flavonoids from ocimum sanctum (Krishna Tulsi) (Pathirisseri Umadevi, Adikesavan Ganasoundari and Keloth Kaitheri Srinivasan - Document No. 184300)
2	MCOPS Manipal	“Transdermal Dr.ug delivery device containing oral antidiabetic Dr.ug” (Product patent) document No. 207023)
3	MCOPS Manipal	“Biodegradable polymeric composition for the treatment of diabetes mellitus (Product patent) (patent No. 214342)”

4	MCOPS Manipal	"Mucoadhesive Buccal Composition containing nicotine useful for smoking cessation and a process for its preparation" (221428 23-06-2008)
5	MCOPS Manipal	"Bioadhesive Dr.ug delivery system containing parasympathomimetic agent for the treatment of xerostomia" (Patent No. 222658 dated 20-08-2008)
6	MCOPS Manipal	Pharmaceutical composition useful for the treatment of diseases caused by viruses and a process for its preparation(Patent No. 222692 dated 23-06-2008)"
7	MCOPS Manipal	"Biodegradable polymeric composition useful in the treatment of periodontitis" (Patent No. 223664 dated 19/09/2008)
8	MCOPS Manipal	"Biodegradable polymeric monolithic film useful for the restoration of the periodontium (Patent No. 223665 dated 19/09/2008)"
9	SOLS Manipal	Methods for the Analysis of Breast Cancer Disorders (Application no. 61324797 dated April 16, 2010)
10	KMC Manipal	Dr.Kumar M.R, Additional Professor, Dept. of Anatomy, KMC, Manipal - US Patent - US2008/0299563 A1 - Microtubule associated protein-2 promoter - as useful diagnostic, prognostic tool in 1) neruodegenerative disorders 2) Small molecule screening 3) as a marker for neuronal differentiation
11	SOAHS, Manipal	Manipal E-AMSLER - I Phone App software
12	MIT Manipal	Multi-service adaptable routing protocol for wireless sensor networks
13	MIT Manipal	Defrosting A Freezing Unit and Liquid Purification
14	MIT Manipal	Ota-Based Current-Mode Filter and Oscillator
15	MIT Manipal	Delivery of Multimedia service in mobile networks

List of Patents filed:

#	Institute	Patents filed
1	MCOPS Manipal	Herbal Composition for improving anticancer activity, anti-inflammatory activity and protecting body from oxidative damage and the method of preparing the same.
2	MCOPS Manipal	Anti-inflammatory and analgesic activities of a non-ulcerogenic Novel synthetic molecule: 2-(4, 6-dihydroxy-2-mercaptophrindin-5-yl)-2-hydroxy-1H-1dene-1,3 (2H)-Dione (DMPI)
3	MCOPS Manipal	Timed-release compression-coated tablet composition for chronotherapy of hypertension
4	MCOPS Manipal	Novel drug delivery system of rivastigmine for the treatment of Alzheimer's disease

5	MCOPS Manipal	Innovative, inexpensive and viable method for the isolation of novel antioxidant flavonoids from the weed, <i>Coronopus didymus</i> Linn
6	MCOPS Manipal	A Novel Drug Delivery System for the effective treatment of hypertension
7	SOAHS, Manipal	Design and Development of pain relieving instrument-under consideration(Application No. 373/CHE/2010 dated February 15, 2010)
8	SOAHS Manipal	Wearable Ocular Health Monitoring Dress part and thereof
9	KMC, Manipal	Automated Tuberculosis screening(WIPO Patent Application WO/2012/063107 13375135 US(International) on 8.11.2010
10	SOLS Manipal	Methylation regulated genes as diagnostic and prognostic marker for early detection of oral cancer (Application No. 750/CHE/2012 dated February 28, 2012)
11	SOLS Manipal	Copy number variations (CNV) of specific genes as novel biomarkers of colorectal cancer (Application No. 4054/CHE/2012 dated September 28, 2012)
12	SOLS Manipal	Differentially methylated gene(s) as a novel and useful diagnostic biomarkers for early screening and detection of cervical cancer(Application No. 837/CHE/2012 dated March 6, 2012)
13	SOLS Manipal	Method and Image Processing Software for Detection of Pharmacogenomics variation of Genes (Application No. 4201/CHE/2011 dated December 05, 2011)
14	SOLS Manipal	Auto fluorescence based technology for non-invasive collagen detection (Application No. 4773/CHE/2012 dated November 15, 2012)
15	SOLS Manipal	Highly sensitive method for the detection and control of <i>Plasmodium falciparum</i> and <i>Plasmodium vivax</i> (Application No. 2528/CHE/2013 dated November 6, 2013)
16	SOLS Manipal	Novel sodium channel blocker as an anticancer agent from sea anemone <i>Actinia equina</i> extract(Application No. 5283/CHE/2013 dated November 18, 2013)
17	SOLS Manipal	Signature microRNA as Biomarkers for early detection of Cervical Cancer (Application No. 2356/CHE/2015 dated May 8, 2015)
18	MIT Manipal	Method and Apparatus for In Vitro Analysis of the Physical Response of Blood-Vessels to Vaso-active Agents
19	MIT Manipal	Object Position Tracking System And Method
20	MIT Manipal	Image Processing System And Method
21	MIT Manipal	Automated Tuberculosis Screening

22	MIT Manipal	Multi Lens System
23	MIT Manipal	Novel Synthesis Procedure To Realise First-Order, Second-Order And Higher-Order Current-Mode All-Pass Filters Using Dual-Output Otas And Grounded Capacitors Ota-Based Current-Mode Filter And Oscillator
24	MIT Manipal	Defrosting A Freezing Unit And Liquid Purification
25	MIT Manipal	Delivery Of Multimedia Service In Mobile Network
26		Marketing Gauge
27	MIT Manipal	Synthesis Of Palladium Based Metal Oxides By Sonication
28	MIT Manipal	A non-linear, flexible and dynamic approach for privacy, authentication, and integrity through dynamic S-box
29	MIT Manipal	Method, System and Apparatus for Sensor data management and service on cloud
30	MIT Manipal	Method and System for Efficient Stereo Matching
31	MIT Manipal	Method, system and apparatus for dispensation of the cryogen
32	MIT Manipal	Method and System for transferring images comprising Line Graphs over a Communication Network
33	MIT Manipal	Method, System and Apparatus for Curing Light Activated Resin Materials
34	MIT Manipal	Method and Device for Determining Vitamin B12 Deficiency
35	MCODS, Manipal	Surgical Glove for Educating Patients with Special Needs
36	MCODS, Manipal	Portable device for Dental Therapy
37	MCODS, Manipal	Mobile Dental Unit.
38	MCODS, Manipal	Wearable Apparatus for Dental Therapy
39	MCODS, Manipal	Method system and apparatus for dispensation of the CRYOGEN
40	MCODS, Manipal	An improved manual tissue microarrayer device for a rapid and simultaneous analysis of multiple tumor specimens

3.2.3 Provide the following details of ongoing research projects of faculty

Institution	Amount in Rs. (In lakhs)
Kasturba Medical College, Manipal	1,206.10
Kasturba Medical College, Manipal - Clinical trials	312.17
Kasturba Medical College, Mangalore	211.49

KMC Hospital, Attavar - Clinical trials	91.00
Manipal College of Dental Sciences, Manipal	4.72
Manipal College of Dental Sciences, Mangalore	1.60
Manipal Institute of Technology, Manipal	187.02
Manipal College of Pharmaceutical Sciences, Manipal	284.13
Manipal College of Nursing, Manipal	45.65
School of Life Sciences, Manipal	367.34
School of Allied Health Sciences, Manipal	111.69
School of Regenerative Medicine, Bangalore	293.65
Melaka Manipal Medical College, Manipal	78.26
KMC International Centre, Manipal	3.36
School of Communication	7.95
Manipal University	
Department of Geopolitics	8.93
Manipal Centre for Virus Research	267.86
Department of Atomic and Molecular Physics	143.77
Manipal Centre for Natural Science	30.82
Manipal Centre for Philosophy & Humanities	2.00
Department of Statistics	19.12
Department of Public Health	11.90
Department of European Studies	8.67
Total	3,699.21

Dubai Campus

Ongoing research projects of faculty:

	Year wise	Number	Name of the project	Name of the funding agency	Total grant received
A					
A. Other agencies - national and international (specify)					
Minor projects	2014-15	1	Study on prevalence of New Delhi Metallo- β -lactamase Gene among multidrug-resistant bacterial isolates from wastewater in Dubai, U.A.E and computational studies to understand its function.”	Manipal University, DUBAI	13500
	2013-14	1	Detection of SLC25A20 gene mutations leading to Carnitine-acylcarnitine translocase deficiency in a neonate	Manipal University, DUBAI	12000

	Year wise	Number	Name of the project	Name of the funding agency	Total grant received
A					
B. Other agencies - national and international (specify)					
Minor projects	2012-13	1	Pilot Study on Teaching & Learning Approaches of Architecture Students	Ongoing PhD Study – WSA, Cardiff	Self-financed (Ashok Iyer-Faculty-Dept. ID&A)
Major projects	2011-12	01	Solar Liquid Desiccant Air Conditioning System	American Society of Heating Refrigerating and Air Conditioning Engineers (ASHRAE)	USD 4000
	2013-14	1	Final Study Learning Approaches looking at Impact Factor of Architecture Students	Ongoing PhD Study – WSA, Cardiff	Self-financed (Ashok Iyer-Faculty-Dept. ID&A)
	2013-14 (Will start from September 2013)	01	Ground Source Heat Pumps	American Society of Heating Refrigerating and Air Conditioning Engineers (ASHRAE)	USD 5000

Melaka Campus

1. Stroke Asia Study a Multinational (Asian countries) Study on the outcome of stroke patients (Prof. Uduman Ali)

Intravenous Stem cell therapy in stroke – National Study monitored by CRC & My- SMO, Malaysia (Prof. Uduman Ali)

3 International, multicentre, Phase III –drug trials on Diabetes Mellitus (Prof. Uduman Ali with Co-Investigator Prof. Lakshmi Naik)

“Why do I always see double?” A misdiagnosed case of ocular myasthenia gravis for 10 years. BMJ Case Reports 2014; doi:10.1136/bcr-2013-203488.

A case of fronto-temporal dementia. IJCRI 2013
www.ijcasereportsandimages.com

Multidrug and extensively drug-resistant tuberculosis from a general practice perspective - Dovepress Journal October 2010 , Volume 2010:3 Pages 115 - 122

Efficacy of SCORPIO methodology in teaching short cases – A FAIMER project.

- Poster presentation was done in 3 places. (Prof. Lakshmi Naik)
- Pemphigus vulgaris in a pregnant woman and her neonate. *BMJ Case Reports* 2012; doi:10.1136/bcr.02.2012.5850. (Prof Yashodhara B.Math)
- Determinants of contraceptive usage among Myanmar migrant women in Phang-Nga Province, Thailand. *Journal of Medicine and Medical Sciences*. 2012 Nov; 3(11):721-728. (Dr Senthil Kumar Palaniappan)
- High Risk Behavior, Knowledge and Attitude of HIV/AIDS among Workers in Factories Manufacturing Alcohol in Mandalay, Myanmar. *World Journal of AIDS*
Vol. 3 No. 2 (2013) , Article ID: 32762 , 7 pages (Prof Mra Aye)
- Waist circumference and BMI cut-off points to predict risk factors for metabolic syndrome among outpatients in a district hospital. *Singapore Medical Journal* 2012, 53(8):545-550. (Prof Mra Aye)
11. Effectiveness of group psycho-education on well-being and depression among breast cancer survivors of Melaka, Malaysia. *Indian Journal of Palliative Care* 2013;19(1):34-39. (Prof Brig Gen (Rtd) Dr Rajagopal)
- Effectiveness of group psycho-education on well-being and depression among breast cancer survivors of Melaka, Malaysia. *Indian Journal of Palliative Care* 2013;19(1):34-39. (Mr Shankar Ram)
- Undergraduate Medical Students' Perceptions Of Effective Medical Teachers In A Malaysian Medical School - *The Internet Journal of Medical Education*. 2013 Volume 3 Number 1.
- Learning preferences of clinical students: A study in a Malaysian medical college. *Int J Med Public Health* 2013;3:60-3
- Treatment for osteoporosis in people with β -thalassaemia. *The Cochrane Library* Published Online: 28 MAR 2013.
- A unique case of non- traumatic asymmetric shoulder dislocation with four-part fractures of proximal humeri following seizures. *J Emerg Trauma Shock*. 2013 Jul;6(3):231-2. doi: 10.4103/0974-2700.115358.
- Qualities of an effective teacher: what do medical teachers think? *BMC Med Educ*. 2013 Sep 17;13:128. doi: 10.1186/1472-6920-13-128.
- In defence of Girdlestone excision arthroplasty: A comment on 'Unusual way of loosened total hip arthroplasty treatment with an Austin Moore endoprosthesis'. *Journal of Postgraduate Medicine* 2014;60(2):222-223.
19. Cochrane review Principal / Contact Author for "Topical NSAIDs for Diabetic CMO"- PROTOCL has been published. Currently review writing in progress. <http://summaries.cochrane.org/title/topical-non-steroidal-anti-inflammatory-agents-for-diabetic-cystoid-macular-oedema>
20. Cochrane Title Registration done: Laser therapy for sickle retinopathy (Publication stage of Full review) Authors: Kay Thi Myint, Soumendra Sahoo, Soe Moe, Han Ni

VARK questionnaires: a collaborative project with CMCL-FAIMER Fellow's project. 2013. (Prof Soumendra Sahoo, Dr Prabhu Venkatesan, Dr Kay Thi Myint & Dr Ruchita Dixit)

22. Video recording of student's clinical skill for improving self-assessment among medical undergraduate students-Pilot project under process.

23. Risk factor of diabetic retinopathy among the multi ethnic diabetic patients attending community clinic at Peringgit Melaka-Project (Prof Soumendra Sahoo, Dr Kay Thi Myint, Dr Prabhu Venkatesan, Dr Htoo Htoo)

24. Cognitive disorder among POAG patients-Proposal submitted for Clinical research society clearance. Approved by National Institute of Health Malaysia, Research id: NMRR-12-995-12562 (Prof Soumendra Sahoo, Dr Thevi, Dr Anusiah, Dr Htoo Htoo)

25. To analyze the effectiveness of skeletal lecture hand-outs. (Prof Soumendra Sahoo, Dr Venkatesan Prabhu & Dr Htoo Htoo)

26. NMMR Research ID: 16719 Research Title: Posterior Capsule Rupture And Zonulardiagnosis In Patients With Pseudoexfoliation In Hospital Melaka (Prof Soumendra Sahoo, Dr Thevi, Dr Htoo Htoo)

3.2.4 Does the institution have any projects sponsored by the industry/corporate? If yes, give details such as the name of the project, funding agency and grants received.

Projects sponsored by Industry / corporate:

#	Name of The Research Project	Name of The Grantor	Principal Investigator	Amount Sanctioned
1	Building Capacity For Tobacco Cessation In India And Indonesia	Sree Chitra Tirunal Institute For Medical Science And Technology	Dr Unnikrishnana B , Prof & Hod Dept Of Com Med	1240000.00
2	Diabetes Study - Prevalance Of Genetic Polymorphism In (Cyp) Gene Patients With Pcos And Their I Degree Relatives And Its Correlation With Androgen Excess ,Insulin Resistance And Cortisol Excess	Diabetes Research Centre Chennai	Dr Prabha Adhikari ,Prof Dept Of Medicine	250000.00
3	Pilot Clinical Studies	Apex Lab Pvt Ltd Chennai	Dr Ashok Shenoy & Dr Muktha Chowta , Dept Of Pharmacology	481750.00

4	Evaluation Of Antidiabetic Activity Of 5 Different Extracts Of Costuc Pictus In Streptozotocin Induced Diabetic Rats -5 Studies	Arujuna Natural Extracts Ltd Aluva ,Kerala	Dr Sheetal , Assoc Prof Of Pharmacology	899240.00
5	Turmeric (Bcm5) And Bospure/Akba Max) Extracts & Its Formulations	Arujuna Natural Extracts Ltd Aluva ,Kerala	Dr Sahana ,Dept Of Assoc Prof Pharmacology	56752.00
6	Evaluation Of Anti Obesity Effect Of Smartlean In Adult Wistar Rats	Sreedhareeyam Ayurvedic Hospital & Research Centre ,Ernakulam	Dr Ashok Shenoy , Prof & Hod Dept Of Pharmacology	103590.00
7	Molecular Characteristics Of Bacteriuria In Patients With 2 Type Diabetes Mellotus With Special Recommendation For Routing Screening & Treatment	Association Of Physicians Of India ,Api , Karnataka Chapter	Dr Prabha Adhikari ,Prof Dept Of Medicine	270000.00
8	A School Based Programmee To Improve Quality Of Life In School Children With Bronchial Asthma At Mangalore	St Johns Research Institute ,Bangalore	Dr Animesh Jain, Assoc Prof Dept Of Com Med	397000.00
9	Reaslr -CSM FOR CONCENTRATED SPUTUM SMEAR MICROSCOPY AND FOR CULTURE ON LOWENSTEIN 'JENSEN MEDIUM IN DIAGNOSIS OF TUBERCULOSIS"	REAMETRIX INDIA PRIVATE LIMITED ,BANGALORE	DR SHRIKALA BALIGA ,PROF & HOD ,DEPT OF MICROBIOLOGY	912000.00
10	Collaborative Research Activities For Developing And Validating Pcr Assays On Bigtec 'S Hand Held Pcr For Use In Screening/Clinical Diagnosis(The 'Research Project')	Bigtec Pvt Limited ,2 Nd Floor ,Golden Heights Building ,59 ,C Cross ,4 M Block ,Rajajinagar ,Bangalore-10	Dr Shrikala Baliga ,Prof & Hod ,Dept Of Microbiology	
11.	Acute & Chronic toxicity study of finished formulation CPL/IB0413	Cholalyil Private Limited	Dr Nanda Kumar	5,65,775.00
12.	Development & Evaluation of Gastro-retentive dosage forms of a plant extract	Arjuna Natural Extracts Ltd	Dr Srinivas Mutalik	2,08,000.00

13.	Development & Evaluation of Topical Formulations	Sequent Research Ltd Laboratory	Dr Srinivas Mutalik	3,22,000.00
14.	Effect of Turmeric extracts on inflammatory edema & biomarkers of inflammation in animal models	Arjuna Natural Extracts Ltd Kerala	Dr Anoop Kishore	3,78,609.00
15.	Evaluating the effect of test formulations on cardiac output on isolated rat heart experiment	M/s Enovate Biolife Pvt Ltd, Mumbai	Dr Nandakumar	81,800.00
16.	Acute & Chronic Toxicity studies of CPL/IB0413, a finished product of Cholayil Pvt Ltd	Cholayil Pvt Ltd (Nitesh)	Dr C Mallikarjuna Rao	86,086.00
17.	Evaluation of Inhibitory activity of test formulations by COM CRYSTAL-BINDING ASSAY in Vero cell lines	M/s Enovate Biolife Pvt Ltd (Nanda Kumar)	Dr C Mallikarjuna Rao	51,402.00
18.	Development of topical formulations (analysis of 94 formulations)	M/s Sequent Research Ltd	Dr Srinivas Mutalik	3,80,000.00
19.	Pre-clinical evaluation of EB-ER 01/EB-ER-02/EB-ER-03 ergogenic anti-fatigue activity	M/s Enovate Biolife Pvt Ltd (Nanda Kumar)	Dr C Mallikarjuna Rao	-
20.	Acute toxicity studies of finished product of VLCC Healthcare Ltd	M/s VLCC Healthcare Ltd (Nitesh)	Dr C Mallikarjuna Rao	25,820.33
21.	Evaluation of test formulations EB-CJ-01/EB-CJ-02 on Mineralization in human osteoblast cell lines	Enovate Biolife, Mumbai (Nanda Kumar)	Dr C Mallikarjuna Rao	1,32,585.00
22.	Development of topical formulations	Sequent Research Ltd Lab, Mangalore	Dr Srinivas Mutalik	2,31,462.00
23.	Evaluation of Heezon (E-MA-H) on cAMP & cGMP levels in corpus cavernous tissue	Enovate Biolife Pvt Ltd, Mumbai (Nanda Kumar)	Dr C Mallikarjuna Rao	2,87,192.00
24.	Qualitative analysis of drug formulation by LC-MS-MS	Getwel Pharmaceuticals Gurgaon	Dr Krishnamurthy M Bhat	36,708.00
25.	Development of topical formulations (including analysis of 26 formulation)	Sequent Research Ltd Laboratory, Mangalore	Dr Srinivas Mutalik	10,35,710.00

26.	Evaluation of aphrodisiac activity of Safed Musli extract U00SCB5040813, a finished product of Zodiac Pharma	Zodiac Pharma, Chittor Dist, AP (Nitesh)	Dr C Mallikarjuna Rao	59,832.00
27.	Acute Toxicity Studies of Finished Product of VLCC Health Care Ltd	VLCC Personal care Limited, Gurgaon	Dr C Mallikarjuna Rao	28,118.00
28.	Evaluation of Inhibitory activity of test formulations by COM CRYSTAL-BINDING ASSAY in vitro cell lines	M/s Ennovate Biolife Pvt Ltd (Nanda)	Dr C Mallikarjuna Rao	57,755.00
29.	Evaluation of Heezon (E-MA-H) on cAMP & cGMP levels in corpus cavernous tissue	Enovate Biolife Pvt Ltd, Mumbai	Dr C Mallikarjuna Rao	2,87,192.00
30.	Evaluating the effect of test formulations on cardiac output on isolated rat heart experiment	M/s Enovate Biolife Pvt Ltd, Mumbai	Dr K Nandakumar	81,800.00
31.	"Evaluation of Cholayil formations for anti-aging, anti stress, hematinic and immunomodulatory activities"	Cholayil Pvt Ltd	Dr C Mallikarjuna Rao	5,38,148.00
32.	Antimicrobial Stewardship Observership program at Tufts Medical Center , Boston ,USA	FIP Pharmabridge	Mr John Preshanth KP	38,000.00
33.	A multicentre observational study of Candidemia among ICU patients in India	SIHAM Candidemia Network	Dr Vandana K E	40,800.00
34.	Antimicrobial susceptibility pattern and MIC for Salmonellae and Treatment options for Enteric fever	Abbott Healthcare Pvt Ltd	Dr P Sugandhi Rao	350,000.00
35.	ICRA Project	ICRA Management Consulting Services Ltd	Dr Veena G Kamath	2,12,355.00
36.	KAIGA PROJECT	Nuclear Power Corporation of India Ltd	Dr Veena G Kamath	3,34,598.00
37.	Rotavirus Study	Shantha Biotechnics Ltd	Dr Veena G Kamath	1,48,500.00
38.	Zincovit Project	Apex Laboratories Pvt Ltd	Dr K L Bairy	167,515.00
39.	Zincovit Project	Apex Laboratories Pvt Ltd	Dr.K L Bairy	431,506.00

40.	Zincovit Project	Apex Laboratories Pvt Ltd	Dr.K L Bairy	167,869.00
41.	A multicenter observational study of Candidemia among ICU patients in India	SIHAM Candidemia Network	Dr.Vandana K E	81,200.00

Clinical Trials – Manipal Campus

KASTURBA MEDICAL COLLEGE, MANIPAL					
Clinical trials detail for the period January 1, 2012 to December 31, 2012					
#	Trial/Project name	Principle Investigator	Funding Agencies	Grant received on (Month and year)	Total Grants received (INR)
1	13 Global Research1218.52	Dr Sudha Vidyasagar	Siro Clinpharm Pvt Ltd	2/23/2012	288,701.00
2	An Invitro Study of Pseudomonas Aeruginos	Dr Shashidhar V	Apex Laboratories Private Ltd.	3/31/2012	90,000.00
3	Clinical Training on Ultra Sound	Dr V R K Rao	Philips Electronics India Ltd	2/29/2012	148,905.00
4	Contrast enhanced ultrasonography in evaluation of focal liver masses	Dr Gouri Kaur	Philips Electronics India Ltd	7/25/2012	75,507.00
5	Evaluation of preservatives efficacy test of pharmaceutical products	Dr K L Bairy	Apex Laboratories Pvt Ltd	5/9/2012	242,000.00
6	Ipca/HQMT/PIII-10 study	Dr Nalini Bhaskaranand	Ipca Laboratories Ltd	9/13/2012	73,000.00
7	MBI02-073	Dr Sudha Vidyasagar	Icon Clinical Research India Pvt Ltd	1/24/2012	122,608.00
				1/24/2012	103,230.00

8	Medical Device Project-Intel	Dr Raviraj Acharya	Intel Technology India Ltd	3/21/2012	360,000.00
				8/28/2012	123,596.00
9	Microbial limit test of pharmaceutical products	Dr K L Bairy	Apex Laboratories Pvt Ltd	5/9/2012	330,000.00
10	Microbial Sensitivity Studies of Sofinox RD	Dr Shashidhar	Apex Laboratories Pvt Ltd	4/30/2012	116,000.00
				5/9/2012	116,000.00
11	MK0524-A108-00	Dr Sudha Vidyasagar	Covance India Pharmaceutica l Services India Pvt. Ltd	12/26/2012	56,014.00
				12/31/2012	126,640.00
12	Novartis CSPP100F2301	Dr Padma Kumar	Manipal Acunova Ltd	3/15/2012	226,800.00
				4/17/2012	81,000.00
				5/31/2012	27,000.00
				8/9/2012	27,000.00
13	OSKIRA-1-D4300C00001 and 5 Study	Dr Janardhana Aithala	Quintiles Research (India) Pvt Ltd	11/13/2012	47,677.00
				4/27/2012	32,589.00
				6/16/2012	40,808.00
				9/13/2012	88,016.00
				2/23/2012	153,265.00
14	Pfizer A0081096	Dr S N Rao	Manipal Acunova Ltd	8/9/2012	92,290.00
15	PPD CV-185056	Dr Ganesh Kamath	PPD Pharmaceutica l Development India Pvt Ltd	2/23/2012	136,824.00
				5/29/2012	340,757.00

16	PPD012	Dr Sudha Vidyasagar	PPD Pharmaceutica l Development India Pvt Ltd	1/31/2012	62,453.00
				4/27/2012	517,481.00
17	Proctocl No: EX2211-3748	Dr Sudha Vidyasagar	Novo Nordisk India Pvt Ltd	12/7/2012	30,000.00
				3/22/2012	10,000.00
18	Proctocl No: SYM 001-003 Study	Dr Mukhyaprana Prabhu	Asiatic Clinical Research Pvt Ltd	3/23/2012	1,717.00
19	Protocol Write up on Sofinox	Dr K L Bairy	Apex Laboratories Private Ltd.	3/31/2012	18,000.00
20	Protocol 01/In vitro study/Pharmacology/2012	Dr K L Bairy	Apex Laboratories Pvt Ltd	9/7/2012	214,200.00
21	Protocol 01/Skin Irritancy/2012	Dr K L Bairy	Apex Laboratories Pvt Ltd	9/27/2012	171,600.00
22	Protocol 02/12 Efficacy of Topical Antimicrobials, on MRSA	Dr K L Bairy	Apex Laboratories Private Ltd.	3/31/2012	146,520.00
23	Protocol 02/In vitro study/Pharmacology/2012	Dr K L Bairy	Apex Laboratories Pvt Ltd	9/7/2012	110,100.00
24	Protocol 03/12 Comparative Study of MRSA	Dr K L Bairy	Apex Laboratories Private Ltd.	3/31/2012	146,520.00
25	Protocol 04/2012 Medical Write	Dr K L Bairy	Apex Laboratories Private Ltd.	3/31/2012	108,000.00
26	Protocol 05/2012	Dr K L Bairy	Apex Laboratories Private Ltd.	3/31/2012	81,000.00

27	Protocol KMC/PHA/ZINC OVIT 005/2012	Dr K L Bairy	Apex Laboratories Pvt Ltd	8/22/2012	265,320.00
28	Protocol KMC/PHA/ZINC OVIT 006/2012	Dr K L Bairy	Apex Laboratories Pvt Ltd	8/22/2012	234,524.00
29	Protocol KMC/PHA/ZINC OVIT 007/2012	Dr K L Bairy	Apex Laboratories Pvt Ltd	8/22/2012	222,912.00
30	Protocol NIS- CAP-XXX- 2011/1:EPICOR ASIA Study	Dr Tom Devasia	Max Neeman Medical International Ltd	8/10/2012	21,000.00
31	Protocol No: P08388	Dr Pratap Kumar	G V K Biosciences Pvt Ltd	9/7/2012	10,000.00
				12/29/2012	75,500.00
32	Protocol No: ACES 256 Study	Dr P S V N Sharma	Covance India Pharmaceutica l Services Pvt Ltd	2/27/2012	145,246.50
33	Protocol No: SYR-322_302 Study	Dr Padma Kumar	Siro Clinpharm Pvt Ltd	8/6/2012	20,624.00
34	Protocol No: ABB-09-001	Dr Dinesh Nayak	Max Neeman Medical International Ltd	5/29/2012	69,488.00
				7/31/2012	231,118.00
35	Protocol No: CACZ885M2301 study	Dr Tom Devasia	Novartis Healthcare Ltd	11/6/2012	20,366.11
				11/6/2012	4,500.00
				11/6/2012	66,960.00
				11/6/2012	47,640.00
				7/27/2012	10,095.00
				7/31/2012	25,000.00

36	Protocol No: CT-P6/3.1study	DrDonald Fernandes	Parexel,Bangalore	6/30/2012	1,303,325.00
37	Protocol No: D4130C00004 Study	Dr P S V N Sharma	Quintiles Research (India) Pvt Ltd	1/31/2012	2,176.00
				2/23/2012	64,099.00
				5/29/2012	45,247.00
38	Protocol No: EX2211-3748	Dr Sudha Vidyasagar	Novo Nordisk Pvt Ltd	7/31/2012	297,933.00
39	Protocol No: GLP108486	Dr Kavitha Saravu	PPD Pharmaceutica l Development India Pvt Ltd	4/25/2012	368,598.00
40	Protocol No: SPRL/OA/09-10/001 STUDY	Dr Vivek Pandey	Manipal Acunova Ltd	5/29/2012	239,264.00
				6/25/2012	123,760.00
				10/31/2012	209,950.00
				12/31/2012	103,155.00
41	Protocol/Micro/02/2012	Dr.Shashidhar	Apex Laboratories Pvt Ltd	9/7/2012	121,000.00
42	Protocol: MICRO/03/12 Study	Dr Shashidhar	Apex Laboratories Pvt Ltd	12/29/2012	151,000.00
43	Protocol- KMC/PHA/SUR/001/2012	Dr Rajagopal Shenoy	Apex Laboratories Pvt Ltd	7/11/2012	506,000.00
44	Protocol- PHA/DERMA/01/2012	Dr Satish Pai	Apex Laboratories Pvt Ltd	7/11/2012	488,000.00
45	Research Collaboration	Dr Raviraj Acharya	Intel Technology India Pvt Ltd	11/10/2012	55,000.00
46	TUXEDO-India Study	Dr Ranjan Shetty	Escorts Heart Institute and	1/31/2012	90,000.00

			Research Center Ltd	2/29/2012	27,000.00
				4/27/2012	90,000.00
				6/1/2012	90,000.00
				6/20/2012	30,000.00
				8/31/2012	90,000.00
				9/21/2012	57,870.00
47	Wound healing studies of Sofinox RD cream, Sofinox cream, Bactroban cream and Altrago cream	Dr K L Bairy	Apex Laboratories Pvt Ltd	5/9/2012	321,000.00
				6/18/2012	163,500.00
48	WSA-CS-004 study	Dr Dipak Ranjan Nayak	Quintiles Research (India) Pvt Ltd	8/10/2012	50,000.00
				9/21/2012	627,944.00
49	WSA-CS-008 study	Dr Sudha Vidyasagar	Quintiles Research (India) Pvt Ltd	9/29/2012	498,858.00
				10/31/2012	50,000.00
Total					13,018,790.61

Clinical trials detail for the period January 1, 2013 to December 31, 2013

#	Project Name	Principle Investigator	Funding Agencies	Grant received on (Month and year)	Total Grants Received (In Rs.)
1	OSKIRA 1-D4300C00001 and OSKIRA -X-D4300C00005	Dr. Janardhana Aithala	Quintiles Research (India) Pvt. Ltd	22/01/2013	14,123.00
2	TUXEDO-India	Dr.	Escorts Heart	22/01/2013	

	Study	RanjanShetty	Institute and Research Center Ltd		190,744.00
3	Protocol No. CACZ885M2301 Study	Dr. Tom Devasia	Novartis Healthcare Ltd	22/01/2013	15,380.00
4	Protocol NANO/INN/SUP/001	Dr.RanjanShetty	Innovation Med System	22/01/2013	40,000.00
5	Novartis CSPP100F2301	Dr.Padma Kumar	Novartis Healthcare Pvt Ltd	22/01/2013	54,000.00
6	Siro 1218.17	Dr.SudhaVidya sagar	Manipal Acunova Ltd	06/02/2013	5,539.00
7	Quintiles DORIIN12002	Dr.SudhaVidya sagar	Manipal Acunova Ltd	06/02/2013	4,526.00
8	Novartis CSPP100A2340	Dr.Padma Kumar	Manipal Acunova Ltd	06/02/2013	18,344.00
9	NovartisCSPP100F2301	Dr.Padma Kumar	Manipal Acunova Ltd	06/02/2013	19,440.00
10	NovartisCSPP100F2301	Dr.Padma Kumar	Novartis Healthcare Pvt Ltd	21/02/2013	36,000.00
11	Apex Animal Study	Dr.K L Bairy	Manipal Acunova Ltd	06/02/2013	75,692.00
12	Apex Animal Study	Dr.K L Bairy	Manipal Acunova Ltd	19/02/2013	48,126.00
13	ICON CV 181038/ICON CS0011-A-U-302	Dr.SudhaVidya sagar	Manipal Acunova Ltd	06/02/2013	11,932.00
14	ICON CV 181038/ICON CS0011-A-U-302	Dr.SudhaVidya sagar	Manipal Acunova Ltd	06/02/2013	90,316.00
15	Apex-Hypertriglyceridemia	Dr.SudhaVidya sagar	Manipal Acunova Ltd	06/02/2013	59,439.00
16	Quintiles Docetaxel / Quintiles 9238IL/0064	Dr.Joseph Thomas	Manipal Acunova Ltd	06/02/2013	12,104.00
17	Quintiles Docetaxel / Quintiles 9238IL/0064	Dr.Joseph Thomas	Manipal Acunova Ltd	06/02/2013	8,255.00
18	Bristol IM101-084	Dr.GaneshPai	Manipal Acunova Ltd	06/02/2013	1,335.00
19	SIRO BI.527.66	Dr.Padmaraj Hegde	Manipal Acunova Ltd	06/02/2013	13,968.00
20	Pfizer A0081096	Dr. S N Rao	Manipal Acunova Ltd	06/02/2013	76,674.00
21	Reliance GMX-GCSF-CT001 /	Dr.SudhaVidya sagar	Manipal Acunova Ltd	06/02/2013	125,087.00

	Protocol No. Enoxa_c_01249 Study				
22	XTL BO7-001	Dr.SudhaVidya sagar	Manipal Acunova Ltd	06/02/2013	34,727.00
23	Siro 1218.46	Dr.SudhaVidya sagar	Manipal Acunova Ltd	06/02/2013	37,356.00
24	Quintiles C0524T18	Dr.GaneshPai	Manipal Acunova Ltd	06/02/2013	30,846.00
25	Animal Study 01/09-10	Dr.Prakash P Y	Manipal Acunova Ltd	19/02/2013	61,988.00
26	Animal Study 02/09-10	Dr.shashidhar V	Manipal Acunova Ltd	19/02/2013	57,570.00
27	EX2211-3748	Dr. SudhaVidyasag ar	Novo Nordisk India Pvt Ltd	21/02/2013	10,000.00
28	TUXEDO-India Study	Dr. RanjanShetty	Escorts Heart Institute and Research Center Ltd	27/02/2013	148,693.00
29	Protocol No. CACZ885M2301 Study	Dr. Tom Devasia	Novartis Healthcare Ltd	28/02/2013	8,440.00
30	Protocol NANO/INN/SUP /001	Dr.RanjanShett y	Innvolution Med System	28/02/2013	11,000.00
31	Protocol/Micro/0 2/2012	Dr.Shashidhar	Apex Laboratories Pvt Ltd	05/03/2013	121,000.00
32	Protocol No SBL/BRV- TV/004 v 1.0 Study	Dr.Ranjitha S Shetty	ShanthaBiotec hnics Ltd	05/03/2013	40,000.00
33	Novartis CSPP100F2301	Dr.Padma Kumar	Novartis Healthcare Pvt Ltd	21/03/2013	9,000.00
34	OSKIRA 1- D4300C00001 and OSKIRA -X- D4300C00005	Dr. JanardhanaAith ala	Quintiles Research (India) Pvt. Ltd	28/03/2013	8,968.00
35	Protocol NIS- CAP-XXX- 2011/1:EPICOR ASIA Study	Dr.TomDevasi a	Max Neeman Medical International Ltd	28/03/2013	15,500.00
36	MK0524-A108- 00	Dr. SudhaVidyasag ar	Covance India Pharmaceutica l Services India Pvt. Ltd	28/03/2013	105,301.00
37	Protocol CL- 503012	Dr. SudhaVidyasag ar	PPD Pharmaceutica ls	30/03/2013	28,300.00

38	Research Collaboration	Dr.RavirajAcharya	Intel Technology India Pvt Ltd	30/03/2013	154,495.00
39	EX2211-3748	Dr. SudhaVidyasagar	Novo Nordisk India Pvt Ltd	12/04/2013	30,000.00
40	EX2211-3748	Dr. SudhaVidyasagar	Novo Nordisk India Pvt Ltd	26/04/2013	25,735.00
41	PPD CV-185056	Dr.GaneshKamath	PPD Pharmaceutical Development India Pvt.Ltd	30/04/2013	61,562.00
42	Quintiles C0524T18	Dr.GaneshPai	Manipal Acunova Ltd	26/04/2013	78,844.00
43	Protocol 01/Skin Irritancy/2012	Dr.K L Bairy	Apex Laboratories Pvt Ltd	29/04/2013	171,600.00
44	Protocol 002/Burn Study/2012	Dr.K L Bairy	Apex Laboratories Pvt Ltd	29/04/2013	163,500.00
45	Research Collaboration	Dr.RavirajAcharya	Intel Technology India Pvt Ltd	30/04/2013	61,798.00
46	Research Collaboration	Dr.RavirajAcharya	Intel Technology India Pvt Ltd	31/05/2013	30,899.00
47	Protocol KMC/PHA/ZINC OVIT 007/2012	Dr.K L Bairy	Apex Laboratories Pvt Ltd	17/05/2013	148,608.00
48	Protocol ID:KMC/PHA/Zincovit drops 005/2013	Dr.K L Bairy	Apex Laboratories Pvt Ltd	21/05/2013	326,520.00
49	Protocol ID:KMC/PHA/Zincovit drops 006/2013	Dr.K L Bairy	Apex Laboratories Pvt Ltd	21/05/2013	289,440.00
50	Protocol ID:KMC/PHA/Zincovit drops 007/2013	Dr.K L Bairy	Apex Laboratories Pvt Ltd	21/05/2013	259,920.00
51	Protocol ID:KMC/PHA/Zincovit drops 008/2013	Dr.K L Bairy	Apex Laboratories Pvt Ltd	21/05/2013	372,240.00
52	Protocol ID:KMC/PHA/Zincovit syrup 001/2013	Dr.K L Bairy	Apex Laboratories Pvt Ltd	21/05/2013	326,520.00

53	Protocol ID:KMC/PHA/Zincovit syrups 002/2013	Dr.K L Bairy	Apex Laboratories Pvt Ltd	21/05/2013	289,440.00
54	Protocol ID:KMC/PHA/Zincovit syrups 003/2013	Dr.K L Bairy	Apex Laboratories Pvt Ltd	21/05/2013	259,920.00
55	Protocol ID:KMC/PHA/Zincovit syrups 004/2013	Dr.K L Bairy	Apex Laboratories Pvt Ltd	21/05/2013	372,240.00
56	Protocol No P08388	Dr.Pratap Kumar	G V K Biosciences Pvt Ltd	27/05/2013	135,000.00
57	MK0524-A108-00	Dr. Sudha Vidyasagar	Covance India Pharmaceutical Services India Pvt. Ltd	31/05/2013	25,704.63
58	TUXEDO-India Study	Dr. Ranjan Shetty	Escorts Heart Institute and Research Center Ltd	31/05/2013	88,928.00
59	WSA-CS-004 study	Dr.Dipak Ranjan Nayak	Quintiles Research (India) Pvt.Ltd.	17/06/2013	352,296.00
60	Protocol No. CACZ885M2301 Study	Dr. Tom Devasia	Novartis Healthcare Ltd	25/06/2013	31,760.00
61	Protocol KMC/PHA/ZINC OVIT 005/2012	Dr.K L Bairy	Apex Laboratories Pvt Ltd	28/06/2013	176,880.00
62	Protocol KMC/PHA/ZINC OVIT 006/2012	Dr.K L Bairy	Apex Laboratories Pvt Ltd	28/06/2013	156,349.00
63	Protocol 3Nethra Royal Clinical Trial Study	Dr.Lavanya G Rao	Forus Health Pvt Ltd	29/06/2013	250,000.00
64	Novartis CSPP100F2301	Dr.Padma Kumar	Novartis Healthcare Pvt Ltd	24/07/2013	27,000.00
65	Protocol NANO/INN/SUP /001	Dr.Ranjan Shetty	Innovation Med System	24/07/2013	12,000.00
66	OSKIRA 1-D4300C00001 and OSKIRA -X-D4300C00005	Dr. Janardhana Aithala	Quintiles Research (India) Pvt. Ltd	24/07/2013	26,471.00
67	Research Collaboration	Dr.Raviraj Acharya	Intel Technology India Pvt Ltd	25/07/2013	59,605.00

68	Research Collaboration	Dr.Raviraj Acharya	Intel Technology India Pvt Ltd	31/07/2013	35,534.00
69	Protocol ID:KMC/MED/01/2013	Dr.K L Bairy	Apex Laboratories Pvt Ltd	29/07/2013	608,000.00
70	Protocol ID:KMC/MED/02/2013	Dr.K L Bairy	Apex Laboratories Pvt Ltd	29/07/2013	608,000.00
71	Protocol ID:RGH-MD-06 Study	Dr.P.S.V.N.Sharma	Quintiles Research (India) Pvt.Ltd.	31/07/2013	216,650.70
72	Protocol No:SPRL/OA/09-10/001 STUDY	DR.Vivek Pandey	Manipal Acunova Ltd.	31/07/2013	177,515.00
73	SEM Central project	Dr.Raviraj Acharya	Philips Electronics India Ltd	31/07/2013	100,000.00
74	OSKIRA 1-D4300C00001 and OSKIRA -X-D4300C00005	Dr. Janardhana Aithala	Quintiles Research (India) Pvt. Ltd	31/08/2013	47,517.00
75	EX2211-3748	Dr. Sudha Vidyasagar	Novo Nordisk India Pvt Ltd	31/08/2013	30,000.00
76	EX2211-3748	Dr. Sudha Vidyasagar	Novo Nordisk India Pvt Ltd	31/08/2013	255,482.00
77	WSA-CS-004 study	Dr.Dipak Ranjan Nayak	Quintiles Research (India) Pvt.Ltd.	31/08/2013	153,980.00
78	Protocol 001/Burn study/2013	Dr.K L Bairy	Apex Laboratories Pvt Ltd	21/09/2013	147,170.00
79	Research Collaboration	Dr.Raviraj Acharya	Intel Technology India Pvt Ltd	24/09/2013	35,534.00
80	Research Collaboration	Dr.Raviraj Acharya	Intel Technology India Pvt Ltd	30/09/2013	71,068.00
81	Protocol ID:RGH-MD-06 Study	Dr.P.S.V.N.Sharma	Quintiles Research (India) Pvt.Ltd.	30/09/2013	22,146.00
82	Protocol No EFC11319 Study	Dr.Mukhyapra na Prabhu	Sanofi-Synthelabo(In dia) Ltd	28/09/2013	50,000.00
83	Protocol No:SPRL/OA/09-10/001 STUDY	DR.Vivek Pandey	Manipal Acunova Ltd.	16/10/2013	2,961.00
84	Protocol NIS-CAP-XXX-	Dr.Tom Devasia	Max Neeman Medical	24/10/2013	11,000.00

	2011/1:EPICOR ASIA Study		International Ltd		
85	Research Collaboration (Amendment on 9th July, 2013)	Dr.Raviraj Acharya	Intel Technology India Pvt Ltd	31/10/2013	73,034.00
86	Research Collaboration (Amendment on 9th July, 2013)	Dr.Raviraj Acharya	Intel Technology India Pvt Ltd	13/11/2013	73,034.00
87	Automated ECG Reporting project	Dr.Raviraj Acharya	Intel Technology India Pvt Ltd	31/10/2013	707,868.00
88	Protocol No P08388	Dr.Pratap Kumar	G V K Biosciences Pvt Ltd	23/11/2013	13,500.00
89	Novartis CSPP100F2301	Dr.Padma Kumar	Novartis Healthcare Pvt Ltd	26/11/2013	27,000.00
90	Protocol No:ABB-09-001	DR.Dinesh Nayak	Max Neeman Medical International Ltd	26/11/2013	168,741.00
91	EX2211-3748	Dr. Sudha Vidyasagar	Novo Nordisk India Pvt Ltd	26/11/2013	30,000.00
92	Protocol No. CACZ885M2301 Study	Dr. Tom Devasia	Novartis Healthcare Ltd	26/11/2013	55,580.00
93	Protocol No:KMC/Zincoderm G/01/2013	Dr.K L Bairy	Apex Laboratories Pvt Ltd	30/11/2013	312,840.00
94	Protocol No:KMC/Zincoderm G/01/2013	Dr.K L Bairy	Apex Laboratories Pvt Ltd	30/11/2013	266,904.00
95	RGH-MD-06	Dr P S V N Sharma	Quintiles India Pvt Ltd	14/12/2013	67,446.00
96	WSA-CS-008	Dr Sudha Vidyasagar	Quintiles Reseach (India) Pvt Ltd	19/12/2013	157,359.00
97	Research Collaboration	Dr Raviraj Acharya	Intel Technology India Pvt Ltd	19/12/2013	73,034.00
98	Protocol NANO/INN/SUP /001	Dr Ranjan Shetty	Innvolution Med System, New Delhi	28/12/2013	12,000.00
99	KMC/Nasal/02/2013	Dr K L Bairy	Apex Laboratory Private Limited	28/12/2013	165,000.00

Clinical trials detail for the period January 1, 2014 to December 31, 2014

#	Project Name	Principal Investigator	Funding Agencies	Total Grants Received
1.	CACZ885M2301	Dr. Tom Devasia	Novartis Healthcare Ltd	3,42,198.00
2.	BRV07	Dr.Avinash Shetty	Shantha Biotechnics Limited	2,57,310.00
3.	CLR-10-33	Dr. Sudha Vidyasagar	Sun Pharmaceutical Industries Ltd. Mumbai	8,000.00
4.	3 Nethra Royal Clinical Trial	Dr. Lavanya .G. Rao	Forus Health Pvt. Ltd	2,25,000.00
5.	CSPP100F2301	Dr.Padma Kumar	Novartis Healthcare Pvt Ltd	91,100.00
6.	CT-P6/3.1	Dr. Donald Fernandes	Parexel Bangalore	3,84,373.80
7.	EFC11319	Dr. Mukhyprana Prabhu	Sanofi-Synthelab India Ltd	7,04,430.00
8.	EX2211-3748	Dr. Sudha Vidyasagar	Novo Nordisk India Pvt Ltd	1,71,697.00
9.	ILO522D2301	Dr. P.S. V.N. Sharma	Quintiles Research (India) Pvt. Ltd	5,50,777.50
10.	NC25608	Dr. Sudha Vidyasagar	Quintiles Research (India) Pvt. Ltd	23,000.40
11.	NIS-CAP-XXX-2011/1: EPICOR ASIA	Dr. Tom Devasia	Max Newman Ltd	30,150.00
12.	Registry Study	Dr. Sudha Vidyasagar	St. John National Academy of Health Science , Bangalore	1,35,000.00
13.	SPRL/OA/09-10/001	Dr. Vivek Pandey	Manipal AcuNova ,Ltd, Bangalore	1,39,698.00
14.	WSA-CS-004 ,WSA-CS-003	Dr. Dipak Ranjan Nayak	Quintiles Research (India) Pvt. Ltd	3,08,977.20
15.	WSA-CS-008	Dr. Sudha Vidyasagar	Quintiles Research (India) Pvt. Ltd	88,074.00

Clinical Trials – Mangalore Campus**Ongoing trials:**

Sl.No.	Name of the Protocol	Sponsor	Principal Investigator	Amount Received
1.	Protocol 28431754DIA3008: A Randomized, Double-Blind, Parallel, Placebo-controlled, Multicenter Study of the Effects of JNJ-28431754 on Cardiovascular Outcomes in Adult Subjects with Type 2 Diabetes Mellitus. The CANVAS Trial (CA Nagliflozin	Jansen Research and Development LLC, USA	Dr. Prabha Adhikari	2011 – Rs. 6,63,095 2012 – Rs. 3, 67,200 2013: Rs. 4,01,065

	Cardio Vascular Assessment Study)			2014 : Rs. 4,62,401
2.	Protocol RLS/TP/2010-07: Prospective. Multicentric, open label, two arm, parallel group, active control, randomized, comparative clinical study to evaluate safety of R-TPR-017/MabThera® (Ristova®) in patients with Non- Hodgkin's Lymphoma.	Relince Life Science, Navi Mumbai	Dr. Krishnaprasad	2012: Rs. 77426 2013: Rs. 16,47,905 2014: Rs. 14,03,730
3.	Protocol SRPL 109 -10-001: A parallel group randomized open blinded end point evaluation, multicentric, dose escalation, phase-II study assessing the safety and efficacy of intra-arterial (hepatic) ex-vivo cultured adult allogenic mesenchymal stem cells in patients with alcoholic liver cirrhosis.	Semler Research Centre, Pvt. Ltd, Bangalore	Dr. B.V Tantry	2012: Rs. 1,21,665 2013: Rs.5,83,015 2014: Rs. 5,77,689
4.	Protocol I4V-MC-JADY(c) - A Phase 3, Multicenter Study to Evaluate the Long-Term Safety and Efficacy of Baricitinib in Patients with Rheumatoid Arthritis.	Eli Lilly and Company, Haryana	Dr. Surendra Kamath	2014: Rs. 36,000 2015: Rs. 62,586
5.	Protocol I4V-MC-JADX: A Randomized, Double-Blind, Placebo-Controlled, Phase 3 Study to Evaluate the Efficacy and Safety of Baricitinib (LY3009104) in Patients with Inadequate Response to Conventional Disease-Modifying Antirheumatic Drugs with Moderately to Severely Active Rheumatoid Arthritis	Eli Lilly and Company, Haryana	Dr. Surendra Kamath	2014: Rs. 2,29,482 2015: Rs. 37,314
6.	Protocol I4V-MC-JADZ- A Randomized, Double-Blind, Active-Controlled, Phase 3 Study to Evaluate the Efficacy and Safety of Baricitinib (LY3009104) in Patients with Moderately to Severely Active Rheumatoid Arthritis Who Have	Eli Lilly and Company, Haryana	Dr. Surendra Kamath	2014: Rs. 96,507 2015: Rs. 36,243

	had Limited or No Treatment with Disease-Modifying Antirheumatic Drugs.			
7.	Protocol No: CRL101425: A Open-Label, Randomized, Two Period, Two- Treatment, Two Sequence, Steady-State, Crossover, Multicentre, Multiple Dose, Bioequivalence study of Nevirapine Prolonged Release 400 mg tablets of Mylan Laboratories Limited, India and 'VIRAMUNE' (Nevirapine) Prolonged Release Tablets 400 mg of Boehringer Ingelheim International GmbH in HIV-1 Infected Patients Under Fasting Conditions.	Mylan Laboratories Limited, India	Dr. John T Ramapuram	2015: Rs. 30,000 2015: Rs.7,19,104
8.	Protocol AP311736: Adjuvant Axitinib Treatment of Renal Cancer: A Randomized Double-blind Phase 3 Study of Adjuvant Axitinib vs. Placebo in Subjects At High Risk Of Recurrent RCC.	SFJ Pharma, USA	Dr. Krishnaprasad	2012: Rs 1,65,288 2013: Rs. 1200 2014: Rs 1,07,553
9.	Protocol SB3-G31-BC: A Phase III Randomised, Double-Blind, Parallel Group, Multicentre Study to Compare the Efficacy, Safety, Pharmacokinetics and Immunogenicity between SB3 (proposed trastuzumab biosimilar) and Herceptin® in Women with Newly Diagnosed HER2 Positive Early or Locally Advanced Breast Cancer in Neoadjuvant Setting.	Samsung Bioepis, Korea	Dr. Krishnaprasad	2014: Rs. 50,000 2015 Rs 4,80,070
10.	Protocol 153-12: A Randomized, Double-Blind, Placebo-controlled, Two-arm, Parallel Assignment, Multi-centered, Prospective Study to compare the effect of the drug teriparatide as an adjunct to the standard of care in fracture healing.	Intas Pharmaceuticals Ltd, Ahmedabad	Dr. Surendra Kamath	2015: Rs 1,20,000

11.	Protocol RLS-1113-052 :A randomized, multicentric, open-label, single-dose, two-treatment, two-sequence, two period, crossover, bioequivalence study of test methotrexate tablets USP 15 mg (from Zhejiang Hisun Pharma Co. Ltd., China) with reference Trexall® (Methotrexate tablets USP) 15 mg of Barr Pharmaceuticals,USA in 46 adult patients suffering from psoriasis under fasting condition”	Reliance Life Science, Navi Mumbai	Dr. Pramod Kumar	2015: Rs. 82,810
12.	Protocol No. TRET-CLIN/DRL/2013: A Phase III, multicentre, three arm, randomized, double blind, active controlled, parallel study to evaluate the efficacy and safety of tretinoin(microsphere) 0.04% and clindamycin 1% combination gel in comparison to tretinoin 0.025% gel and clindamycin 1% gel in the treatment of acne vulgaris.	Dr. Reddy’s Laboratories, Hyderabad	Dr. Maria Kuruvilla	2015: Rs 62,532

Completed in 2012:

Sl.No	Name of the Protocol	Sponsor/CR O	Principal Investigator	Amount Received
1.	Protocol No: TMC278-TiDP38-C213: “ A Phase II, open label, single arm trial to evaluate the pharmacokinetics, safety, tolerability, and antiviral activity of TMC278 in antiretroviral – naive HIV 1 infected adolescents aged 12 to < 18 years”.	Quintiles Research India Ltd., Mumbai	Dr. John T Ramapuram	2011 – Rs 3,20,262
2.	Protocol No.: ACHN-490-002 A double-blind, randomized, comparator-controlled study to assess the safety, efficacy, and pharmacokinetics of ACHN-490 Injection administered intravenously (IV) in patients with complicated urinary tract infections (cUTI) or acute pyelonephritis (AP).	INC Research, Mumbai	Dr. John T Ramapuram	2011 – Rs.3,27,793

3.	Protocol P-II/WCK 2349/Gm+ve cSSTIs/09:- A Phase II Open Label, multicenter clinical trial to evaluate the safety and efficacy of oral WCK 2349 (1000 mg BID and 1200 mg BID) in the treatment of complicated Skin and Soft Tissue Infections caused by Gram Positive Bacteria, including Methicillin Resistant Staphylococcus Aureus (MRSA)	Wockhardt, Mumbai	Dr. Maria Kuruvilla	2011 – Rs.10000
4.	Protocol MB102077 – “ A Multicenter, Randomized, Double-Blind, Placebo Controlled, Parallel Group, Phase 3 Trial to Evaluate the Safety and Efficacy of Dapagliflozin in Subjects with Type 2 Diabetes with Inadequately Controlled Hypertension treated with an Angiotensin-Converting Enzyme Inhibitor(ACEI) or Angiotensin Receptor Blocker (ARB) and an Additional Antihypertensive Medication”	Icon Clinical Research Pvt. Ltd.	Dr. satish Rao	2012 – Rs. 54000
5.	Protocol B3D-MC-GHDQ :Effect Of Teriparatide on Femoral Neck Fracture Healing	Quintiles Research India Ltd., Mumbai	Dr. Surendra Kamath	2012 – Rs. 40,000
6.	Protocol B3D-MC-GHDN(a) :Effect Of Teriparatide on Femoral Neck Fracture Healing.	Quintiles Research India Ltd., Mumbai	Dr. K. Ramachandra Kamath	2012 – Rs. 40,000
7.	Protocol: OSKIRA 2: A Phase III, Multi-centre, Randomised, Double-Blind, Placebo-Controlled, Parallel Group Study of Two Dosing Regimens of Fostamatinib Disodium in Rheumatoid Arthritis Patients with an Inadequate Response to DMARDs	Quintiles Research India Ltd., Mumbai	Dr. Surendra Kamath	2011 – Rs. 6,50429 2012 – Rs.2,60,063
8.	Protocol Number: CL3-16257-068, Evaluation of the anti-anginal efficacy and safety of oral administration of ivabradine compared to placebo on top of a background therapy with a calcium antagonist (Amlodipine or nifedipine) in patients with stable angina pectoris. A 6 –week randomized double blind parallel	Clininvent Research Private Limited, Mumbai	Dr. Prabha Adhikari	2010 – Rs. 47,600

	group international multicentric study			
9.	Protocol NO: D4130C00004: A multicenter, Randomized, Double-Blind, Parallel Group, Placebo-Controlled, Phase III, Efficacy and Safety Study of 3 Fixed Dose Groups of TC-5214 (S-mecamylamine) as an Adjunct to an Antidepressant in Patients with Major Depressive Disorder Who Exhibit an Inadequate Response to Antidepressant Therapy .	Quintiles Research India Ltd., Mumbai	Dr. Keshav Pai	2011 – Rs. 79,975
10.	Protocol No: D4130C00002 (Flex): A Multicenter, Randomized, Double-Blind, Parallel Group, Placebo-Controlled, Phase III Efficacy and Safety Study of TC-5214 (S-mecamylamine) in Flexible Doses as an Adjunct to an Antidepressant in Patients with Major Depressive Disorder Who Exhibit an Inadequate Response to Antidepressant Therapy	Quintiles Research India Ltd., Mumbai	Dr. Keshava Pai	2011 – Rs.2,50,227
11.	Protocol NO: SPD476-409: A Phase 3b/4, Open label, Multicenter, Prospective Study to Evaluate Effect of Remission Status on the Ability to Maintain or Achieve Clinical and Endoscopic Remission During a 12-Month, Long-term Maintenance Phase With 2.4g/day MMX® Mesalamine/mesalazine Once Daily in Adult Subjects With Ulcerative Colitis.	Icon Clinical Research Pvt. Ltd.	Dr. B.V Tantry	2010 – Rs.5,17,790 2011 – Rs.2,16,150
12.	Protocol C13006: A Phase 3, Randomized, Placebo-controlled, Blinded, Multicenter study to determine the efficacy and safety of Vedolizumab (MLN002) for the induction & Maintenance of clinical response and remission in patients with moderate to severe ulcerative colitis.	Quintiles Research India Ltd., Mumbai	Dr. B.V Tantry	2010 – Rs. 40,495 2011 – Rs. 38,172

Completed in 2013:

Sl.No.	Name of the Protocol	Sponsor	Principal Investigator	Amount Received
1.	Protocol CSPP100E2337: A randomized, double-blind, placebo-controlled, parallel group study to determine whether, in patients with type 2 diabetes at high risk for cardiovascular and renal events, Aliskiren, on top of conventional treatment, reduces cardiovascular and renal morbidity and mortality.	Novartis Clinical Development and medical affairs, USA	Dr. Prabha Adhikari	2010 – Rs.1,035,787 2011 – Rs. 9,37,164 2012 – Rs. 9,49,442 2013 – Rs. 1,40,000
2.	Protocol ID:Ipca/LMT/PIII-08: Comparative Evaluation of Efficacy and Safety of Losartan- Metoprolol XL Combination vs.Losartan – Ramipril Combination in Patients with Essential Hypertension Along with Type II Diabetes.	IPCA Laboratories, Mumbai	Dr.Prabha Adhikari	2012 – Rs. 59,800
3.	Protocol MK-0524A-PN108: A 16-Week, Randomized, Placebo-Controlled Study to Evaluate the Efficacy and Safety of Extended Release Niacin/Laropiprant in South and Southeast Asians not on a Lipid Modulating Agent, With Decreased High-Density Lipoprotein Cholesterol and Low-Density Lipoprotein Cholesterol at or Below NCEP ATP III Goal	Merck and Co.,Inc. USA	Dr. Prabha Adhikari	2012 – Rs. 80,000
4.	Protocol WSA-CS-004: A Phase III, Double Blind, Randomized Study to Evaluate Safety and Efficacy of BAL8557 Versus Voriconazole for Primary Treatment of Invasive Fungal Disease Caused by Aspergillus Species or Other Filamentous Fungi	Astellas Pharma, Europe BV	Dr. John T Ramapuram	2012 – Rs. 1,32,111

5.	Protocol: OSKIRA 5: D4300C00005: A Long-term Extension Study to Assess the Safety and Efficacy of Fostamatinib Disodium (FosD) in the Treatment of Rheumatoid Arthritis	AstraZeneca, UK	Dr. Surendra Kamath	2012- Rs. 1,13,070 2013 – Rs. 1,50,000
6.	Protocol ID IPCA/HQMT/PIII-10 Efficacy and safety of Hydroxychloroquine and Methotrexate Combination in treatment of Juvenile Rheumatoid Arthritis: A double blind Randomized comparison with Methotrexate alone	IPCA Laboratories,Mumai	Dr. Nutan Kamath	2012 – Rs. 12,600 2013 – Rs. 26,000

Completed in 2014:

Sl. No.	Name of the Protocol	Sponsor	Principal Investigator	Amount Received
1.	Protocol LAEP-06-302: Pivotal study in breast cancer patients investigating efficacy and safety of LA-EP2006 and Neulasta®	Sandoz Biopharmaceuticals, USA	Dr. Krishnaprasad	2013: Rs.4,01,065 2014 : Rs.4,62,401
2.	UNITE: A randomized, controlled trial to assess the impact of TAMA (Health IT System)on treatment effectiveness in HIV-1 infected subjects initiated on first-line antiretroviral therapy.	PharmaNet GmbH Obere Willsgasse 52, Switzerland.	Dr. John T Ramapuram	2013: Rs. 51,500 2014: Rs.4,82,621
3.	Protocol RLS-TP-2011-05: Prospective, multi-centre, randomized, open-label, two arm, parallel group, active-control, comparative clinical study to evaluate efficacy, safety and pharmacokinetics of R-TPR-016/ Herceptin®(Herclon™) when given intravenously in patients with Metastatic HER2-Overexpressing Breast Cancer”	Reliance Life Science, Navi Mumbai	Dr. Krishnaprasad	2013: Rs. 53,3357 2014: Rs.1,97,963

4.	Protocol RLS-TP-2012-010 : Prospective, multi-centre, randomized, open-label, two-arm, parallel group active control, comparative clinical study to evaluate pharmacokinetics, efficacy and safety of R-TPR-023/ Avastin™ when given intravenously in patients with Metastatic colorectal cancer.	Reliance Life Science, Navi Mumbai	Dr. Krishnaprasad	2013: Rs. 29,170
5.	Protocol F3Z-MC-B010 (b) : Prospective Observational Study, A Multinational Observational Study Assessing Insulin use: understanding the challenges associated with progression of therapy- The MOSAIC Type 2 Diabetes Study.	Eli Lilly and Company	Dr. Prabaha Adhikari	2012: Rs. 77436 2013: Rs. 1,43094 2014: Rs.1,07,018
6.	Protocol WSA-CS-008: A Phase III, Double-Blind, Randomized Study to Evaluate the Safety and Efficacy of BAL8557 Versus a Caspofungin Followed by Voriconazole Regimen in the Treatment of Candidemia and Other Invasive Candida Infections	Astellas Pharma, Europe BV	Dr. John T Ramapuram	2012 – Rs.1,66,362
7.	BC22140 ALEGLITAZAR (RO0728804ROW): “Cardiovascular outcomes study to evaluate the potential of aleglitazar to reduce cardiovascular risk in patients with a recent acute coronary syndrome (ACS) event and type 2 diabetes mellitus (T2D)”.	F Hoffmann Roche LA Ltd., Switzerland	Dr. Prabha Adhikari	2011 – Rs.2,17,331 2012 – Rs.5,72,356 2013 – Rs. 58,702 2014 – Rs.1,62,842
8.	Protocol No. NN25307: Phase III, multi-center, randomized, 12-week, double-blind, parallel-group, placebo-controlled study to evaluate the efficacy and safety of RO4917838 in patients with sub-optimally controlled symptoms of schizophrenia	F Hoffmann Roche LA Ltd., Switzerland	Dr. Supriya Hegde	2012 – Rs.1,78,505 2013 – Rs. 1,58000 2014 – Rs. 54,000

	treated with antipsychotics followed by a 40-week double-blind, parallel-group, placebo-controlled treatment period.			
9.	Protocol No.NN25310: This is a Phase III, multi-center, randomized, 24 week, double-blind, parallel-group, placebo-controlled study to evaluate efficacy and safety of RO4917838 in stable patients with persistent, predominant negative symptoms of schizophrenia treated with antipsychotics followed by a 28 week, double-blind treatment period.	F Hoffmann Roche LA Ltd., Switzerland	Dr. Supriya Hegde	2012 – Rs.4,79,489 2013- Rs.1,62,000 2014 – Rs. 35,000

Dubai campus

<p>Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise</p> <p>Project 1:</p> <p>International Funding Agency :</p> <p>Grants received:</p> <p>Project 2:</p> <p>International Funding Agency :</p> <p>Grants received:</p> <p>Project 3:</p> <p>Funding Agency :</p>	<p>02</p> <p>Title: Solar Liquid Desiccant Air Conditioning System</p> <p>American Society of Heating Refrigerating and Air Conditioning Engineers (ASHRAE)</p> <p>USD 4000</p> <p>Title: Ground Source Heat Pumps</p> <p>American Society of Heating Refrigerating and Air Conditioning Engineers (ASHRAE)</p> <p>5000 (Sanctioned)</p> <p>Title: Some studies in abrasive water jet cutting of materials.</p> <p>Dr. ChithiraiPonSelvan -Self</p>
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3.2.5 How many departments of the institution have been recognized for their research activities by national/international agencies (UGC-SAP, CAS; Department with Potential for Excellence; DST-FIST; DBT, ICSSR, ICHR, ICPR, etc.,) and what is the quantum of assistance received? Mention any two significant outcomes or breakthroughs achieved by this recognition.

Institutions recognized for Research Activities

#	Institution	National/International Agency
1	MAHE	Science and Engineering Board ICMR DBT Daichi Sankyo India Pharma Pvt Ltd, Gurgaon University of Nottingham European Dental Students Association Phillips Medical Systems University of Maastricht School of Anatomy & Human Biology, The University of Western Australia Sutasoma Trust, Haverhill The University of Alabama at Birmingham, USA City Municipal Council, Udupi Novo Nordisk Haemophilia Foundation, Switzerland AMDA, Japan Dept of Medicine, University of Cambridge University of Queensland, Australia European Commission McMaster University, Canada WHO Xerox Corporation AMC, University of Amsterdam DST-NIMAT Project –EDI School of Anatomy & Human Biology, The University of Western Australia 3 ie Inc. Washigton D.C.
2	KMC Manipal	ICMR Government of India, Ministry of Science & Technology, Department of Biotechnolgy, New Delhi National Institute of Epidemiology (Indian Council of Medical Research) New Delhi Science and Engineering Research Board, New Delhi Government of India, Department of Atomic Energy (DAE), Board of Research in Nuclear Sciences (BRNS) Government of India, Ministry of Science & Technology, Department of Science & Technology, New Delhi Government of Karnataka, Commistionarate of Health & Family Welfare and Ayush Services, Bangalore Manipal Acunova Ltd PPD Pharmaceutical Development India Pvt. Ltd Quintiles Research (India) Pvt Ltd Escorts Heart Institute and Research Center Ltd Apex Laboratories Pvt. Ltd Max Neeman Medical International Ltd. Novartis Healthcare Pvt Ltd PAREXEL, Bangalore Philips Electronics India Ltd Novo Nordisk Pvt Ltd Abbott Healthcare Pvt Ltd Nuclear Power Corporation of India Ltd.
3	KMC Mangalore	ICMR Ministry of Science & Technology DST Apex Lab Pvt Ltd RSSDI API NIHFW

		St. John's Research Institute, Bangalore BARC, DAE
4	MIT, Manipal	DAE SCIENCE AND ENGINEERING RESEARCH BOARD DRDO
5	SOLS	DST DBT Industry Grant
6	SOAHS, KMC Manipal	ICMR DST WHO NCERT
7	MCOPS	Cholayil Pvt Ltd, Chennai DBT Manipal Acunova ICMR Science and Engineering Research Board Arjuna Natural Extracts, Alwaye
8	MCON, Manipal	INC
9	MMMC	ICMR
10	Department of Sciences, MIT	DBT DST

Quantum of assistance received and significant outcomes are detailed in **Annexure 3.4**

Off shore campus

Dubai

The School Of Life Sciences, Manipal University-Dubai is recognized by three local Universities in the UAE for research collaboration: Zayed University-Dubai, Khalifa University-Abu Dhabi and UAE University-Al Ain. The outcome of such collaborative projects have been published/presented as research papers in international peer-reviewed journals/conferences.

1. "Identification of two novel mutations in SLC25A20 gene leading to Carnitine-acylcarnitine translocase (CACT) deficiency in an Indian Infant": Present in Manipal Research Colloquium 2015 held on April 6-8, 2015
2. Khan MA, Hussain A, Sundaram MK, AlAlami U, Gunasekera D, Hamza A, Ramesh L, Quraishi U (2015). (-)-epigallocatechin-3-gallate reverses the expression of various tumor suppressor genes by inhibiting DNA methyltransferase and Histone deacetylase in human cervical cancer cells. *Oncology Reports*, 33, 1976-84

Melaka

Research carried out in institution-wide and not department-wise. In this respect, MMMC has been recognized for its commitment towards research in that it is only one of four Cochrane centres in Malaysia

3.2.6 List details of

a. Research projects completed and grants received during the last four years (funded by National/International agencies)

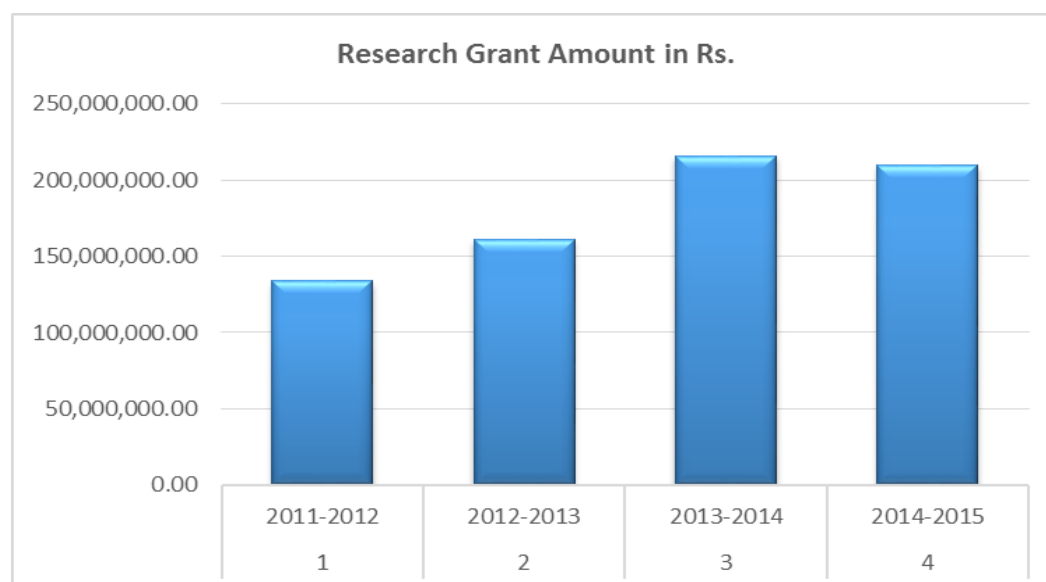
b. Inter-institutional collaborative projects and grants received

i) All India collaboration

ii) International

Grants received for last four years for research projects & Inter-institutional collaborations

#	Year	Amount in Rs.
1	2011-2012	133,792,399.00
2	2012-2013	161,008,062.32
3	2013-2014	216,037,946.12
4	2014-2015	209,839,223.98



Dubai campus

Studies on the genetic polymorphism of drug metabolizing enzymes and other relevant genes in T2DM and related complications under Khalifa University Internal Funding

- “Analysis of nitric oxide synthase and tumor suppressor genes in UAE human breast cancer patients and it’s correlation with prognostic marker” under collaboration with the college of Sustainability Sciences and Humanities, Zayed University-Dubai.

-Evaluation of Chemical and Microbiological quality of treated water in UAE in collaboration with Department of Natural Science and Public Health, College of Sustainability Sciences and Humanities, under Research Incentive Fund (RIF): Zayed University, Dubai.

Research Projects Completed:

Title: Solar Liquid Desiccant Air Conditioning System

International Funding Agency: American Society of Heating Refrigerating and Air Conditioning Engineers (ASHRAE),

Amount Received: USD 4000

Presently, the Department of Media & Communication is deliberating on/in process of identifying principal research areas recognized by various funding agencies:

- Advertising Impact Studies
- Media Consumption Habits
- Mediated Message related Studies
- News Dissemination in the age of Social Media
- Online News Reading Patterns
- Reading Habits among Youth
- Social Media Marketing

Melaka Campus

Research Projects Completed:

Joint research by MMMC (Prof. Datuk Dr Abdul Razzak Mohd Said and Prof Adinegara Lutfi Abas) with University of Alabama “Fatal Occupational Injuries among non-governmental employees in Malaysia” – published by American Journal of Industrial Medicine (2013). Grant sponsor – National Institute of Health – Fogarty Centre (Grant No 5D43TW0570)

Inter Institutional Collaborative Projects (International):

“Fatal Occupational Injuries among non-governmental employees in Malaysia” in collaboration with MMMC (Prof. Datuk Dr Abdul Razzak Mohd Said and Prof Adinegara Lutfi Abas) with University of Alabama

3.3 Infrastructure for Research

3.3.1 What efforts have been made by the institution to improve its infrastructure requirements to facilitate research? What strategies have been evolved to meet the needs of researchers in emerging disciplines?

University provides financial support in the form of grants to its constituent institutions to establish state-of-the-art research infrastructure.

#	Constituent Unit / Dept / Centre	Particulars of Activities/Equipments
1	Innovation Centre, Manipal Institute of Technology	Scanning Electron Microscope and EDS X-Ray Diffraction System UV-VIS Spectrophotometer Ion Chromatography System H-NMR setup

		<p>Nuclear Magnetic Resonance Atomic Force Microscope Advanced Composite Laboratory Vibration test rig These are available as a part of Central Instrumentation Facility(CIF) at MIT. University has invested Rs 10crore in creating the state-of-the-art facility for the benefit of the researchers and innovators.</p>
2	Department of Virus Research, KMC, Manipal	<p>State-of-the-art virus diagnostic and research facility including Tissue culture and Virus isolation facility Centre has a modest collection of continuous mammalian and mosquito cell cultures and facilities for isolation of viruses from human samples. The laboratory is of Biosafety Level2+. Real time PCR Fully equipped Polymerase Chain Reaction(PCR) laboratory capable of performing multiplex real time PCRs and equipped with ABI7500, ABI Step One and ABI Veriti machines Nucleic Acid Sequencing The Centre is equipped with an advanced 24 capillary nucleic acid sequencer ABI 3500xl</p>
3	School of Life Sciences(SOLS)	<p>Molecular Biology Laboratory Facilities necessary for all molecular biology related work is available in four separate laboratories. Laboratory is equipped with instrumentations such as PCRs, Gel doc systems, western blots, electrophoresis units etc. Mammalian Cell Culture Laboratory There are half a dozen fully-equipped microscopes (including fluorescence) in tissue culture laboratories available for research, diagnostic and teaching purposes. Microarray Laboratory Consists of Agilent microarray 2 micron scanner with bioanalyser and hybridization ovens to undertake microarray array analysis for high throughput gene expression, epigenetics and SNP analysis. DNA Sequencing Laboratory Consists of DNA sequencer ABI, 3130 Genetic Analyser with 16 capillaries for sequence and fragment analysis purposes. Flow Cytometry Laboratory Flow cytometer (BD FACS Calibur) is available for Teaching, Research and Diagnostic purposes. Mass Spectrometry Laboratory Consists of MS-QTOF with HPLC for proteomics analysis. Imaging Laboratory Consists of Fluorescent scanner and high resolution image capture microscopy. Microbiology Laboratory State-of-the-art microbiology laboratory. Atomic Absorption Spectrometry Laboratory For elemental analysis of clinical, environmental and biological samples are available. HPLC Laboratory Three separate HPLC machines with the detectors such as UV, visible, fluorescence, electrochemical and PD are available. Radioisotope Laboratory Separate radioactive material handling facility with liquid</p>

scintillation counters, scanners etc. are available.

Biophysics Laboratory

The Biophysics laboratory conducts experiments on biological/pre-clinical/clinical samples applying Laser Induced Fluorescence and Photoacoustic Spectroscopy to evaluate their spectral information related to diseased and non-diseased conditions. Experiments of Low Level Laser Therapy (LLLT) for tissue regeneration are also conducted in this laboratory.

Common Instrumentation Laboratory

It consists of large scale bacterial incubator/shaker, high speed and ultra-high speed centrifuges, and frozen and paraffin block preparation microtomes.

Tissue Culture Facility:

A well-equipped tissue culture room for the maintenance of human normal and tumour cell lines, mouse tumour cells lines repository, for experimentation is available.

Animal House Facility

The centralized, state-of-the-art, air-conditioned animal house consists of separate breeding, experimentation and sterilization rooms with relevant instrumentations. The facility mainly houses mice of various strains (Balb/c, Swiss albino and C57BL6) as well as rats.

Animal Tumour Facility

Routine transplantable tumour maintenance for experimentation in the form of both solid (fibrosarcoma and melanoma), ascities form (Ehrlich, P388, Daltons lymphoma etc.) and nude mouse facility for growing xenograft tumours are available.

Irradiation Facilities

In-house: Faxitron CP160 X-ray machine and Neutron source are available

Genetic Toxicology and Analytical Facility

Consists of fluorescence (Olympus, Carl Zeiss) and light microscopes, image analysis systems, and spectrophotometers (Shimadzu) for routine biochemical and cytotoxicity assays.

Bioinformatics Lab:

Consists of well-equipped Computers with Linux/Windows Operating System, and Sun Server System for data analysis (including microarray data) with a good storage capacity.

Computer Lab: Computers inbuilt with Linux (Ubuntu, CentOS) and Windows operating systems are dedicated for student purposes.

Cluster Facility: To analyze bulk data generated from the genomic and proteomic platforms, and to host in-house bioinformatics tools, the bioinformatics department has a cluster of SunFire X4100 servers.

Manipal Computational Biology Interface (MCBI):

Bioinformatics department has developed an in-house tool which connects Life Science content management system (LS-CMS), Local Blast programs, Post Epigenomic Analysis Pipeline and Mass Spectrometry search engines etc. to analyze data locally. We use Python, Java and C++ as tool development programming, and R and MatLab as statistical programming language.

Plant Biotechnology lab

		<p>Consists of a well-equipped culture room for the plant cell, tissue and organ culture for different experiments.</p> <p>Green House Facility MLSC has state-of-the-art independent green house of 40×80 feet for plant hardening of in-vitro raised plantlets and for further experiments. Green house also has 100 important medicinal plants for research purpose.</p> <p>Confocal Microscope facility</p>
4	Dept. of Atomic and Molecular Physics (DAMP)	<p>Raman Spectroscopy Lab Raman Spectroscopy is a vibrational spectroscopic method, used for analytical and biomedical applications including cancer diagnosis. Use of less harmful near IR radiation, along with efficient detection devices and advanced techniques makes this method most congenial for the purpose. Researchers at DAMP developed Raman spectroscopy method for diagnosis of malignant, premalignant and inflammatory conditions that occur in oral cavity, cervix, breast, colon and bladder.</p> <p>LIF and PAS Lab Laser Induced Fluorescence (LIF) spectroscopy and pulsed laser Photoacoustic Spectroscopy (PAS) are extremely sensitive techniques for the detection and quantitation of subnanogram quantities of biological compounds. LIF set up in our laboratory is standardized for oral, cervical and breast cancer detection for optical pathology. The next aim based on LIF spectroscopy study is to extend it for in-vivo measurements and finally to develop a portable in-vivo system for screening different cancers.</p> <p>HPLC-LIF Lab A highly efficient protein profiling method has been developed by combining High Performance Liquid Chromatography (HPLC) method of protein separation with ultrasensitive laser induced fluorescence detection. The proteins are detected by their intrinsic fluorescence, on excitation with 257nm radiation. The efficacious studies with the High Performance Liquid Chromatography-Laser Induced Fluorescence (HPLC-LIF) system has made possible the early detection of enzymes and surface molecules associated with tumour cells in all types of malignancy. The studies also include analyses of body fluids to detect biological markers in any kind of disease. HPLC-LIF protein profiling can be used with high sensitivity and specificity for the discrimination of clinical samples of normal and malignant subjects.</p> <p>Raman Tweezers Lab: The research work in the Raman Tweezers laboratory involves the application of Raman Spectroscopy combined with Optical Tweezers for recording and studying the Raman signal from trapped micro beads, nanoparticles and single live cell like RBC, WBC, Stem cell etc. This is the first set up in India which coupled Raman Spectroscopy with Optical Tweezers. The setup has been effectively used to study and characterize the chemically induced oxidative stress in Erythrocytes(RBCs) and nanoparticle induced toxicity in stem cells. The Raman Tweezers facility was designed and assembled by our researchers through the generous funding from the “Department of Biotechnology (DBT)” under the project entitled “Biomedical engineering of single cells with a</p>

combination of Raman spectroscopy and Optical tweezers". This is one of the joint research programmes in collaboration with TIFR.

FEMTOSECOND LAB:

The Femtosecond laboratory has two ultra-short laser oscillators. Femtosource scientific XL is delivering pulses as short as 50 fs with maximum pulse energy of 200 nJ at 5.2 MHz repetition rate. KM Lab Kit is another femtosecond oscillator delivering pulses of 1-2 nJ energy with 80 MHz repetition rate. Both lasers are operating at 800nm central wavelength.

One of the active R&D programmes undertaken by this laboratory is on "Fabrication and submicron tailoring of materials for photonics applications with ultrafast lasers" and is funded by Office of Principle Scientific Advisor, Government of India. This is an outcome of the ambitious research collaboration with Prof. Deepak Mathur's research group at TIFR, which has been growing since 2003. The project work focuses on the fabrication of active and passive waveguides inside transparent glasses for the telecommunication window using femtosecond lasers.

Laser Induced Forward Transfer of thin films is another experiment being conducted here. This technique involves the transfer of metal from a donor thin film to acceptor substrate that is kept sufficiently close to it. Micro patterns of metals, which have numerous applications in the field of microelectronics can be deposited by this technique. Another notable study is the white light generation experiments using a photonic crystal fibre. With these works the femto team at CAMP seeks to develop integrated photonic circuits and devices.

Laser Spectroscopy Lab:

An experimental set up has been developed for Laser Induced Breakdown Spectroscopy technique for the Board of Research in Nuclear Sciences (BRNS), DAE, Govt. of India funded project (No. 2007/34/14-BRNS/1326) titled "Trace Element Analysis for Environmental and Biomedical Applications-Development of Laser Induced Breakdown Spectroscopy (LIBS) Technique". Dr B M Suri, Bhabha Atomic Research Centre, Mumbai is principal collaborator of the project. Dr Kamlesh Alti and Dr C Santhosh are Principal investigator and co-investigator of the project respectively. Project mainly focuses on trace element detection and quantification using Laser Induced Breakdown Spectroscopy (LIBS) Technique in environmental, clinical and radioactive waste samples. Remote detection of hazardous samples using LIBS is the ultimate goal of the project.

Along with these major set ups and facilities, we also have supporting facilities like FT-IR and UV-Visible spectrophotometers, Gas lasers: He:Ne laser, He:Cd laser etc., Detectors: PMTs, CCDs, ICCDs, Lock in Amplifiers, photon counters, Boxcar Averager etc.

Academic Lab

Three academic laboratories; General Photonics Laboratory, Advanced Photonics Laboratory – I and

Advanced Photonics Laboratory – II had been established for the training of MSc (Photonics) and PG Diploma Students. These laboratories along with research laboratories will provide students very wide exposure and in hand experience in dealing with optical instruments, sensitive and delicate optics, Lasers (Low-High Power), Various optical and spectroscopic techniques with applications. The experimental sets up installed in various laboratories are listed below:

General Photonics Laboratory (first semester)

Training on optics handling procedures

Training on laser safety measures

Diffraction of laser beam

Laser beam characterization

Michelson interferometer

Mach-Zehnder interferometer

Laser induced fluorescence

Opto-electronic devices

UV-Visible spectrometer

FTIR-spectrometer

Advanced Photonics-I (second semester)

Refractive index and critical angle measurement

Bending loss measurement Numerical Aperture

Measurement

Optical Fiber Communication

Malus Law and Brewster's angle measurement

Faraday Effect

Zeeman Effect Fabry-Perot Interferometer

UV lithography

Advanced Photonics-II (Third semester)

Pockel Effect

Ellipsometer

Holography

Ultrasonic diffraction

Speckle Interferometry

Optical Tweezers

Optical Tweezers coupled with Raman Spectroscopy

Laser Induced Breakdown Spectroscopy

Kerr Lens Mode locking

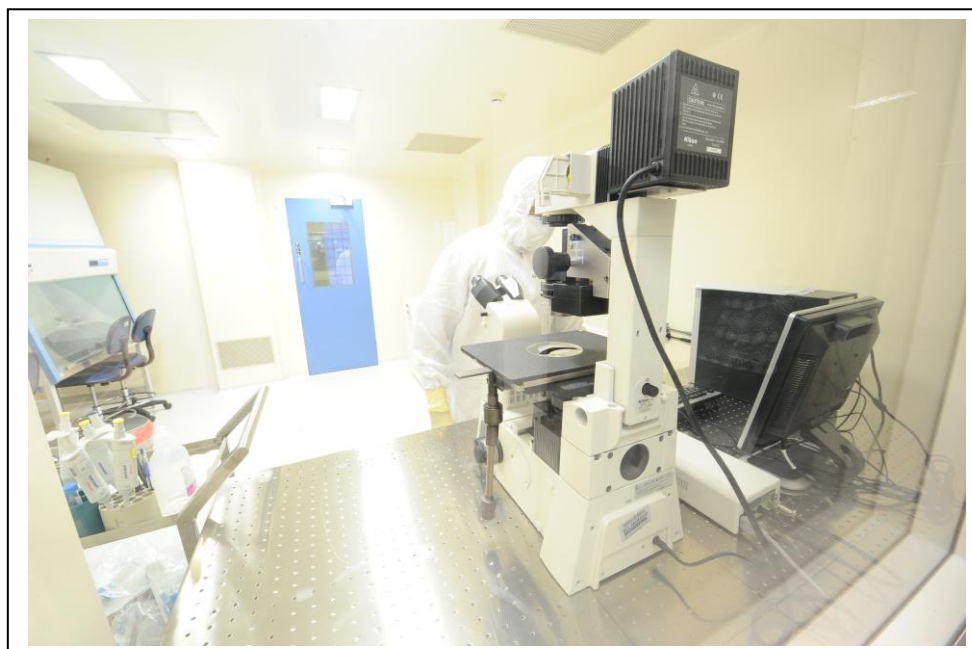
LIBS –LIF Lab

An experimental set up has been developed based on Laser Induced Breakdown Spectroscopy (LIBS) for “Trace Element Analysis for Environmental and Biomedical Applications-Development of Laser Induced Breakdown Spectroscopy (LIBS) Technique” with the support of Board of Research in Nuclear Sciences (BRNS), DAE, Government of India. Specifically, it is proposed to quantify the trace elements in environmental samples, tissues, blood, serum etc. from patients with cancer, diseases arising from elemental deficiencies, and heavy metal influences in therapy. Remote detection of hazardous samples using LIBS is the ultimate goal of the project.

		<p>With the generous support of Board of Research in Nuclear Sciences (BRNS), DAE, Government of India, a Nd:YAG MOPO laser-based Laser Induced Fluorescence Facility has been established to study spectroscopy of soft condensed matter like tissues, body fluids etc.</p> <p>With the aid of funds from industry Dept. of Atomic and Molecular Physics has developed a portable Laser Induced Fluorescent (LIF) instrument for the early detection of oral cancer. The technique can detect and discriminate not only malignancy but also potential malignant cases from the normal with good specificity and sensitivity. The early detection system, designed, developed and tested in our laboratory uses a very sensitive spectroscopic concept of fluorescence, which looks out for the natural fluorescence from the tissue which will be different for normal, malignant and pre-malignant conditions.</p> <p>Common facilities</p> <p>Besides Academic and Research Laboratories, there are many instruments accessible for all the researchers/students. Some of the facilities are listed below;</p> <p>FTIR spectrometer (FT/IR 6300, Jasco, U.K) UV-Visible Spectrometer (Spectrophotometer, V-650, Jasco, U. K) Laser Induced Fluorescence • UV-Visible-IR spectrophotometer (Lamda950, Perkin Elmer) Upright Microscope (Nikon Eclipse 80i, Nikon Corporation) Deep Freezer Lyophilizer Distillation unit Micro centrifuge Vacuum Pumps Micro Balance Pellet makers Tissue homogenizer Sonicator</p>
5	<p>Manipal Advanced Research Group(MARG)</p>	<p>The Manipal Advanced Research Group (MARG) was formed in early 2006. Conceived as a specialized academic Centre of Excellence built on a strong foundation of basic science, one of the primary goals is to incubate and grow new research projects in the fundamental sciences and inter-disciplinary areas through innovative schemes and research programmes. Given the wide variety of expertise available and represented at University, this initiative also seeks to establish synergies between fundamental research in the natural sciences and engineering.</p> <p>Following distinguished scientists are involved as adjunct faculty in this initiative:</p> <p>Dr. A L Nichols, PhD, former Head, Nuclear Data Section, IAEA, Vienna Dr. A V Eremin, PhD, JINR, Russian Federation Dr. Suresh Lee, PhD, formerly Group Director at IGCAR, Kalpakkam, India</p>

		<p>Dr. P Mohanakrishnan, formerly Associate Director, RPG, IGCAR, Kalpakkam, India</p> <p>Following distinguished scientists are engaged under fellowship programme of this department:</p> <p>Dr. Y K Gambhir (Emeritus, Physics Department, IIT-Bombay)</p> <p>Dr. R Srivenkatesan (Former Head, RPDD, BARC, Mumbai)</p> <p>Project Details</p> <p>Type of activity: Research and Mobility Grant</p> <p>Project Title: Dynamics of Weakly Bound Quantum Systems (DWBQS)</p> <p>Subject Area: Atomic and Nuclear Physics</p> <p>Financed by: The European Union EU/FP7 Marie Curie Action, International Research Staff Exchange Scheme (IRSES)</p> <p>Duration of Project: 48 months starting 1 May 2011</p> <p>Description:</p> <p>A research initiative entitled “Dynamics of Weakly Bound Quantum Systems” (DWBQS), funded under the FP7 scheme of the European Union, Marie Curie Actions, commenced in May 2011. The objective is a joint collaborative academic project between researchers from Norway, Sweden and France as beneficiaries, and Argentina and India as participants. The DWBQS network is coordinated by the University of Bergen, Norway, while national and intra-University coordination is undertaken by Manipal Advanced Research Group. Within Manipal, the Department of Atomic and Molecular Physics, MIT is also a participant.</p> <p>Instrument: MC-IRSES</p> <p>Project Start Date: 1 May 2011</p> <p>Project Duration: 48 months</p> <p>EC Contribution: € 283 500</p>
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Research facility



Dubai campus

The library provides INFLIBNET, e-journals and inter-library borrowing facilities for teachers and students. Teachers can use the free internet facility to browse the Web to seek current information and to submit research proposals and research papers.

The **Department of Biotechnology** has approximately 6000 square feet of laboratory space, well equipped with state of the art scientific instruments. We have separate laboratories for B Sc Biotechnology, MSc Medical Biotechnology, MSc Human Genetics & Forensic and for doctoral research students.

- Biochemistry/Microbiology Lab
- Biology and Anatomy Lab
- Molecular Biology Lab
- Bioinformatics Lab
- Physics Lab

Research laboratories

With a sole aim to encourage research and development activity among biotech faculty members, the Department has developed an excellent facility. We have special research labs for

- Cytogenetic-Microscopy and Imaging,
- Cell and Tissue Engineering Lab
- Stem Cell Biology Lab

Excellent lab facilities with the state of the art equipment are available in the following areas.

- Automation and PLC
- Refrigeration and Air Conditioning
- CNC Machines
- Workshop with latest equipment
- Material Testing Lab
- Soil Mechanics Lab
- Advanced Communication Lab
- Advanced Embedded system
- Advanced Power Electronics

3.3.2 Does the institution have an Information Resource Centre to cater to the needs of researchers? If yes, provide details of the facility.

University has created a Directorate of Research which supports researchers in getting information about agencies they can approach to get research funding. This directorate also monitors funded research projects from beginning till the

completion of the project. To support researchers, Health Sciences and Technology Libraries provide online full text databases, online journals of various publishers, e-books, *etc.* e Prints, an online repository collects preserves and disseminates in digital format the research output created by the University faculty members, students, and other staff. It enables the constituent institutions to deposit their pre-prints, post-prints and other scholarly publications using a web interface, and organizes these publications for easy retrieval. While the ePrints@University repository can be accessed by anybody, submission of documents to this repository is limited to the University community only. ePrints@University repository is running on GNU EPrints.org software, a freely distributable archive system available from eprints.org, ePrints@University repository complies with the Open Archives Initiative (OAI) framework allowing publications to be easily indexed by web search engines and other indexing services.

3.3.3 Does the University have a University Science Instrumentation Centre (USIC)? If yes, have the facilities been made available to research scholars? What is the funding allotted to USIC

Yes. The University has Central Instrumentation facility at MIT Innovation Centre. These facilities are made available to research scholars of the university and neighbouring organizations. Rs 6 crores have been allocated as funds towards establishment of this Central Instrumentation Facility at MIT, Manipal by University.

Dubai Campus

Media & Communication Department has established on its own initiative state-of-the-art facilities and is presently deliberating on identifying industry/corporate patrons Fuji Films, Adobe Labs, and Nikon

3.3.4 Does the University provide residential facilities (with computer and internet facilities) for research scholars, post-doctoral fellows, research associates, summer fellows of various academies and visiting scientists (national/international)?

Yes. The University provides necessary support in this regard.

3.3.5 Does the University have a specialized research centre/workstation on-campus and off-campus to address the special challenges of research programmes?

Yes, the University has two specialized centers.

1. AICTE Sponsored Quality Improvement Programme (QIP) Cell at Manipal College of Pharmaceutical Sciences (MCOPS)

2. AICTE Sponsored Quality Improvement Programme (QIP) Cell of Mechanical Engineering and Civil Engineering Departments at MIT, Manipal.
3. Central computing facility is available even after the off office hours at MIT Manipal.

3.3.6 Does the University have centers of national and international recognition/repute? Give a brief description of how these facilities are made use of by researchers from other laboratories.

School of Life Sciences (SOLS) is recognized by the Government of India as a Centre of Excellence in Pharmacogenomics under its TIFAC-CORE programme. This has facilitated in improving the infrastructure and research profile of the institution in a short period of time. The improved infrastructure is being used for research by other constituent colleges of University and for diagnosis by Kasturba Hospital and other hospitals in the region.

The Department of Radiobiology and Toxicology of SOLS is recognised as Centre of Excellence for Radiation Bio dosimetry by the Atomic Energy Regulatory Board (AERB), Government of India – this being one of three centres within India.

Department of Virus Research, KMC, Manipal is a regional reference laboratory for influenza virus for the southwestern states of India and a grade-1 Virology network laboratory established by Indian council of Medical Research, Department of Health Research, and Government of India.

3.4 Research Publications and Awards

3.4.1 Does the University publish any research journal(s)? If yes, indicate the composition of the editorial board, editorial policies and state whether it/they is/are listed in any international database.

The following are the details of journal publications by the University:

#	Journal	Subject	Periodicity	Publication started	Status
1	British Medical Journal - South Asia Edition	General Medicine	Monthly	1985	Stopped in 2007
2	British Journal of Ophthalmology	Ophthalmology	Bi-monthly	1998	
3	Journal of the American Academy of Pediatrics - Indian Edition	Pediatrics	Bi-monthly	1989	
4	Indian Journal of Hospital Pharmacy	Pharmacy	Bi-monthly	2008	

5	Pharmag	Pharmacy	Quarterly	1998	
6	Manipal Odontoscope	Dental	Yearly	2008	

Keeping the need for having an in-house publication hub, **University Press (UniversityP)** was set up according to a resolution dated April 10, 2011 of the Trustees of Manipal Academy of Higher Education Trust for the purpose of publishing books, text books, monographs, translation works, journals, case studies, conference proceedings, reference works, in print and digital form and to expand into other pedagogical services.

The Board for University is constituted with the following members:

- **Dr H Vinod Bhat**, Pro Vice Chancellor, University
- **Dr G K Prabhu**, Registrar, University
- **Prof Sundar Sarukkai**, Director, Manipal Centre for Philosophy and Humanities, University
- **Mr Alex Chandy**, Director, Media Relations, University
- **Dr Neeta Inamdar**, Head, Manipal Centre for European Studies, University

The Press has currently 42 publications (30 Books & 12 Journals / Proceedings / Review) including the biannual official journal of Indian Association of Respiratory care with more in the pipeline.

3.4.2 Give details of publications by the faculty

University encourages publications by faculty in reputed journals following are the details of the publications for the years 2012- 2014 campus wise, constituent unit wise are provided below:

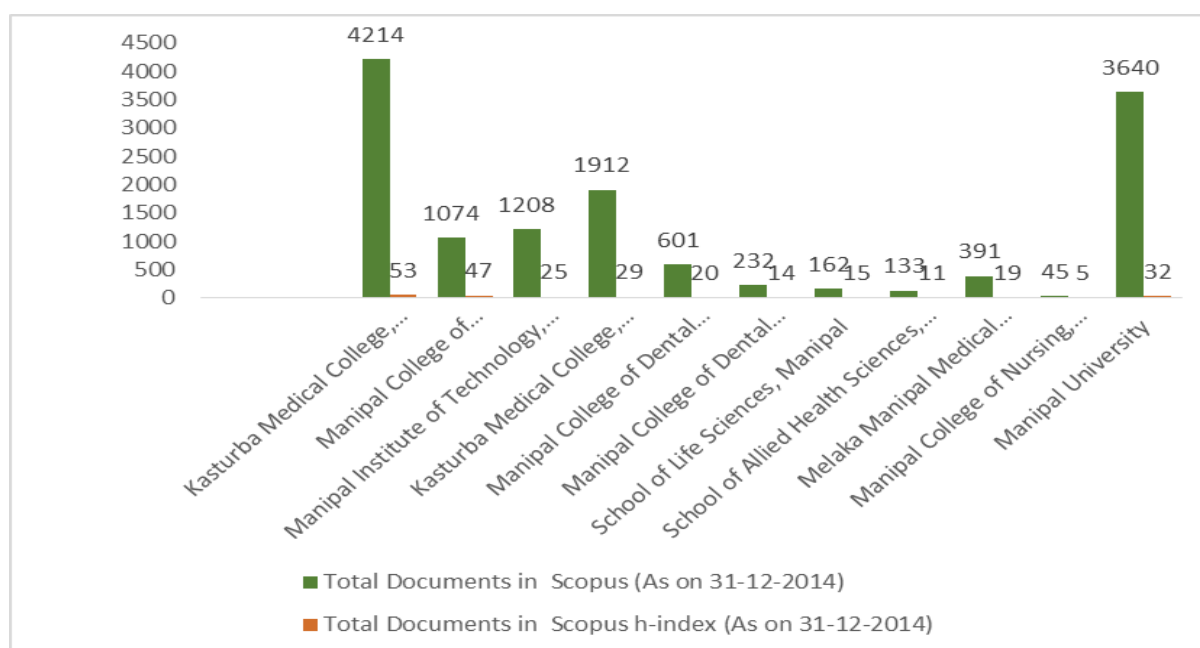
Journal Publications

#	Institutes / Schools	2012	2013	2014
Manipal Campus				
1	Kasturba Medical College, Manipal	446	549	779
2	School of Allied Health Sciences, Manipal	95	60	77
3	School of Life Science Centre, KMC Manipal	28	54	42
4	Dept. of Lib & Info Science	2	2	4
5	Dept. of Statistics	20	23	25
6	Dept. of Public Health	6	8	11
7	Dept. of Virus Research	3	2	2

8	Manipal College of Dental Sciences, Manipal	130	138	188
9	Manipal College of Nursing, Manipal	60	59	74
10	Manipal College of Pharmaceutical Sciences, Manipal	99	147	102
11	Melaka Manipal Medical College, Manipal	73	75	94
12	Manipal Institute of Technology, Manipal	208	230	321
13	Faculty of Architecture, Manipal	0	8	0
14	Dept. of Atomic & Molecular Physics	8	24	17
15	School of Management, MIT Manipal	9	17	14
16	Dept. of Commerce	4	9	6
17	School of Communication, MIT Manipal	3	2	1
18	Dept. of Geopolitics & International Relations	11	23	30
19	Dept. of Philosophy & Humanities	9	10	8
20	Dept. of European Studies	2	3	0
21	School of Information Science, MIT Manipal	9	7	22
22	Welcomgroup Graduate School of Hotel Administration, Manipal	5	6	19
Mangalore Campus				
1	Kasturba Medical College (KMC)	409	450	342
2	School of Nursing	12	3	2
3	Manipal College of Dental Sciences (MCO DS)	49	93	132
Bangalore Campus				
1	School of Regenerative Medicine	22	22	24
Off Shore Campuses				
1	Melaka Manipal Medical College - Melaka Campus	69	116	63
2	University - Dubai Campus	14	12	41
	Total	1805	2152	2440

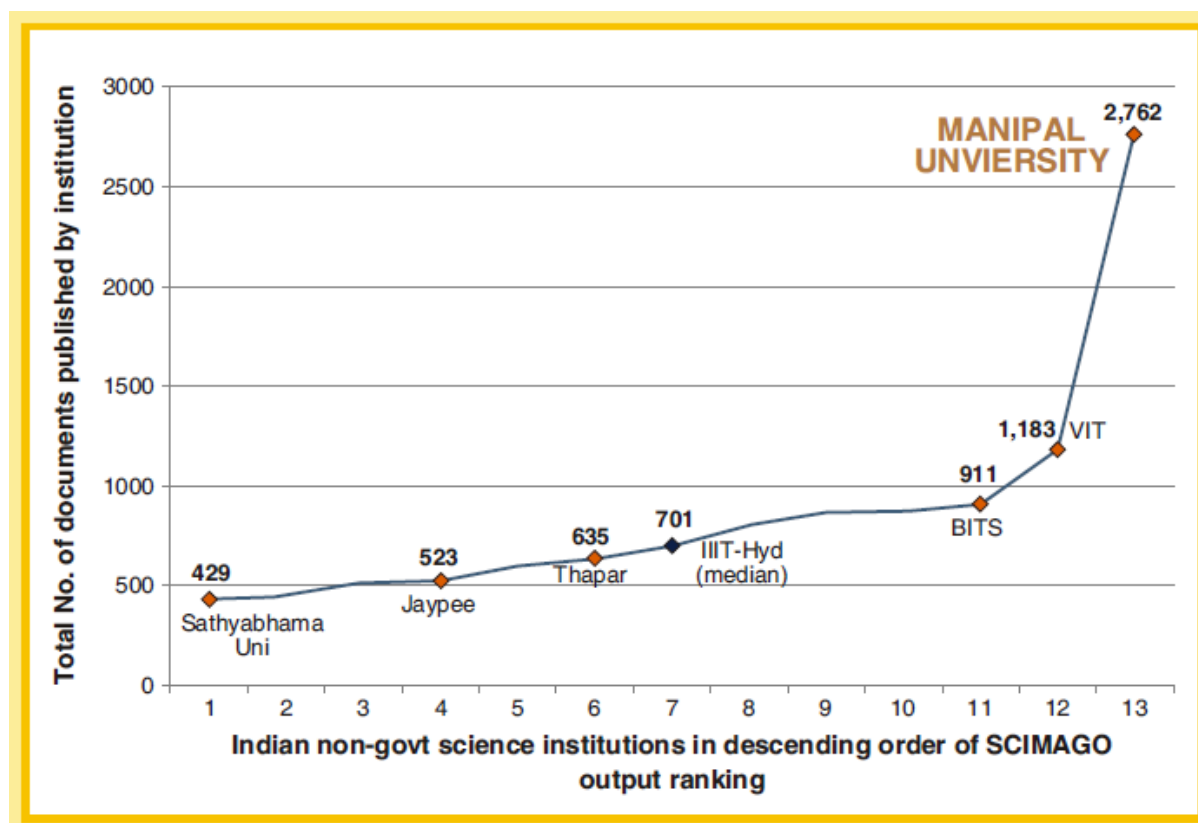
SCOPUS Analysis – Year 2014

#	Institution	Total Documents in Scopus (As on 31-12-2014)	h-index (As on 31-12-2014)
1	Kasturba Medical College, Manipal	4214	53
2	Manipal College of Pharmaceutical Sciences, Manipal.	1074	47
3	Manipal Institute of Technology, Manipal	1208	25
4	Kasturba Medical College, Mangalore	1912	29
5	Manipal College of Dental Sciences, Manipal	601	20
6	Manipal College of Dental Sciences, Mangalore	232	14
7	School of Life Sciences, Manipal	162	15
8	School of Allied Health Sciences, Manipal	133	11
9	Melaka Manipal Medical College, Manipal	391	19
10	Manipal College of Nursing, Manipal	45	5
11	Manipal University	3640	32



University encourages publications by its faculty in reputed journals. Number of papers published in peer reviewed journals in 2014 (national/international) was **2440**. 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>).



Overall among all Universities (Government and Non-Government) in India, MAHE is ranked 19th in India in 2012 which has improved significantly from 55th in 2010.

- * **Monographs** - Nil
- * **Chapters in Books** - 132

Kasturba Medical College: 28

School of Allied Health Sciences, Manipal: 1

Year 2014 (01 Number)

1. Dr. Krishna Y - A chapter on "Re/Habilitation of Adults with Cochlear Implants" in "The Cochlear Implants – An overview" ISHA Monographs edited by Dr. Madhuri Gore, Vol 13, No 2 ISHA. ISSN-0974-214X

School of Life Sciences – 6 (2012)

1. Kamath SD, Mahato KK. 2012. Pulsed laser induced simultaneous fluorescence and photoacoustic spectroscopic studies of flavin adenine dinucleotide (FAD) in water. Electronic design and signal processing, Narosa Publishing House Pvt. Ltd., New Delhi, ISBN 978- 81-8487-160-9.
2. Roopa Nayak, Organic Chemistry, "Manipal Laboratory manual for Biotechnologists" Manipal University Press, pp. 41-69, 2012

3. Roopa Nayak, Physical Chemistry, “Manipal Laboratory manual for Biotechnologists” Manipal University Press, pp.70-95, 2012
4. Roopa Nayak, Inorganic Chemistry, “Manipal Laboratory manual for Biotechnologists” Manipal University Press, pp.96-121, 2012
5. Vidhu Sankar babu, Plant Tissue Culture, “Manipal Laboratory manual for Biotechnologists” Manipal university Press, pp.239-262, 2012
6. TG Vasudevan, K Satyamoorthy, Molecular Biology, “Manipal Laboratory Manual for Biotechnologists”, Manipal University Press, pp.122-209, 2012

Dept. of Statistics: 2 (2013)

1. K Manjunatha Prasad, K S Mohana, and Y Santhi Sheela. Matrix Partial Order associated with Space Preorder, “Combinatorial Matrix Theory and Generalized Inverses of Matrices” Eds. Ravindra B. Bapat, Steve Kirkland, K. Manjunatha Prasad and Simo Puntanen, SPRINGER India, 2013 p 195 – 226. DOI: 10.1007/978-81-322-1053-5_17 (http://dx.doi.org/10.1007/978-81-322-1053-5_17)
2. K Manjunatha Prasad, G Sudhakara, H S Sujatha, and M Vinay. Matrix Product of Graphs, “Combinatorial Matrix Theory and Generalized Inverses of Matrices” Eds. Ravindra B. Bapat, Steve Kirkland, K. Manjunatha Prasad and Simo Puntanen. SPINGER India 2013, p 41 – 56. DOI: 10.1007/978-81-322-1053-5_4 (http://dx.doi.org/10.1007/978-81-322-1053-5_4)

Department of Public Health - 2 (2011 & 2012)

1. Shamma Shiri, Teddy Andrews, Lena Ashok, Ida D’Souza, (2012) “Corporate Social Responsibility Initiatives on Health by Infosys Foundation”, In Ilango Ponnusami and Abraham P Francis, Professional Social Work – Perspectives on Practice and Extension, First Edition, Authorspress, New Delhi
2. Teddy Andrews, (2011), “Exploring Innovations in Social Work Training Practices”, Professional Social Work – Best Practices and Innovations in Teaching, Research and Extension, Authorspress, New Delhi

Manipal College of Dental Sciences, Mangalore: 11 (2012-5no.s & 2013-6 no.s)

Manipal College of Dental Sciences, Manipal: 13 (2012-2 no.s, 2013- 5 no.s & 2014 – 6 no.s)

Manipal College of Pharmaceutical Sciences, Manipal: 15

2013

1. Chapter 34: Camellia Sinensis (Tea) in the Prevention of UV-Induced Carcinogenesis: A Mechanistic Overview Bioactive Dietary Factors and Plant Extracts in Dermatology, 2013, 367-384 (ISBN: 978-1-62703-166-0) Princy Louis Palatty,

Manjeshwar Shrinath Baliga, Anatappa Govindaraju Rajeev, Raghavendra Haniadka, Harshith P. Bhat, Karkala Shreedhara Ranganath Pai, Manoj P Rai, Nikku Mathew Geevarughese and Rajesh Arora. Nutrition and Health Seriec Editor: Adrienne Bendich, Humana Press, New York

2. Chapter 13: Antidiabetic, Antihyperlipidemic and Antioxidant Effects of the Flavonoids. M K Unnikrishnan, Veeresh Veerapur, Yogendra Nayak, Piya Paul Mudgal and Geetha, Mathew. Polyphenols in Human Health and Disease. Polyphenols in Human Health and Disease

2012

1. Princy Louis Palatty, Manjeshwar Shrinath Baliga, Anatappa GOvindaraju Rajeev, Raghavendra Haniadka, Harshith P. Bhat, Karkala Shreedhara Ranganath Pai, Manoj P Rai, Nikku Mathew Geevarughese and Rajesh Arora, Chapter 34: Camellia Sinensis (Tea) in the Prevention of UV-Induced Carcinogenesis: A Mechanistic Overview Bioactive Dietary Factors and Plant Extracts in Dermatology, Ed: Ronald Ross Watson and Sherma Zibadi, Nutrition and Health Seriec Editor: Adrienne Bendich, Humana Press, New York 2013, 367-384 (ISBN: 978-1-62703-166-0)
2. Ranjith Kumar Averineni, Gopal Venkatesh Shavi, Om Prakash Ranjan, Praful Balavant Deshpande, Gurram Aravind Kumar, Usha Yogendra Nayak, Meka Sreenivasa Reddy, Nayanabhirama Udupa. Formulation of Gliclazide Encapsulated Chitosan Nanoparticles: In Vivo Evaluation. NanoFormulation, 2012, 77-85. Publisher Royal Society of Chemistry, London, (ISBN: 978-1-84973-378-6).

2011

1. P D Gupta, N Udupa, Application of Nanotechnology in Health Sciences, Nanotechnology in Healthcare, Edited by P D Gupta, N Udupa, S P Publications, 2011, Jaipur, India (ISBN 978-93-80018-02-1)
2. T. T. Angel, P. Upadhyay, N Udupa, Nanobiotechnology and its Facade, Nanotechnology in Healthcare, Edited by P D Gupta, N Udupa, S P Publications, 2011, Jaipur, India.
3. Karthik, C. M. Rao, N. Udupa, Materials for preparation of nanocarrier systems, Nanotechnology in Healthcare, Edited by P D Gupta, N Udupa, S P Publications, 2011, Jaipur, India.
4. R. V. Kulkarni, S. Mutalik, N. Udupa, Smart Polymers as drug carriers in nanotechnology, Nanotechnology in Healthcare, Edited by P D Gupta, N Udupa, S P Publications, 2011, Jaipur, India.
5. O.P. Ranjan, M. S. Reddy, N. Udupa, Nanosuspensions: A novel technology, in drug delivery, Nanotechnology in Healthcare, Edited by P D Gupta, N Udupa, S P Publications, 2011, Jaipur, India.
6. N. Maliyakkal, N. Udupa, Role of nanotechnology in treatment of central nervous system disorders, Nanotechnology in Healthcare, Edited by P D Gupta, N Udupa, S P Publications, 2011, Jaipur, India.

7. M. D. Janodia, N. udupa, Patenting of nanotechnology, Nanotechnology in Healthcare, Edited by P D Gupta, N Udupa, S P Publications, 2011, Jaipur, India.
8. D. Sreedhar, N. Udupa, Regulations of nanotechnology products, Nanotechnology in Healthcare, Edited by P D Gupta, N Udupa, S P Publications, 2011, Jaipur, India.
9. V. S. Ligade, A. G. Pise, Nanotechnology in cosmeceuticals, Nanotechnology in Healthcare, Edited by P D Gupta, N Udupa, S P Publications, 2011, Jaipur, India.
10. G. Pise, V. S. Ligade, N. Udupa, Nanotechnology in neutraceuticals, Nanotechnology in Healthcare, Edited by P D Gupta, N Udupa, S P Publications, 2011, Jaipur, India.
11. Naseer Maliyakkal, K.S.R Pai, Nanotechnology in health Care, (Chapter 31 Nanotechnology Application in Cancer), Dr. P.D. Gupta and Dr. N.Udupa, S.P.Publictions, Jaipur, 2011, page no 443-448,ISBN: 978-93-80018-02-1

Manipal Institute of Technology: 17

Biomedical Engineering: 1

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

Chemical Engineering: 2

Department of Computer Applications: 5

#	Book Chapter	Book Title	Year	Publisher	ISBN
1.	Virtual Device: Media Service Fitness, Selection and Composition Considering Composition Interactivity and Synchronization	Mobile Multimedia Communications	2012	Springer	978-3-642-30418-7
2.	Scalable Video Delivery over Peer-to-Peer Network	Advanced Computing, Networking and Security	2012	Springer	978-3-642-29279-8
3.	Qualitative and Quantitative Evaluation of Correlation	Advanced Computing, Networking and Security	2012	Springer	978-3-642-29279-8

	Based Stereo Matching Algorithms				
4.	Virtual Device: Media Service Fitness, Selection and Composition	Mobile Wireless Middleware, Operating Systems, and Applications	2012	Springer	978-3-642-30606-8
5.	MSB Based New Hybrid Image Compression Technique for Wireless Transmission	Advances in Computing and Information Technology	2013	Springer	978-3-642-31551-0

Computer Science and Engineering: 2

1. Chapters in Books: Harish S V and K Chandra Sekaran, “An Application of Fuzzy Controllers: Autonomic Computing Systems,” In: Fuzzy Controllers, Theory and Applications, Ed.: Teodor Lucian Grigorie, InTech, Croatia, Feb 2011. Edited by Lucian Grigorie, ISBN 978-953-307-543-3, Hard cover, 368 pages, Publisher: InTech
2. N GopalakrishnaKini, M Sathish Kumar and Mruthyunjaya H S, “An efficient routing algorithm for an injured mesh embedded hypercube interconnection network,” Electronic Design and Signal Processing, Narosa Publishing House Pvt Ltd ISBN 978-81-8487-160-9, pp. 211-214, 2012.

Humanities and Management – 5 Nos.

#	Author	Title	Book Title	Publisher	ISBN No
1.	Lewlyn L.R. Rodrigues,	System Dynamics Model for Remanufacturing in Closed Loop Supply Chains	Systems Model Book www.systemsmodelbook.org		
2.	Lewlyn L.R. Rodrigues, Fara hnazGolrooyM otlagh, Deepak Sreedhar	System Dynamics Based Perspective Reliability centred Maintenance	Systems Model Book www.systemsmodelbook.org		

	Ramesh, Vasanth Vasudeva Pandubettu Kamath				
3.	Praveen K Shetty, V. Prabhu, Prathapchandra T	BalramHalwai, The White Tiger: A New Age Protagonist in the Indian Fiction in English	Booker Prize Winner Indian English Novels- A Kaleidoscopic Study	Aavishkar Publishers, Distributors	978-81- 7910- 341-8
4.	Lewlyn L.R. Rodrigues,	Role of technology in Rural Transformation	Rural Transformation and Developmental perspectives Managerial Challenges	IK International Publishers	978- 82062- 46-2
5.	K.P. NandhanPrabh u, Lewlyn L.R. Rodrigues & K.P.V. Ramana Kumar	Modernity and Spirituality: Relevance of Gandhian thought for Rural transformation	Rural Transformation and Developmental perspectives Managerial Challenges	IK International Publishers	978- 82062- 46-2

Instrumentation and Control Engineering (I and CE) - 2

1. Fuzzy Logic for Breast Cancer Diagnosis Using Medical Thermogram images.
DOI: 10.4018/978-1-4666-7240-6.ch007, IGI Global.
2. Design of an Adaptive Calibration Technique using Support Vector Machine for LVDT.
Advances in Intelligent Systems and Computing, DOI: 10.1007/978-3-319-04960-1_13, Springer Publishing

Faculty of Architecture: 1

Department of Atomic and Molecular Physics – 2

1. R. Sagar Krishnamurthy, Elsa Zachariah, AseefhaliBankapur, Chidangil Santhosh, BasavarajChougule, Bhavishna Praveen, Manna Valiathan, and Deepak Mathur. Probing Zinc-Oxide Nano-Particle Induced Stress on Stem Cells Using Raman Tweezers. A chapter in Book Biomedical Engineering, 2012 : 317-321, ISBN 978-81-8487-195-1 Edited by Ramesh R. Galigekere, A.G. Ramakrishnan, Jayaram K. Udupa, Publishers – Narosa Publishing House.

2. V.K. Unnikrishnan, Rajesh Nayak, Praveen Devangad, M.K. Dinoop, V.B. Kartha, B.M. Suri and C. Santhosh Biomedical Applications of Laser-Induced Breakdown Spectroscopy (LIBS): A Preliminary Study A chapter in Book Biomedical Engineering, 2012 : 30-34, ISBN 978-81-8487-195-1 Edited by Ramesh R. Galigekere, A.G. Ramakrishnan, Jayaram K. Udupa, Publishers – Narosa Publishing House

School of Management, Manipal: 4

Department of Commerce: 8

Sl #	Name of the Faculty	Study Materials	Year
1	Guru Prasad Rao	E-Business and Economic Environment in India	2012
2	Vikram Baliga	Retail Management and Merchandising Management	2012
3	Praveen Kumar	Small Business Management and E-Business	2012
4	Jose Mamman	E-Business	2012
5	Niranjan Prabhu	Economic Environment in India	2012
6	Surendra Pai	Business strategy and International Marketing	2011-12 & 2012-13
7	Santhosh Shetty	Financial Accounting, Management Accounting and Marketing Management	2012
8	Sai Sachidhanada Bhat	Research Methodology	2011

School of Communication: 2

- * Faculty Name: Dr. Padma Rani, Associate Professor
 Title: Chapter 20 India: College Radio Tackling Participation and Social Inclusion
 Editor: Kalinga Seneviratne
 Title: People's Voices, People's empowerment: community Radio in Asia and beyond"
 Edition: AMIC Singapore 2012
 Publisher: AMIC Singapore 2012

Department of Philosophy and Humanities – 3

School of Regenerative Medicine, Bangalore: 4
Kasturba Medical College, Manipal: 13

Name of Book	Chapter/s	Details Faculty members	Publisher
Department of Medicine			
API text book of Medicine	“Melioidosis”	Dr Kavitha Saravu	Jaypee Brothers
Department of Dermatology			
Comprehensive Text book of Sexual Medicine	Sexually transmitted infections	Dr Sathish Pai B	Jaypee publisher
Interesting cases in dermatology	Contact dermatitis to ketoconazole shampoo	Dr Sudhir Nayak U K	IJCP, New Delhi
Pigmentary Disorders: A comprehensive Compendium	Quality of life in Pigmentary DisordeRs	Sudhir Nayak U K, Smitha Prabhu, Shrutakirthi D ShenoI	Jaypee Brothers
Basic science for Modern Cosmetic Dermatology	Ultraviolet – induced skin damage and it prevention with sunscreen	Sathish Pai B	Jaypee, New Delhi
Hair and Hair disorders diagnosis and management	Psychosomatic hair disorders	Smitha Prabhu, Sudhir Nayak UK, Shrutakirthi D ShenoI	Jaypee, New Delhi
Department of Psychiatry			
Development of Psychiatry in India Clinical Research and policy perspectives	Newer somatic treatments: Indian experience	Dr Rishikesh VB	--
Department of OBG			
Hypertension Disorders of Pregnancy	Time and Mode of Delivery	Dr Lavanya Rai	Jaypee Publishers
Intrauterine	Factors Influencing	Dr Pratap Kumar	CRC Press, 2014.

Insemination: Evidence Based Guidelines	IUI Outcome: Weight Influences, p. 39-42		
“Safe Motherhood Initiative – A Silent Revolution”.	Role of Teaching Institutions for Safe Motherhood Initiative: Beyond the Hospital . Page- 249-254	Dr Pratap Kumar	Jaypee Brother Medical Publisher Pvt. Ltd.
Complicated cases in high risk pregnancy and labor	“Thrombophilia in pregnancy” .. Vol.1;2012: page 83-100	Dr Pratap Kumar	Kontentworx
Department of Neuro Surgery			
Manipal Manual of Surgery	Neurosurgery templates	Dr Sunil Upadhyaya	CBS
Department of Medical Genetics			
API Textbook of Medicine	Molecular genetics, human genome project and genomic medicine	Dr Girisha K M	Associated Physicians of India

Books edited: 11**School of Life Sciences, Manipal: 1**

Herman D'souza, Shyama Prasad Sajankila, K Satyamoorthy, 2012, Manipal Laboratory Manual for Biotechnologists, ISBN:978-93-82460-02-2, Manipal University Press

Department of Statistics: 2

1. Steve Kirkland K. Manjunatha Prasad, Sukanta Pati and Simo Puntanen (Eds), Linear Algebra with Applications (ISBN: 978-93-82460-20-6), Manipal University Press, December 2014.
2. Ravindra B. Bapat, Steve Kirkland K. Manjunatha Prasad, and Simo Puntanen (Eds), Combinatorial Matrix Theory and Generalized Inverses of Matrices, (ISBN: 978-81-322-1052-8 (Print) 978-81-322-1053-5 (Online)) SPRINGER India 2013. DOI 10.1007/978-81-322-1053-5.

Department of Library & Information Science: 1**Manipal College of Dental Sciences, Mangalore: 1**

Year	Name of the Editor	Title of the Book	Publisher detail
2013	Dr. Ashwini Rao	Text book "Essentials of Public Health Dentistry - 5 th Edition	Arya Medi Publishers, 2013, ISBN: 81-86809-56-2

Manipal College of Pharmaceutical Sciences, Manipal: 1

1. Nanotechnology in health Care, (Chapter 31 Nanotechnology Application in Cancer), Dr. P.D. Gupta and Dr. N.Udupa, S.P.Publictions, Jaipur, 2011, ,ISBN: 978-93-80018-02-1.

Manipal Institute of Technology: 2

Biomedical Engineering: 1

Department of Computer Applications: 1

SL.No.	Book Name	Year	Publisher	ISBN
1.	Scalable Video Coding Using Wavelet Transformation: Concepts and Complexity Reduction	2011	Lambert Academic Publisher (LAP), Germany	978-3-8433-8436-0

Faculty of Architecture: 1

School of Regenerative Medicine: 2

Books with ISBN with details of publishers – 46

School of Allied Health Sciences, Manipal: 3

1. Ganapathy M K, Hari Prakash P, Rajashekhar B. (2012). Brain stem encoding of Fundamental frequency in Cochlear Implant users. LAP LAMBERT Academic Publishing GmbH & Co. KG, Germany. ISBN 978-3-659-17854-2. (July)
2. Kishan M M, Krishna Y, Abin (2012). "Temporal Signal Processing Of Hearing Impaired Through - Hearing Aids" LAP LAMBERT Academic Publishing GmbH & Co. KG, Germany. (ISBN 978-3-659-19783-3). (July)
3. Ayas Mohammad, Kanaka G, Rajashekhar B. (2012). Hearing aid outcomes using generic & disease specific questionnaires: Hearing aid outcome measures. LAP LAMBERT Academic Publishing GmbH & Co. KG, Germany. (ISBN ISBN-13: 978-3659186523). (August)

School of Life Sciences, Manipal: 1

1. "Introduction to Radiation Biology" P Uma Devi, Nagarathnum and BSS Rao, McMillan, New Delhi, India

Manipal College of Dental Science, Mangalore: 3

Year	Name of the Author	Title of the Book	Publisher detail
2012	Dr. Ravikiran Ongole	Text Book of "Oral Medicine, Oral Diagnosis and Oral Radiology", 2 nd Edition	Elsevier Science Publications; November, 2012, ISBN -978-81-312-3091-6
	Dr. Arathi Rao	Text Book "Principles and Practices of Pedodontics", 3 rd edition	Jaypee Brothers Medical Publishers (P) Ltd. in 2012, ISBN: 978-93-5025-891-0
2013	Dr. Srikant N.	Text Book - Sculptodontia - A Guide to Tooth Carving	Paras Medical Publisher, Hyderabad, 2013, ISBN: 978-81-8191-389-0

Manipal College of Pharmaceutical Sciences, Manipal: 7

1. Dr N Udupa & Dr M Sreenivasa Reddy, (2014) An Insight into Industrial Pharmacy, Prism Books Pvt. Ltd., ISBN: 978-81-7286-740-9.
2. Dr N Udupa & Dr Srinivas Mutalik, (2014) Recent Trends in Novel Drug Delivery, Prism Books Pvt. Ltd., ISBN: 978-81-7286-742-3.
3. Dr N Udupa & Dr A N Nagappa, (2014) Fundamentals of Pharmaceutical Care, Prism Books Pvt. Ltd., ISBN: 978-81-7286-741-6.
4. N Udupa 'Exploring Nanotechnology in Healthcare, (2013) Manipal University Press, ISBN 978-93-82460-11-4
5. Concepts in Chronopharmacology, Edited by Dr N Udupa and Dr P D Gupta, Shyam Prakashan Publishers, Jaipur, India (ISBN: 978-93-80018096)
6. Nanotechnology in Healthcare, Edited by Dr P D Gupta and Dr N Udupa, Shyam Prakashan Publishers, Jaipur, India. ISBN: 978-93-80018-02-1.
7. Pharmaceuticals, Cosmeceuticals and Nutraceuticals – An overview of Regulations, Edited by Dr N Udupa and Harvinder Popli, ISBN 978-81-88739-83-

7, 1st Edition December 2010, Published by Career Publications, Nashik, Maharashtra

Manipal Institute of Technology, Manipal: 14

Biotechnology: SciTech publishers, ISBN-9788183713443

Biomedical Engineering

Ramesh R. Galigekere, A.G. Ramakrishna and Jayaram K. Udupa “Biomedical Engineering” by Narosa Publishing House (December 2011). ISBN 978-81-8487-195-1

Computer Science and Engineering

T.S. Deepthi, Shyamasundar R.K., N. GopalakrishnaKini, “May-Happen-In-Parallel Analysis of Parallel JAVA Programs – An approach to detect potential interference segments in parallel java programs” LAP LAMBERT Academic Publishing, ISBN:978-3-659-29472-3, 2012.

Electronics and Communication Engineering

Sl. No.	Authors Name	Title	Book Chapter details
1	DrK.PrabhakarNayak, DrKumaraShama, DrSomashekarBhat	Electronic Design and Signal Processing	NAROSA Publishers, ISBN No: 978-81-8487 160-9, 2012
2	Dr M. Sathish Kumar	Fundamentals of Optical Fibre Communication – 2 nd edition	30 th April 2014 PHI, 2 nd Revised Edition

Electrical and Electronics Engineering

Faculty Name	Book Title	Co-author	Publisher	Subject	Publication Date	ISBN
Dr Ciji Pearl Kurian	Digital Control Systems	Dr. V. I. George	CENGAGE Publishers (P) Ltd, New Delhi	Control Systems	November 2012	9788131518 359

Humanities and Management

Authors	Title	Publishers
Dr B J Ranganath, Dr Lewlyn L R Rodrigues	SYSTEM DYNAMICS- Theory & Case Studies	IK International Publishing Home Pvt Ltd, New Delhi. 2008, ISBN 978-93-81141-18-2.
Lewlyn LR Rodrigues, Hussain	Service Quality Measurement: Issues and	Anchor Academic Publishing, www.anchor-

A., Aktharsha U.S. & Nair, G.	Perspectives	publishing.com
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Instrumentation and Control Engineering (I and CE)

V. I. George, C P Kurian	Digital Control Systems Cengage Learning, First impression 2012 ISBN-13: 978-81-315-1835-9 ISBN-10: 81-315-1835-3
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Mathematics

#.	Name of Faculty Member	Name of the Book	Name of the Publisher	Year of Publication
1	Dr. Baiju T	Topics in Fuzzy Topology: Noncompact Covering Properties	Lambert Academic Publishing Germany ISBN 978-3-659-26206-7	2012
2	Bhavanari Satyanarayana Acharya Nagarjuna University Kuncham Syam Prasad Manipal Institute of Technology Manipal University	Nearrings, Fuzzy Ideals and Graph Theory	ISBN 13: 9781439873106 Chapman & Hall, Taylor & Francis Group (London, New York)	2013
3	Panackal Harikrishnan	Probabilistic Normed Spaces	Imperial College Press (World Scientific) ISBN: 978-1-78326-468-1 (hardcover) ISBN: 978-1-78326-470-4 (e-book)	2014
4	Satyanarayana Bhavanari & Syam Prasad Kuncham	Discrete Mathematics and Graphs Theory	PHI Learning Private Limited ISBN: 978-81-203-4948-3	2014

Mechanical and Manufacturing Engineering

Ritesh Bhat, Productivity Improvement Using Value Stream Mapping and Kanban (ISBN: 3848493683), Lap Lambert Academic Publishing 2012.

Department of Atomic and Molecular Physics: 2

Biomedical Engineering ISBN 978 – 81 – 8487 -195 -1

1. V K Unnikrishnan, Rajesh Nayak, Praveen Devangad, M K Dinoop, V B Kartha, B M Suri and C Santhosh, Biomedical Applications of LIBS – A preliminary study, Section I, Biomedical Instrumentation and Devices, p.30, Narosa Publishing Pvt Ltd. Delhi, India 2012
2. R S Murthy, E Zachariah, A Bankapur, C Santhosh, B Chougule, B Praveen, M Valiathan, D Mathur, Probing ZnO nanoparticle induced stress on stem cells using Raman tweezers, Section IX, Applications of Nanotechnology p.317, Narosa Publishing Pvt Ltd. Delhi, India 2012

Department of Commerce: 2

- a) Book on “Information Technology and its implications on Banking Sector; Challenges and Prospects” by Dr C K Hebbar, Sandeep Shenoy and Dr Abubakar Siddique: ISBN; 978-93-82062-88-2, Excel India Publishers, New Delhi.
- b) Book on “Production Management” for fashion designing course of Sikkim Manipal University, Manipal by Mr Lumen Shawn Lobo: ID B1527; Manipal Press Limited, Manipal

Welcomgroup Graduate School of Hotel Administration: 14

NATIONAL -2014

Valsaraj , P and Singh, D (2014) Tradition at a Premium: Insights into the Schematic Implementation of Resources in Order to Develop Sustainable Tourist Attractions. In: Strategic Development Policies and Impact Studies of Sustainable Rural and Community-based Tourism. Prism Books, Delhi, pp. 23-33. ISBN 978-93-80607-61-0.

Srivastava, Sandeep (2014) EMERGING TRENDS IN IN-ROOM DINING. In: Hospitality and Tourism Industry: Modernization, Innovations and Opportunities". Gaurav Book Centre. ISBN 9789383316223

Prabhu , Narayan B. M (2014) An exploratory study on online travel trends and travel behavior of employees working in I.T. organizations in Bengaluru, India. In: Global Biz Research handbook. J.A. Alpha Business Research and Publishers Pvt. Ltd., Chennai, pp. 123-130. ISBN 978-1-941505-14-4

Patwardhan , Vidya and Mayya, Suresh and Joshi, H G (2014) Workplace based Learning and Career Advancement: Viewpoints of Women in Service Organizations in India. In: Let's learn. Bloomsbury, New Delhi, pp. 417-433. ISBN 9789384052225

Sarkar, Prasenjit (2014) Ethicurean- A Study on ethical Food Trends, Opportunities and Risks. In: Advances in Hotel, Travel and Tourism Research: A Global Perspective. Babarasisdas Chandiwala Institute of Hotel Management and Catering Technology, New Delhi, pp. 93-102. ISBN 978-81-920850-3-6

Rao, Shreelatha (2014) Dimensions of service quality in restaurants: a comparative study in udupi and dakshina kannada districts. In: Global Conference on Service Management. Auro University, Surat, pp. 44-46. ISBN 13: 978-81-928189-2-4

Patwardhan , Vidya and Mayya, Suresh and Joshi , H G (2014) Organizational Role Stress among Managers in the Indian Hospitality Industry. In: Global conference on service management. AURO University, Surat, pp. 47-50. ISBN 9788192818924

Valsaraj , P and Patwardhan , Vidya and Shettigar, Pallavi G (2014) RELATIONAL EFFECT OF OCCUPATIONAL STRESS ON JOB SATISFACTION AND GENERAL WELLBEING AMONG CHEFS IN INDIA. In: Global conference on service management. AURO University, Surat, pp. 38-46. ISBN 9788192818924

INTERNATIONAL

Nayak, Naresh P (2014) Customer's Awareness of Environment-Friendly Initiatives in Hotels. In: .Global Business economics and sustainability. J A Alpha Business Research and Publishers Pvt. Ltd., Dubai, pp. 22-41. ISBN 978194505168

2013

NATIONAL

Rajshekhar, P (2013) Proceedings of State Level Conference on "Latest Trends in Hospitality and Tourism Industry". In: UNSPECIFIED UNSPECIFIED, pp. 35-42.

Nayak, Naresh P and Prabhu, Narayan B M (2013) Socio-Economic Impacts on Pilgrimage tourism with reference to Udupi Sri Krishna Mutt, Karnataka. In: 4th Annual National seminar on business and management of tourism. Centre for publications, Christ University, Bangalore, pp. 63-71. ISBN 97893-8230511-8.

INTERNATIONAL

Nayak , Naresh and Prabhu , Narayan B. M (2013) A Gap Analysis on perspectives of Managers and Guests with regards to Guestrooms of four star hotels in Cochin, Kerala. In:

Paper proceedings of International conference on Tourism and Hospitality management 2013(online). International Center for Research and Development, Srilanka, pp. 94-107. ISBN 978-955-4543-20-1

Prabhu , Narayan B. M and Nayak, Naresh P (2013) INFLUENCE OF ADVERTISING MEDIA ON TRAVEL PLANNING OF EMPLOYEES WORKING IN I.T. ORGANIZATIONS IN BANGALORE, INDIA. In: Paper Proceedings of the International conference on Tourism and Hospitality management 2013(online). International Center for Research and Development, Srilanka, pp. 129-138. ISBN 978-955-4543-20-1

Pai , Anusha and Prabhu , Narayan B. M and Nayak , Naresh P (2013) Pilgrim Satisfaction - a case study of Udupi Sri Krishna Temple. In: Paper proceedings of the international conference on Tourism and Hospitality management 2013(online). International Center for Research and Development, pp. 6-13. ISBN 978-955

Citation Index, Impact Factor & h-Index:

School of Life Sciences:

- * Impact Factor – range / average – 3.7
- * h-index : NA

Department of Virology:

- * Citation Index – range / average : 30
- * Impact Factor – range / average: 0.98 – 1.63 (1.41)
- * h-index-3

Dept. of Library & Information Science

- * h-index: 1

Manipal College of Dental Science, Mangalore

- * Impact Factor – Range: 0.6 – 2.14
- * h-index - Range: 1 -14

Manipal College of Dental Science, Manipal

S.No	Description	2012	2013	2014
1	Citation Index – range / average	12-0 (1.87)	3-0 (0.42)	3-0 (0.29)
2	Impact Factor – range / average	3.58 – 0.0 0.18	2.84-0.0 0.21	2.18-0.0 0.14
3	h-index	5	3	2

Manipal College of Pharmaceutical Science, Manipal

- Impact Factor – range / average : range:1 to 7
- h-index : 44

Manipal Institute of Technology**Biotechnology**

- * Impact Factor – range/average: 7.5 – 0.2 / 1.1
- * h-index : 2

Biomedical Engineering

- Citation Index – range/average: 0-18/year
- * Impact Factor – range/average: 1-3
- * h-index : 7

Chemical Engineering

- * Impact Factor – range/average : 1.5 - 1.9/1.7
- * h-index : Nil

Chemistry

- * Impact Factor: range/average 0.57

Civil Engineering

- Citation index rate average 02

Department of Computer Applications

- * Citation Index – range/average: 08
- * Impact Factor – range/average: 3.3
- * h-index: 4

Computer Science and Engineering

- * Impact Factor – range / average : 0.83-3.03 / 1.1

Electronics and Communication Engineering

- * Citation Index – range/average : 5-7 (Average Citation count = 13)
- * Impact Factor – range/average: 0.5 to 1.5
- * H- index: Nil

Electrical and Electronics Engineering

- * Impact Factor – Range : 0.5 – 1.5
- * H-index: 2.25

Humanities and Management

- * Citation Index – range/average:12.24
- * Impact Factor – range/average:1.5
- * h-index :0.4

Instrumentation and Control Engineering (I and CE)

- * Citation Index – range / average ::18
- * Impact Factor – range / :: 0.2-1.8
- * h-index :: 2 (average)

Mathematics

- * Citation Index – range/average:4
- * Impact Factor – range/average : 0.83 – 3.03 / 1.1
- * h-index: Nil

Mechatronics Engineering

- * Impact Factor – Range / average : 0.5 -3

Physics

- Impact Factor – range/average
 Range: 0 – 2.726
 Average: 1.44

Printing and Media Engine

- * Impact Factor – range / average :
 - Minimum = 0.393
 - Maximum = 3.447
 - Average = 0.78

Department of Atomic and Molecular Physics

- * Citation Index – range/average: 3-5
- * Impact Factor – range/average: 1.5

School of Information Sciences

- * Citation Index – range//average– 0 to 2
- * Impact Factor – range/average – 0 to 2.5
- * h-index - 0 to 9

Melaka Manipal Medical College, Manipal

- * Impact Factor – range / average - 0.1-2.6
- * h-index – 0–5

School of Regenerative Medicine, Manipal

- * Citation Index– range 3--15/ average 4.0
- * Impact Factor – range 1.2 to 12/ average 3.0

Number listed in International Database:**Department of Virology: 5****Library & Information Science: 2****Manipal College of Dental Science, Mangalore:**

Year	Data base	Number
2012	Pubmed	30
	Scopus	5
	EBSCO host	1
	Medicus	1
	Medline	1
	GSPM	3
	Google Scholar	4
	Open J Gate	3
2013	Scopus	28
	EBSCO host	1
	Copernicus	1
	Medicus	1
	Medline	1
	GSPM	6
	Google Scholar	12
	Open J Gate	5
2014	Pubmed	5
	Scopus	11
	EBSCO host	5
	Copernicus	1
	Medicus	1
	Medline	2
	GSPM	5
	Google Scholar	13

Year	Data base	Number
	Open J Gate	4

Manipal College of Dental Science, Manipal

2012	2013	2014
47	42	47

Manipal College of Pharmaceutical Science, Manipal: 1046 Publications (Scopus)

Manipal Institute of Technology: 120

Department of Computer Applications: 44

Indexed Journal – 20 and Indexed International Conference -24 :

Computer Science and Engineering - 02

Electronics and Communication Engineering

The Papers have been published in journals with ISSN number and indexed with Google Scholar, DOAJ, and Springer etc.

Instrumentation and Control Engineering (I and CE) – 55

WorldCat, NewJour, Open J Gate, Scirus, EISRJC, Expanded Academic ASAP, Cabell Directories, Serial Solutions, Ulrich's Web Global Serials Directory, Index Copernicus International, Academic One File, Tulips, Refseek, Journal Finder, ProQuest, Google Scholar, Research Gate, EBSCO, ProQuest, Science Citation Index Thomson Reuters, DOAJ, SCOPUS, CAS, INSPEC, Socolar, Compendex, GALE, Springer, CiteSeer, Genomics, Google Scholar.

Mathematics – 18

Department of Atomic and Molecular Physics - 70

School of Information Sciences -11 Nos

Melaka Manipal Medical College, Manipal - 446 papers

School of Regenerative Medicine:

- * All are pubmed and scopus listed and indexed life sciences journals
- * All are Pub Med listed (www.pubmed.com)
- * Most of these are in International Journals of high repute

9.	Dr. Prakash P Y, Microbiology	Editorial Board Member	1. Journal of Pharmaceutical and Biomedical Sciences (JPBMS) 2. Wudpecker Journal of Medicinal Plants (WJMP) 3. Academic Journals Online (AJO) 4. World Journal of Clinical Case Conference (WJCC)
10.	Dr. VinayKhanna, Microbiology	Editorial Board Member	1. Journal of Clinical and Diagnostic Research 2. International Medical Journal of Students' Research
11.	Dr. M.S.Kamath, Ayurveda	member of editorial board	Online journal International Journal of Pharmacology and Clinical Sciences (IJPCS)
12.	Dr. K. L. Bairy, Pharmacology	Member Editorial Board	Journal of Natural Remedies Iranian Journal of Pharmacology and Therapeutics
13.	Dr. RavindraPrabhu, Nephrology	reviewer	JETS(Journal emergency trauma,shock) and IJMMS(International journal of medicine and medical sciences
14.	Dr. Pratap Kumar, OBG	Advisory Board Member Member of Editorial Board Advisory Committee member Advisory Board member Editorial Board Member	1.Journal "Perinatology – Journal ofPerinatal and Neonatal are". 2. Journal of Human Reproductive Sciences 3. Journal of Perinatal and Neonatal Care (2011). 4.International Journal of Infertility & Fetal Medicine (2011). 5. journal of Indian Obstetrics &Gynaecology (2012)
15.	Dr Muralidhar V Pai, OBG	Corresponding Editor	Jornal of Obstetrics & Gynecology of India" (FOGSI) - official journal of "Federation of Obstetrics & Gynecology of India" since January 2011 and tenure is till December 2013
16.	Dr.PSVN.Sharma, Psychiatry	Editorial Board member	<ul style="list-style-type: none"> • Indian Journal of Psychiatry • Indian Journal of Psychological Medicine • Asian Journal of Psychiatry
17.	Dr.Samir Kumar P , Psychiatry	Editorial Board member	1. Indian Journal of Social Psychiater 2. World Psychiatry Journal
18.	Dr. Ganesh Pai, Gastroenterology	Editorial Board members	Indian Journal of Gastroenterology Indian Clinical Updates - Gastroenterology
19.	Dr. VikramPalimar, Forensic Med.	Editorial Board Member	Journal of Indian Society of Toxicology (JIST).
20.	Dr. Prashantha Bhagavath,	International Advisory Board	ACTA MEDICA (formerly Hacettepe Medical Journal from 1961 to 2011), is an official journal of the Hacettepe University, Faculty of Medicine. Turkey. International Journal of AJ Institute of Medical Sciences. India

21.	Dr. Benjamin Joseph, Orthopaedics	Editorial Board Reviewer International advisory Board member	Journal of Pediatric Orthopaedics Journal of Pediatric Orthopaedics B Journal of Children's Orthopaedics Journal of Bone and Joint Surgery [American] Malaysian Orthopaedic Journal
Kasturba Medical College (KMC) Mangalore			
22.	Dr. Vasudha V Saralaya	Associate editor	International Journal of Perioperative ultrasound and applied technologies.
23.	Dr. Latha V Prabhu	Member editorial board	Romanian journal of Morphology and Embryology
24.	Dr. Latha V Prabhu	Member editorial board	Academy of Medical sciences
25.	Dr. Latha V Prabhu	Editor	Basic sciences section of Indian journal of Otolgy.
26.	Dr. Sampath Madhyastha	Member	Austroasian cognitive neuroscience society, Australia
27.	Dr. Ashwin K	Editorial committee member	International journal of clinical and biomedical research.
28.	Dr. Murlimanju BV	Section editor	International multidisciplinary research journal
29.	Dr. Murlimanju BV	Advisory board member	Annals of health and health sciences.
30.	Dr. B Suresh Kumar Shetty	Editorial Board Member	of Gynecology and Obstetrics (JGO)
31.	Dr. PrateekRastogi	Editorial Board Member	i)Anthropology. ii) Journal of Forensic Science and Criminology. iii) Indian Journal of Emergency Medicine. iv) Indian Journal of Forensic and Community Medicine. v) Indian Journal of Forensic Medicine and Pathology. vi) Web Med Central (For forensic Medicine) vii) International journal of Medical toxicology and legal medicine
32.	Dr. TanujKanchan	Editorial Board Member	i) Egyptian Journal of Forensic Sciences ii)The Internet journal of Biological Anthropology. iii) The Internet journal of Biological Anthropology iv)The Journal of Clinical Pathology and Forensic Medicine v) Suicidology Online (SOL) iv) Indian Journal of Medical Specialities v) Journal of South Indian Medicolegal Association vi)Journal of Indian Society of Toxicology vii)Journal Of Mass Communication, Delinquency And Criminology viii)International Journal of Forensic Science & Pathology ix)Austin Journal of Forensic Science and Criminology x)Austin Journal of Clinical Pathology.
33.	Dr. Jagadish Rao P P	Editorial Board Member	i) Forensic Medicine and Anatomy Research [FMAR] ii) Austin Journal of Anatomy. iii)Austin Journal of Criminology and Forensic Sciences”.

34	Dr. Raghavendra Babu Y P	Editorial Board Member	i) Web med central plus ii) SAJ Forensic Sciences
35	Dr. Animesh Jain	Executive Editor	Annals of Community Medicine
36	Dr. Prabha Adhikari	Member of Editorial Board-	Research, Review, Report
37	Dr. Madhusudan Upadya	Editorial board	Indian Journal of Anaesthesiology
38	Dr. Anand R	Editorial board	NABH Journal
39	Dr. R.C. Sahoo	Co-editor	Lung India
40	Dr. Gopalkrishna Bhat	Editorial Board	Case Reports in Urology' (Hindawi Publications Corporation, New York, indexed in PubMed, EBSCO).
41	Dr. Dhanashree	Editorial board	International Journal of Health & Rehabilitation Sciences (IJHRS)
Manipal College of Dental Sciences (MCOBS), Manipal			
42	Dr. Vasudev Ballal, Conservative Dentistry and Endodontics	Scientific Advisory Board member Scientific Advisory Board member Scientific Advisory Board member Editorial Board member (Section Editor) Editorial Board member	i. Journal of Endodontics - American Association of Endodontists. ii. Saudi Endodontic Journal- Saudi Endodontic Society. iii. World Journal of Stomatology iv. The Journal of Dentistry. v. European Journal of General Dentistry
43	Dr. Manish Bhagania, Oral & Maxillofacial Surgery	Associate Editor	Manipal Odontoscope, The official journal of IDA Manipal
44	Dr. Pradeep S Prosthodontics & Crown and Bridge	Editorial board member	Journal of Orofacial Research
45	Dr. Shashidhar Acharya, Public Health Dentistry	Editorial board member	Journal of Indian Association of Public Health Dentistry
46	Dr. Ramprasad Vasthare, Public Health Dentistry	Editor	Manipal Odontoscope, Journal of Indian Dental Association, Manipal branch
47	Dr. Raghu A.R, Oral Pathology & Microbiology		i. International Journal of Oral and Maxillofacial Pathology ii. Signpost Open Access Journal of Pathobiology and Toxicology iii. Journal of Orofacial and Health Sciences iv. World Journal of Dentistry v. International
Manipal College of Dental Sciences (MCOBS), Mangalore			
48	Dr. Dilip G. Naik	Editorial Board	E-learning teaching modules in "Periodontics" titled "Clinical learning"
49	Dr. Mohan Baliga	Editorial Board	i. Journal of Maxillofacial & Oral Surgery ii. Journal of Nepal Dental Association
50	Dr. Ashita Uppoor	Editorial Board	Journal of Interdisciplinary Dentistry- An International publication of ISPRP

51	Dr. Kundabala M.	Editorial Board	i. Journal of Interdisciplinary Dentistry- An International publication of ISPRP ii. Journal of Conservative Dentistry iii. Indian Journal of dental Sciences iv. Endodontology
52	Dr. Arathi Rao	Editorial Board	Journal of Interdisciplinary Dentistry- An International publication of ISPRP
53	Dr. Junaid Ahmed	Editorial Board	i. International journal of Oral surgery, Oral Medicine & Oral Pathology ii. Journal of Pacific Academy of higher education & Research
54	Dr. Shobha Rodrigues	Editorial Board	Journal of Interdisciplinary Dentistry- An International publication of ISPRP
55	Dr. Neeta Shetty	Editorial Board	Journal of Interdisciplinary Dentistry- An International publication of ISPRP
56	Dr. Deepa G. Kamath	Editorial Board	Journal of Interdisciplinary Dentistry- An International publication of ISPRP
57	Dr. Ravikiran Ongole	Editorial Board	World journal of Dentistry
58	Dr. Ramya Shenoy	Editorial Board	Journal of Interdisciplinary Dentistry- An International publication of ISPRP
59	Dr. Manuel Thomas	Editorial Board	Journal of Interdisciplinary Dentistry- An International publication of ISPRP

Manipal College of Pharmaceutical Sciences (MCOPS), Manipal

60	Dr. J Venkata Rao	Advisory Committee	Manipal Journal of Pharmaceutical Sciences
		Editorial Board Member	Indian Journal of Pharmaceutical Education
		Organizing Committee Member	CRS-India Chapter, Dec 2015, Bangalore, India.
61	Dr. Angel Treasa Alex	Editorial Board Member	Manipal Journal of Pharmaceutical Sciences
		Organizing Committee Member	CRS-India Chapter, Dec 2015, Bangalore, India.
		Organizing Committee Member	Manipal Research Colloquium, Manipal University
62	Dr M Manjunath Setty	Editorial Board Member	International Journal of Drug Formulation and Research
		Advisory Board member	World Research Journal of Medicinal and Aromatic Plants
63	Dr Richard Lobo	Editorial Board Member	The Pharmaceutical Chemical Journal
		Editorial Board Member	Journal of Bioequivalence Studies
		Associate Editor	BMC Complementary and Alternative Medicine
		Editorial Board Member	Pharmaceutical Crops
		Editorial Board Member	Current Traditional Medicine
64	Dr Saleemulla Khan	Section Editor	Manipal Journal of Pharmaceutical Sciences
65	Dr CS Shreedhara	Editorial/Advisory Board	International Journal of Sciences and Applied Research
		Editorial/Advisory Board	Systematic Reviews in Pharmacy
		Editorial Board Member	International Journal of Community Pharmacy

66	Dr K S Chandrashekar	Editorial Board Member	International Journal of Chemistry and Material Research
67	Dr. Nanda Kumar K	Editorial Board Member	E-CAM
68	Dr. S G Vasantharaju	Editorial Board Member	Journal of Applied Biopharmaceutics and Pharmacokinetics
69	Dr. Jagadish P C	Administrative team member	International Journal of Community Pharmacy
70	Muddukrishna B.S.	Editorial Board Member	Research and reviews: Journal of pharmaceutical analysis Journal club for pharmaceutical sciences(JCPS)
71	Dr Anup Naha	Editorial Board Member	Journal of Harmonized Research in Pharmacy Journal of Drug Delivery and Therapeutics
72	Dr. K B Koteswara	Editorial Board Member	“Research& Reviews: Journal of Pharmacy & Pharmaceutical Sciences”.
73	Dr Srinivas Mutalik	Associate Editor Editorial board member	1) Manipal Journal of Pharmaceutical Sciences 1) Journal of Pharmaceutics 2) International Scholarly Research Notices The Scientific World Journal
74	Dr D Sreedhar	Editorial Board Member	Elite Research Journal of Education and Review
		Member	International Journal of Environmental Planning and Management
		Section Editor	Manipal Journal of Pharmaceutical Sciences (To be published in September 2015)
		Administrative team member	International Journal of Community Pharmacy
75	Dr Manthan D Janodia	Editor	Manipal Journal of Pharmaceutical Sciences (To be published in September 2015)
		Editorial Board Member	Prime Journal of Business Administration and Management
		Editorial Board Member	Journal of Advanced Clinical Pharmacology
76	Dr Virendra S Ligade	Editorial Board Member	Journal of current pharma research
		Administrative Team Member	International Journal of Community Pharmacy
77	Mr Pradeep Muragundi	Executive Editor	International Journal of Community Pharmacy
78	Dr.M.K Unnikrishnan	Member	Indian Journal of Hospital Pharmacy
79	Dr.Leelavathi D Acharya	Member	Indian Journal of Hospital Pharmacy
80	Dr.Sreedharan	Member	Indian Journal of Hospital Pharmacy Manipal Journal of Pharmaceutical Sciences

81	Dr.Vijayanarayana K	Member		Indian Journal of Hospital Pharmacy
82	Dr. Surulivel Rajan	Assistant editor		Indian Journal of Hospital Pharmacy Asian Journal of Pharmaceutical and Health Sciences Archives of Pharmacy and Biological Sciences
83	Dr.R Rajesh	Member		Indian Journal of Hospital Pharmacy
84	Dr.GirishThinga	Member		Indian Journal of Hospital Pharmacy
85	Dr.V.Rajesh	Member		Indian Journal of Hospital Pharmacy Asian Journal of Pharmaceutical and Health Sciences Archives of Pharmacy and Biological Sciences
86	Mr.KanavKhera	Member		Indian Journal of Hospital Pharmacy
87	Mr.SonalSekhar M	Member		Indian Journal of Hospital Pharmacy
88	Mr.Prasanna Kumar	Member		Indian Journal of Hospital Pharmacy
89	Mr. John Preshanth	Member		Indian Journal of Hospital Pharmacy
90	Mr. Suhaj	Member		Indian Journal of Hospital Pharmacy
91	Dr B S Jayashree	Editorial Member	Board	International Journal of Community Pharmacy
92	Varadaraj Bhat	Editorial Member	Board	Indo Global Journal of Pharmaceutical Sciences
93	Alex Joseph	Editorial Member (section editor)	Board	Manipal Journal of Pharmaceutical Sciences
School of Life Sciences (SOLS), Manipal				
94	Dr K Satyamoorthy	Editorial Member	Board	i. “Cancer Biology and Therapy”, “Public Health and Genomics” and The Scientific World Journal” ii. International Journal of Human Genetics
95	Dr PM Gopinath	Editorial Member	Board	International Journal of Human Genetics
96	Dr Padmalatha Rai	Reviewer		Medicinal Chemistry Research Journal
97	Dr Manjunath B Joshi	Editorial Board Reviewer		i. Scientific World Journal (Cell Biology) ii.FASEB Journal, FEBS Letters, Cancer Chemotherapy and Pharmacology, International Journal of Biomedicine Science, Nutrition, Metabolism and Cardiovascular Diseases
98	Dr Sanjiban Chakrabarty	Editorial Manager		Public Health Genomics Journal, Karger AG
99	Dr. Shama Prasada K	Editorial Manager		Public Health Genomics Journal
100	Dr. A Muthusamy	Reviewer (International & National):		Photochemistry & Photobiology – B, Australian Journal of Crop Science, Biologia (Springer), Journal of Plant Biochemistry & Biotechnology,PNAS-India. Sec.B: Biol. Sci. Journal of Tropical Agriculture, Indian Journal of Agricultural Sciences, Journal of Swamy Botanical Club and Plant Omics Journal, J. Forestry Research and Molecular Biotechnology (Springer), Scientia Horticulturae and Comptes rendus Biologies

Manipal College of Nursing (MCON), Manipal			
101	Dr. Anice George	Member of peer review Editorial Advisory board Peer reviewer Executive editor Peer reviewer Referee for review Editorial expert	i. Nursing Journal of India (2011 onwards) ii. Journal of Continuing Nursing Education, published at College of Nursing, CMC Vellore iii. Nitte Nursing Journal, published from Nitte College of Nursing Mangalore. iv. Manipal Journal of Nursing and Health Sciences, Manipal University v. Journal of Nursing Sciences of Rajiv Gandhi University of Health Sciences vi. articles for Muller Journal of Medical Sciences and Research vii. Indian Journal of Nursing Studies
102	Dr. Judith Noronha	Editorial Board member Editorial Board member Reviewer Reviewer Reviewer Reviewer	i. International Journal of Nursing Education. ii. Manipal Journal of Nursing and Health Sciences, Manipal University iii.KLE University Health Science Journal v. Indian Journal of Health Sciences vi. Journal of Obstetrics and Gynaecology, published by Informa Health care vii. Annals of Medical and Health Sciences Research
103	Dr. Baby S Nayak	Editorial Board Editorial Board Editor-in- chief	i. i-manager's Journal on Nursing on continuous term from February 2011 to December 2014 ii. STM Journals'(Journal of Nursing Science & Practice) iii. Manipal Journal of Nursing and Health Sciences, Manipal University
104	Ms. Elsa Sanatombi Devi:	Associate Editor editorial board member	Manipal Journal of Nursing and Health Sciences, Manipal University Society for wound Care and Research, Manipal India.
105	Dr. Mamatha S Pai	Editorial Board Member	Manipal Journal of Nursing and Health Sciences, Manipal University.
106	Dr. Linu Sara George	Editorial Board Member Editorial Advisory Board Editorial Advisory Board	i. Manipal Journal of Nursing and Health Sciences, Manipal University. ii.International Journal of Nursing Education iii.Nurse Researcher - International Journal of Research methodology in Nursing and Health care
107	Dr. Shashidhara Y.N	Editorial Board Member	Manipal Journal of Nursing and Health Sciences, Manipal University.
108	Dr. Tessy Treesa Jose	Editorial Board Member Editorial member	i. Manipal Journal of Nursing and Health Sciences, Manipal University. ii.International Journal of Psychiatric Nursing
109	Dr. Blessy P Valsaraj	Associate Editor	Manipal Journal of Nursing and Health Sciences, Manipal University
110	Dr. Sonia R.B D'Souza	Associate Editor	Manipal Journal of Nursing and Health Sciences, Manipal University
111	Dr. Jyothi Chakrabarthy	Editorial Board Member	Manipal Journal of Nursing and Health Sciences, Manipal University.

112	Mrs. Daisy Josephine Lobo	Editorial Board Reviewer	International Journal of Nursing Education STM Journal
113	Mrs. Latha T Bhat	Editorial Board member Advisory member	Indian Journal of nursing Care Society for wound care
114	Mrs. Sulochana B	Reviewer	Asia Pacific Journal of Oncology Nursing
Melaka Manipal Medical College (MMMC), Manipal			
115	Dr. SatheeshaNayak B	Senior Editor Member of Scientific Advisory board Member of Scientific Advisory board Member of Editorial board	1. Journal of Clinical and Diagnostic Research 2. OA Publishers, London 3. International Journal of Anatomical Variations 4. Journal of Case Reports and Clinical Research Studies
116	Dr. ShyamalaHande	International editorial advisory board	Journal for Educational Technology in Health Sciences
117	Dr. Swamy Ravindra S	Member of advisory board Section editor	1. journal of OA case report 2. Journal of Case Reports and Clinical Research Studies
118	Mr. Naveen Kumar	Editorial board member Advisory board member Editorial Board member/Reviewer	1. Scholars Journal of Medical case reports, SAS Publishers. 2. OA Case report (OA publishing, London) Journal of Case Reports and Clinical Research Studies
119	Dr. Arul Amuthan	Associate Editor Editorial Board Member	1. International Journal of Pharmacology and Clinical Sciences 2. Journal of Ayurvedic and Herbal Medicine
120	Dr. Vasudha Devi	Editor-in-Chief	International Journal of Pharmacology and Clinical Sciences
121	Dr.Sareesh N.N	Member	Journal of New Science Biotechnology
122	Dr.KiranmaiS Rai	Editorial Board	Journal of Physiology and Pathophysiology
123	Dr. Barathi Subramaniam	Member	National Journal of Physiology and Pharmacology
124	Mr. Jay Prakash	Member	Association of Physiologists and Pharmacologists of India
125	Dr. Chandrika D Nayak	Member of the National Advisory board of Editorial Committee	Journal of Neurology and Neurosurgery
SCHOOL OF ALLIED HEALTH SCIENCES, MANIPAL			
126	Dr. Rajesh Kumar Sinha	Reviewer Reviewer Reviewer Reviewer	i. Journal of Systems Science and Systems Engineering, An Official Journal of Systems Engineering Society of China ii. Bulletin of the World Health Organization on eHealth Initiative, Geneva iv. The Internet Journal of Allied Health Sciences and Practice v. Telemedicine and eHealth
127	Dr. Rooplekha Jathanna	Reviewer	EMC Health Science Research Journal, British Journal.
128	Mr. Abraham Samuel Babu	Editorial board Peer reviewer	i. Indian Journal of Physiotherapy and Occupational Therapy ii. Clinical Rheumatology, Lung India, Disability and Rehabilitation, Circulation: Heart Failure, Mayo Clinic

			Proceedings, Biomarkers in Medicine
129	Dr. G Arun Maiya	Editor Editorial member Member	IAP journal “physiotherapy JOPT) journal of occupational therapy & physiotherapy India International society of physiotherapy journal editors (ISPJE).
130	Ms. Saamy Johnson	Member	Indian journal of Respiratory Care, an official journal of Indian Association of Respiratory Care
131	Mr. Ramesh Unnikrishnan	Member	Indian journal of Respiratory Care, an official journal of Indian Association of Respiratory Care
132	Ms. Tisha Ann Skariah	Treasurer	Indian journal of Respiratory Care, an official journal of Indian Association of Respiratory Care
133	Dr. B. Rajashekhar	Member of the Advisory Council Member of the Advisory Council	i.NIMH, Secunderabad ii.AYJNIHH, Mumbai iii.Academic Council, SRM Journal of Indian Speech and Hearing Association Editorial board
134	Dr. Venkataraja Aithal U	Reviewer Reviewer	i.Folia Phoniatica and Logopedica (Karger Publications) ii.Biomedical Signal Processing & Control (Elsevier)
135	Dr. Gopee Krishnan	Member of Editorial Board Editor	i.International Journal of Speech-Language Pathology and Audiology ii.Journal of Indian Speech and Hearing Association
136	Mr. Shovan Saha	Editorial board member Editorial board member	i.Indian Journal of Physiotherapy and Occupational Therapy (International Journal). ii.“Journal of Geriatric Care and Research (International Journal).
137	Dr. Sebestina Anita D’souza	Editorial board member	“The Indian Journal of Occupational Therapy
138	Mr. Chavan Shishidhar Rao	Editorial board member	The Indian Journal of Occupational Therapy
139	Mr. sanjiv Kumar	Reviewer	Journal of Society for wound care and research.
Department of Philosophy and Humanities (DPH), Manipal			
140	Prof Sundar Sarukkai, MCPH	Guest Editor	Special Section on the Moon, Leonardo Journal, MIT Press, 2008 – 2011
Welcomgroup Graduate School of Hotel Administration (WGSHA), Manipal			
141	Prof YGTharakan	Editorial Board Member	i. International Journal of Hospitality and Tourism Systems ISSNNo.0947-6250 ii.International Journal of Social Sciences (TIOSS) ISSN 2305-4557
School of Communications (SOC), Manipal			
142	Prof VaradeshHiregange	Editorial Board Member	Global Media Journal
143	Prof DhanwantiNayak	Editorial Board Member	Indian Journal of Medical Ethics
Department of Commerce			
144	Mr Sandeep Shenoy	Board of Advisors	AIESEC ,Manipal

School of Management			
145	Dr. V.K. Ranjith	Editorial Board member	(Indian) Annamalai International Journal of Business Studies and Research.
146	Dr. Yogesh Pai P	Reviewer	The three international Journals such as International Journal of Health Care Quality Assurance, Leadership in Health Services and Clinical Governance: an International Journal published by MCB Press (Emerald), UK
Department of Atomic & Molecular Physics			
147	Dr SanthoshChidangil	Reviewer	i. highly reputed international and national journals ii.national and international conferences
148	Dr Sajan D George	Editorial Board Member Editorial Board Member Editorial Board Member	i.Scientific Reports, Nature, USA ii.Material Science and Engineering Progress, Engineering Press, Austria Asian Journal of Physical Sciences, India
149	Dr Unnikrishnan V K	Reviewer	highly reputed international and national journals
150	Dr Abdul Ajees	Reviewer	highly reputed international and national journals
151	Dr. Rajeew Kumar Sinha	Reviewer	ACS Journals
Department of Statistics			
152	Dr. N Sreekumaran Nair	Editorial Board member Reviewer	i.scientific report, Nature group of publication ii.Indian journal of Medical Research
153	Dr. K Manjunatha Prasad	Member Member Research & Review Editor Reviewer Reviewer Reviewer	i.Electronics Journal of Linear Algebra(Special Editor) ii.International Journal of Fuzzy Mathematics Archives iii.Journal of Statistics, STM Journal iv.Journal of RRJS v. NDS vi.Linear & multi linear algebra vii.ELAS
154	Dr.Binu V S	Statistical advisor Reviewer Member of Scientific editors	i. International Journal of Physiotherapy & Rehabilitation ii. Indian Journal of Medical Research iii. the Journal of Medicines Use in Developing Countries, published by Discipline of Social and Administrative Pharmacy, School of Pharmaceutical Sciences, University Sains Malaysia, Malaysia

155	Dr.VasudevaGud dattu	Reviewer	Indian Journal of Medical Research
156	Ms.Ashma Dorothy Monteiro	Reviewer	Indian Journal of Medical Research
Manipal Intitute of Technology, Manipal			
157	Dr. Ramesh R. Galigekere, Biomedical Engineering	Editor Reviewer	i. the Journal of the Biomedical Engineering Society of India (JBMESI) ii.International Journals: JDI (Springer), Optical Engineering (SPIE), Journal of Electronic Imaging (SPIE), Circuits, Systems, and Signal Processing (CSSP, Springer), & IEEE Trans. Medical imaging.
158	Dr. Niranjana S, Biomedical Engineering	Reviewer	i.International Journal of Image Mining (IJIM), Inderscience ii.Int. J. of Computer Applications in Technology,Inderscience Publishers
159	Dr. ShanmugaPriya S, Chemical Engineering	Editorial Boards	Journal of Brewing and Distilling – Editorial board member
160	Dr BSVSR Krishna, Chemical Engineering	Editorial Board Member	International Journal of Advances in Engineering and Applied Science
161	Dr K Balakrishna, Civil Eng.	Reviewer	i.Science of the Total Environment (Elsevier publications) ii.Environmental Monitoring and Assessment (Springer) iii.Journal of Earth System Science (Springer) iv.Applied Geochemistry (Elsevier Publications)
162	Dr Kiran Kamath, Civil Engineering	Reviewer	i.International journals (Ocean Engineering journals – 2012) ii.International journals (Coastal Engineering journals – 2013) iii. International Conference On Water Resources, Coastal And Ocean Engineering (ICWRCOE 2015)- for publication in AQUATIC PROCEDIA (ELSEVIER)
163	Dr Kiran Kumar Shetty, Civil Engineering	Reviewer	i.earthquakes and Structures(in 2012) ii.International Journal of Earth

			Sciences and Engineering (in 2013) for international journal Structural Engineering and Mechanics(in 2013)
164	DrSomashekar Bhat, Electronics & Communication eng.	Member of Advisory Board	Dept. of E&C, SIT Tumkur
165	Dr H S Mruthyunjaya, Electronics & Communication eng.	Associate Editor Member of Editorial board	i.International Journal of Engineering and Emerging Technologies (IJEET) ii.IEEE Communication Letters
166	DrK.Prabhakar Nayak, Electronics & Communication eng.	Associate Editor	International Journal of Engineering and Emerging Technologies (IJEET).
167	DrD.V.Kamath, Electronics & Communication eng.	Reviewer Advisory Board Member Member	Advances in Signal Processing Journal Associate Editor of Transactions on Engineering and Sciences (TES) International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering (IJIREEICE) International Journal of Advanced Research in Computer and Communication Engineering (IJARCCE) Journal of Global Research in Electronics and Communication (JGREC) PG and Research Advisory Committee of S.D.M. Institute of Technology, Ujire
168	DrG SubramanyaNayak, Electronics & Communication eng.	Associate Editor Editorial board member	International Journal of Engineering and Emerging Technologies (IJEET) International Journal of Computer Applications and Technology (IJCAT)
169	Dr Ciji Pearl Kurian, Electrical & Electronics Eng.	International Editorial Advisory Board Member Reviewer	Lighting Research and Technology Journal, UK International Advisory Board of Lighting research & Technology Journal, UK. IEEE Sensor Journal and LRT
170	Prof. (Dr.) V I George (I & CE)	Review Editor	JAER (Journal of Advanced Engineering Research)
171	Dr Surekha Kamath (I & CE)	Reviewer	International Journal on Medical Informatics
172	Dr S Meenatchisundaram, (I & CE)	Reviewer & Editorial member	Journal of Mechatronics and Automation (JoMA)]

173	Dr. Santhosh KV (I & CE)	Reviewer Editorial Member	i. Dyna Publisher, STM Journal, IEEE journal ii. Journal of Control and Instrumentation
174	Dr. Raghuvir Pai B, Mechanical and Manufacturing Engineering	Reviewer	Technical Journals i. Tribology International ii. Ecological Engineering iii. Advances in Tribology, Hindawi Publications
175	Major Dr. Anjaiah Devineni, Mechanical and Manufacturing Engineering	Reviewer and member of editorial board	International Journal of Engineering and Technology (IJET)
176	Dr. K Jagannath, Mechanical and Manufacturing Engineering	Reviewer Member of Editorial Board	Technocal Journal 1. Manufacturing Science and Technology (Horizon Research Publishing Corporation). 2. Journal of Reinforced Plastics and Composites. 3. Journal of Refrigeration, Air-conditioning, Heating & Ventilation.
177	Dr. K Vasudeva Karanth, Mechanical and Manufacturing Engineering	Referee Editorial board Member	i. International Journal of Engineering Application of Computational Fluid Mechanics (IJEACFM). ii. International Journal of Engineering & Technology (IJET), Singapore
178	Dr. S S Sharma, Mechanical and Manufacturing Engineering	Reviewer	Technical Journals i. Manufacturing Science and Technology (Horizon Research Publishing Corporation). ii. International Journal of Renewable Energy
179	Dr. U Achutha Kini, Mechanical and Manufacturing Engineering	Reviewer	Technical Journals Manufacturing Science and Technology (Horizon Research Publishing Corporation)
180	Dr. Shiva Kumar, Mechanical and Manufacturing Engineering	Reviewer	Technical Journal Jordan Journal of Mechanical & Industrial Engineering
181	Dr. Arunachala U C, Mechanical and Manufacturing Engineering	Reviewer	Technical Journal i. International Journal of Energy Systems (Inder Science). ii. Journal of Heat & Mass Transfer (Springer)

182	Dr. Hareesha K S., Computer App.	Reviewer	Elsevier Journal
183	Dr. Poornima K, Computer App.	Reviewer	International Economics Development and Research
School of Information Sciences, Manipal			
184	Dr.HarishchandraHe bbar	Member	Distance Education, Sikkim Manipal University

Faculty serving as members of steering committees of international conferences recognized by reputed organizations/societies

Following faculty members are serving / served on various steering committees of international conferences. Details are as follows:

#	Name of the Faculty	Designation	Name of the Conference
1	Dr D Sreedhar, MCOPS	International Committee Chair Track Chair	<p>1.International Congress on Banking, Economics, Finance and Business (BEFB) 2015, August 5-8, Fukuoka, Japan.</p> <p>2.ISBM 2014, April 2-4, 2014, Nagoya, Japan</p> <p>International Symposium on Business Management, April 3-5, 2013, Kitakyushu, Japan</p> <p>3.Academy of World Finance, Business, Management and Information Technology conferences, 22-25 July, 2013, Cape Town.</p> <p>4.Academy of World Business, Marketing & Management Development 2012 Conference, July 16-19, 2012, Budapest, Hungary</p>
2	Dr. Shreekumarana Nair, Dept. of Statistics	Member, Steering committee,	Cochrane collaboration, South Asia Network

3	Dr. Ramesh R. Galigekere, Biomedical Engineering	Chair	Chair of ICBME 2011, on the Committee of IEEE Special Topic Conference on POCHT, Bangalore, India, 16-18 January, 2013
4	Dr A Krishnamoorthy, Civil Engineering	Member	Scientific & technical committee member of 12 th International conference (IACMAG)
5	Dr Nararayana Sabahit, Civil Engineering	Member	Scientific & Technical Committee member of 12 th International conference (IACMAG)
6	Dr. Hareesha K S., Computer Application	Evaluations Expert Technical Committee Member Technical Committee Member	1. WCSE-2012 2. ICFCC-2012 3. 2 nd International Symposium on Pattern Recognition and Image Processing (PRIP - 2013) 4. ICCEA-2013 5. ICCSS-2013
7	Dr. Karunakar A K, Computer Application	Program Committee Member	International Conference on Computer Architecture, Networking and Applications, at NMAMIT, Nitte, Karnataka, 7th January 2011
8	Dr C.S. Adiga, Electrical & Electronics Eng.	Advisory Committee Member	International Conference on Computer Communication and Informatics (ICCCI2012) held on 10 - 12, Jan 2012
9	Dr. S S Sharma, Mechanical and Manufacturing Engineering	Technical committee member	International conference on Advances in Mechanical Engineering, SJCE, Palai, Kerala.
10	Dr. Arun Chawla, Dept. of Urology, KMC Manipal	Convenor	Subspeciality USI Instructional course on Reconstructive Urology for USICON 2014 at New Delhi

Dubai Campus

Dubai campus Faculty serving

- * on the editorial boards of national and international journals
- * as members of steering committees of international conferences recognized by reputed organizations / societies

Dept. of Biotechnology:

National committees	International committees	Editorial Boards
Dr Firdos Alam Khan has been nominated as member scientific advisory board of Biotechnology and Pharmaceutical Middle East, UAE	Dr Firdos Alam Khan has been nominated as member international advisory board of 2 nd Biotechnology World Congress East, UAE	Dr Arif Hussain is a member of Editorial Review Board and Associate Editor "Current Research Journal of Biological Sciences. Technical Editor, American Journal of Biochemistry and Molecular Biology, Biotechnology, Journal of Pharmacology and Toxicology, International Journal of Cancer Research, Journal of Medical Sciences

School of Engineering & IT:

- Dr. S. V. Kota Reddy is a reviewer and member of editorial board of International Journal of Vocational and Technical Education (IJVTE).
- Mr. Chithirai Pon Selvan is the editor for CLAER International Journal of Science & Technology.
- Dr. Anjaiah Devineni is a reviewer and member of editorial board of International Journal of Engineering and Technology (IJET) and reviewer of Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture.
- Dr. Ramaprasad Poojary is a reviewer of editorial board of International Journal of Network Security & its Applications (IJNSA).
- Dr. Ramaprasad Poojary is a reviewer of editorial board of International Journal of Computer Networks & Communications (IJCNC).
- Dr. Vishwesh Akre is serving in IEEE Events Steering Committee
- Mr. M. I. Jawid Nazir is serving in IEEE UAE section

School of Design & Architecture:

- Ashok Iyer, Chairperson invited as an Expert and Reviewer as a part of the International Program Committee for 4th International Conference on Research into Design (ICoRD'13), Global Product Development, 7-9 January 2013, IIT

School of Media & Communication:

Serving Body	Faculty name(s)
Dubai Press Club	Dr. Rashid NarainShukul Mr. Joseph John
Press Club of India	Dr. Rashid NarainShukul

School of Business:

- Aftab Haider Rizvi, Technical Program Committee Members and Reviewers, 2011 IEEE GCC Conference & Exhibition, "For Sustainable Ubiquitous Technology", 19-22 February 2011, Dubai, United Arab Emirates.

3.4.4 Provide details of

- * **research awards received by the faculty and students**
- * **national and international recognition received by the faculty from reputed professional bodies and agencies**

224 of our faculty and 215 of our students have received research awards / recognitions from various reputed professional bodies and agencies as per the following table:

#	Institutions	Research Awards-Faculty	Research Awards-Students
1	Kasturba Medical College, Manipal	56	56
2	School of Allied Health Sciences, KMC Manipal	14	2
3	School of Life Sciences, KMC Manipal	12	6
4	Dept. of Statistics, KMC Manipal	2	1
5	Dept. of Public Health,, KMC Manipal	2	Nil
6	Dept. of Virology, KMC Manipal	Nil	1
7	Manipal College of Nursing, Manipal	17	Nil
8	Manipal College of Pharmaceutical Science, Manipal	51	Nil
9	Melaka Manipal Medical College, Manipal	21	Nil
10	Kasturba Medical College, Mangalore	6	75
11	Manipal College of Dental Science, Mangalore	7	41
12	Manipal Institute of Technology, Manipal	26	18
13	Faculty of Architecture, MIT Manipal	Nil	3

14	School of Management, MIT Manipal	1	Nil
15	Department of Commerce, SOM Manipal	1	4
16	Department of Geopolitics & International Relations, SOC Manipal	2	2
17	School of Information Sciences, MIT Manipal	Nil	5
18	Welcomgroup Graduate School of Hotel Administration, Manipal	4	NIL
19	School of Regenerative Medicine, Bangalore	2	1
	Total	224	215

Dubai Campus

Research awards received by the faculty and students and national and international recognition received by the faculty from reputed professional bodies and agencies

Year 2014 – School of Business

• Faculty–

1. Dr. Nilanjan Chattopadhyay chaired a session on Innovation in Service Delivery at the 2014 INFORMS Annual Conference, held at San Francisco, USA.
2. Ms. Taramol KG was honored by Excellent Paper Award for the research paper presented at the International Conference on Technology, Science, Social Sciences and Humanities held in Dubai.
3. Dr. Sameena Khan mentored 9 teams to write research papers. All nine papers were accepted for publication by CGI.
4. Dr. Sangeetha Vinod as a Foreign examiner reviewed 3 PhD dissertations during 2013 and 2014 for Bharathiar University, and Bharadhidasan University, Tamilnadu, India.
5. Dr. B. Sudhakar as a Foreign examiner reviewed 4 PhD dissertations during 2013 and 2014 for Bharathiar University, and Annamalai University, Tamil Nadu, India

• Students

1. BBA III year students scored the top position in the business event ‘ORBIS’ 2014 at the SP Jain School of Global Management in DIAC, Dubai.
2. BBA I year students won the first position at PHOENIX, the Business Event at ‘Vaudeville’ 2014 at the IMT Dubai Campus.
3. 3 Students from BBA 2nd year won the second prize of AED 30,000/= each in Business4Better competition conducted by Western Union and Al Ansari Exchange.
4. BBA third year students participated in The 2014 CIMA GLOPBAL BUSINESS CHALLENGE in partnership with BARCLAYS.

5. BBA 1st year students took part in TAPMI Quiz on the Beach Dubai round held in Dubai Chamber of Commerce.
6. Fiona Mathias, Syed Ali Naqvi and Abhilash Leeladharan students of BBA III year won a commendable second prize at the CIMA case study competition in May 2013.

Year 2014 - School of Design & Architecture

1. Vidya Rao received 2nd Prize for her Paper at Manipal Research Colloquium – 2014”
2. Prof. Ashok Iyer Review Member for IcoRD International Conference on Research into Design 2013 & 15

Year 2014 - School of Engineering & IT

- Certificate of Appreciation presented to Mr. Ganesan. S for serving as a judge in the 9th I.E.E.E U.A.E day held at Ajman University of Science and Technology on 10th May 2014.
- Certificate of Appreciation presented to Mr. M I Jawid Nazir for serving as a Steering Committee member of IEEE UAE Student Day 2014.
- Mr. Jawid Nazir, CISCO certified Instructor, Manipal CISCO Networking Academy, was awarded the Instructor Excellence Award among the 40 CISCO Academies in the region.
- Certificate of Appreciation presented to Mr. Zaheeruddin Ahmed for serving as a Session Chair Manipal International Conference on Technology Management 2015.
- Dr. Roma Raina was awarded Doctoral degree for her research work titled “Intelligent Method for Optimal Operation of Radial Distribution Network” in Electrical; Engineering from Jamia Millia Islamia University, New Delhi., in March 2014.
- M. Chithirai Pon Selvan, received the best paper award for his research paper titled Selection of process parameters in Abrasive water jet cutting of titanium at the Proceedings of 2nd International Conference on Trends in Engineering and Technology, London, UK.
- Mr M I Jawid Nazir, Manipal University Dubai-EMC Academic Alliance Instructor received EMC Academic Associate Certification during June 2015.
- Certificate of Appreciation presented to Mr. M I Jawid Nazir for being a Panel Member in the 5th International Conference on Development Policy organized by Avinashilingam University, Coimbatore and The Institute of Finance Management , Tanzania during Aug 2014.
- Ms. Sophia, was awarded Doctoral degree for her research work on “ Mining Closed Sequential Patterns Using Condensed WAP Tree” from Andhra University, Visakhapatnam, Andhra Pradesh, India in September 2013.
- Dr. Chithirai Pon Selvan has got best paper award for the paper titled” Influence of

Operating Parameters in Abrasive Waterjet Cutting of Aluminium” Proceedings of International Conference on Emerging Trends in Engineering and Technology, Marthandam, Tamil Nadu.

Year 2013

- Dr Faheem S.M, Associate professor-School of Life Sciences, has been awarded Academic Excellence award (Runner-up) for the year 2013-2014 by Manipal University, Dubai Campus.
- Dr Firdos Alam Khan has been selected as a member of the scientific committee for a Sheikh Hamadan Award for Medical Sciences, Dubai
- Dr Firdos Alam Khan, Chairperson, School of Life Sciences has been Appointed as a member of the Advisory Board of GBIOFIN Biotechnology Services, India.
- Dr Firdos Alam Khan, Chairperson, School of Life Sciences has been Appointed as a member of the Advisory Board of Pharmaceutical & Biotechnology Middle East
- Dr. Firdos Alam Khan has been appointed as member of International Advisory Board of 2nd World Biotechnology Congress, Dubai, UAE where four members are Noble Laureates.
- Dr. S. V. Kota Reddy is a member of Advisory Board of Arab Unity School, Dubai UAE

Year 2012

- Dr. Vishwesh Akre was Awarded - Ph.D, University of Salford, UK.
- Mr. Chithirai Pon Selvan was awarded Doctoral degree for his research work on “Some studies in abrasive water jet cutting of materials” by Karpagam University, Coimbatore in Feb 2013.
- Mr. Vijay Kumar was awarded the Doctoral degree for his research work on ”Soil quality assessment in selected areas of Nagapattanam district” by Bharathidasan University Thiruchirapalli in August 2012.
- Mr. Ramaprasad Poojary was awarded the Doctoral degree for his research work on “Multire solution based Dental Registration Tool for Assessing bone formation in Periapical dental radiographs” by VTU, Belgaum in April 2012.
- Dr. S. V. Kota Reddy is a member of students’ activities committee of ASHRAE Falcon Chapter, UAE.

Year 2011

- Mr. Kamble Avinash Jayprakash was awarded the Doctoral degree for his research work on “The Geometry of Codes and Ciphers” from the Karnatak University, Dharwad in September 2011.
- Dr. S. V. Kota Reddy’s paper entitled “Hybrid Air Conditioning System with Solution Heat Exchanger” won the “Best Paper Award” for RS. 5000 and a

Certificate of Appreciation in a National Conference on “Nascent Technologies in Engineering Fields” organized by Fr. C. Rodrigues Institute of Technology, Vashi, Navi, Mumbai on 25th and 26th of February 2010.

- M I Jawid Nazir, Aftab. H Rizvi, R Pujeri (Sept.2011), “Does Multimedia Based Instructional and Evaluation Process Improve the Performance of Undergraduate University Students in Skill Based Courses: A Case Study”, 10th International Postgraduate Research Conference (IPGRC 2011) University of Salford, UK. ISBN: 978-1-907842-17-7, pp 451-462 - Received best paper award.
- Best research paper award - Shahzia Khan and Dr. Aftab Haider Rizvi (January 2011), Presented a paper titled “Factors Influencing Consumers’ Intention to Shop Online” at the National Level Conference conducted by Skyline University, Sharjah, United Arab Emirates.

Year 2010

- Best Poster Award at the Under Graduate Research Conference, Zayed University, Dubai, UAE. Application : “Shopper’s Avenue: Revolutionising E- Commerce”. Team : Joshua D’Souza, Rahul Vagadiya and Yusuf Bin Ansar

Melaka Campus

Oral Presentation

1. Jagdeep Singh. Does Participation In Sports Improve Scholastic Performance? (**Bronze Medal** in Oral Presentation in Malaysian International Medical Student Conference, 2006)
2. Arvin Raj Goonasegaran. Comparison of the effectiveness of body mass index and body fat percentage in defining body composition. (**Gold Medal** in Oral Presentation in Malaysian International Medical Student Conference, Melaka Manipal Medical College, 2011)
3. Radzi Hamzah. Diabetic Foot Care knowledge and counselling among diabetic patients in Hospital Melaka. (**Gold Medal** in Oral Presentation in Melaka Research Day, 2013)
4. Chong Kar Hon. Does circadian preference determine alcohol consumption amongst undergraduate and pre-university students? (**Silver Medal** in Oral Presentation in Melaka Research Day, 2014)

Poster Presentation

1. Arifin MBA, Vanessa L, Lee PS, Faten-Nabilah O, Husna MR. Randomized Controlled Trial: Caffeine and Short-term Memory. (**Gold Medal** in Poster Presentation in Malaysian International Medical Student Conference, AIMST University, 2012)
2. Radzi Hamzah, Tan Choo Xiang, Sugidha Muragashan, Lee Wen Xin, Law Siaw Man. Empathy amongst students in Melaka-Manipal Medical College: A cross-

- sectional study. (**Gold Medal** in Poster Presentation in Melaka Research Day, 2012)
3. Chong Jia Xi, Chew Yuhhui, Chiang Wei Bian, Nur Amalina Ismail, Ghayathiri Pariteppan. Factors affecting short term memory: A cross-sectional study. (**Silver Medal** in in Poster Presentation in Melaka Research Day, 2012)
 4. Em Yun Lih, Kugan a/l Vijian, Dahziela binti Hj. Yunus, Hamizah binti Idrus, Hong Chau Zhao. Association between exercise and academic performance: A cross-sectional study. (**Bronze Medal** in in Poster Presentation in Melaka Research Day, 2012)
 5. Tharuman G, Ghazi B, Faiz N, Hui JY, Vairavan M. Association between personality traits and Intelligence amongst Medical Students of Melaka Manipal Medical College: A cross-sectional study (**Gold Medal** in Poster Presentation in International Medical Student Conference, MONASH University, 2013)
 6. Soo Wai Tseung. Organ Donation and the willingness among medical students in Malaysia. (**Gold Medal** in Poster Presentation in Melaka Research Day, 2013)
 7. Nooraini bt Mahat. The effect of dysmenorrhoea on daily activities among undergraduate students. (**Bronze Medal** in Poster Presentation in Melaka Research Day, 2013)
 8. Chai Torng Shin. Cross sectional study on factors affecting learning style preferences among medical undergraduates (**Gold Medal** in Poster Presentation in Melaka Research Day, 2014)
 9. Chan Ya Tze. Prevalence of depressive symptoms in undergraduate and pre-university students in Melaka: An analytical cross sectional study (**Silver Medal** in Poster Presentation in Melaka Research Day, 2014)
 10. Wong Yew Ling. Efficacy of SCORPIO methodology (Structured, clinical, objective, referenced and problem-oriented, integrated, organized) in teaching short cases (**Bronze Medal** in Poster Presentation in Melaka Research Day, 2014)

3.4.5 Indicate the average number of successful MPhil and PhD scholars guided per faculty during the last four years. Does the University participate in *Shodhganga* by depositing the PhD theses with INFLIBNET for electronic dissemination through open access?

Kindly refer **Annexure 3.5** showing the number of PhD awarded guide-wise. For information on M. Phil, kindly refer the evaluative report of constituent institutions like KMC Manipal, MCON Manipal, and SOAHS Manipal.

Yes. The soft copy of PhD thesis is uploaded by Health Science Library in INFLIBNET repertoire after the award of degree.

3.4.6 What is the official policy of the University to check malpractices and plagiarism in research? Mention the number of plagiarism cases reported and action taken.

The official policy on plagiarism in research is being formulated by the concerned authorities of the University and it is under process. Four cases in which, PhD thesis have been revised by the candidates as suggested by the examiners and subsequently accepted by the same examiners. University has recently purchased 100 licenses of TURNITIN software to check plagiarism

Dubai campus

Plagiarism in any form, however, is misconduct. This included copying of entire programs/assignments, or portions of programs/assignments written by someone else without citing appropriate references. Suspected academic misconduct, including plagiarism or violations of computer usage policies (stated below), will not be ignored but will be dealt with according to the procedures specified by the college.

3.4.7 Does the University promote interdisciplinary research? If yes, how many interdepartmental/interdisciplinary research projects have been undertaken and mention the number of departments involved in such endeavors?

Yes. **Manipal Multidisciplinary Developmental Research Centre (MMDRC)** focuses on Research /Development emphasizing interdisciplinary approach. The central theme of research under this Centre would be Ecology and Sustainable Development, a philosophy that University has committed itself to for a long time. Scholars from different streams like medicine, engineering, management, geopolitics, media studies and cultural studies work together on research projects relating to sustainable development. University, which has many international linkages, invites experts from different parts of the world and involves their expertise in this area to find out solutions to ecological problems in this coastal region of India and elsewhere in the world.

The research projects undertaken by the Centre implement the outcomes of research as actions with the support of local governmental agencies under University's Public Private Partnership.

Objectives

- To encourage multidisciplinary research in the area of ecology and sustainable development
- To bring together scholars from different and diverse disciplines working on a single project
- To Improve exchange of information and knowledge between different disciplines
- To encourage international participation in research on developmental issues in coastal Karnataka

- To find out solutions to ecological problems and implement actions for sustainable development
- To develop international collaborative research in the field of ecology and sustainable development

The activities of MMDCR are coordinated by the BoP Chair, University.

MMDRC Project proposals

1. Assessment of Photosynthetic Efficiency in Orchids to Manage Greenhouse Effects
2. Fundamental study of the use of water and environmentally sustainable water-based lubricants in multiple axial groove journal bearings
3. Development of bio-degradable natural fibre composites from locally available materials
4. A Study on factors influencing incidence of cancers in Udupi district through population based cancer Registry
5. Spatial and Temporal Variability of the Water Chemistry and Microflora of Swarna River And Its Estuary

3.4.8 Has the University instituted any research awards? If yes, list the awards.

Yes. Following are the awards

- Dr T M A Pai Gold Medal for outstanding Research

Dr. TMA Pai Centennial Gold Medal for Outstanding Research is presented for the best research work done by any of the faculty members during the year. A panel constituted by the Vice Chancellor will select the award winner. The recipient of the award will be presented with a gold medal and a citation and also a cash award of Rs. 5,000/-. The awards / prizes other than cash awards for articles and research papers will be presented in conjunction with the university's convocation ceremony or on the college graduation day or at any other function of the institution of the University.

Following are the winners of Gold medal for outstanding research in the year 2013 & 2014

#	Institute	2013	2014
1	KMC Manipal	Ms. Shubhashree U, Department of Clinical Embryology, KMC Manipal	Mr. Vikram Jeet Singh, Department of Clinical Embryology, KMC Manipal
2	KMC Mangalore	Dr. Rajeshwari Associate Professor Department of Pharmacology	Dr. Ashwin R. Rai Assistant Professor Department of Anatomy
3	MMMC Manipal	Dr. Sareesh N.N., Assistant Professor, Department of Physiology	Dr. P. Vasanthakumar, Assistant Professor, Department of Anatomy

4	SOLS Manipal	Dr. Krishna Kishore Mahato, Associate Professor	Dr. Shama Prasada K, Assistant Professor
5	MCOPS Manipal	Not awarded	Dr. Srinivas Mutalik, Professor of Pharmaceutics,
6	MCODS Mangalore	Not awarded	Dr Swathi, Associate Professor, Department of Periodontology.
7	MCON Manipal	Not awarded	Dr. Judith A Noronha, Associate Dean, MCON, Manipal



University will provide endowment chairs to attract and nurture the best talent in research and education. University will annually provide Rs 2 crores to establish 20 Endowment Chairs to be named after the Founder Dr T M A Pai. The Dr T M A Pai Endowment Chairs will be in different disciplines in the university and each chair will be valued at Rs 10 lakhs per annum.

#	Chair	Area
1	Dr C Ganesh Pai	Inflammatory Bowel Diseases
2	Dr Manohara M Pai	Data Analytics and Cloud Computing
3	Dr Pragna Rao	Laboratory Quality Management
4	Dr Madhukar Pai	Translational Epidemiology and Implementation Research
5	Dr Prabha Adhikari	Geriatrics and Gerontology
6	Dr M K Unnikrishnan	Cognition
7	Dr Ramesh R Bhonde	Stem Cell Solution for Diabetes
8	Dr Ashok Rao	Clean Energy
9	Dr Chiranjay Mukhopadhyay	Emerging Tropical Bacterial Diseases
10	Dr Santhosh C	Biophotonics
11	Dr Vinay Kumar	Medical Education
12	Dr H G Joshi	Social Entrepreneurship
13	Dr Janaki Srinivasa Murthy (Vaidehi)	Indian Literature
14	Dr Padmalatha Rai	Pharmacogenomics

15	Dr Balakrishna K	Earth Sciences
16	Mr Pradeep Kini	Sustainable Built Environment
17	Dr Venkatesan	Medical Devices
18	Prof. M S Narasimhan	Mathematics

Dr TMA Pai Endowment Chair

Principle

The purpose of **Dr TMA Pai Endowment Chair** is to attract, recognize and retain scholars who are acknowledged by their peers as being eminent in their fields. It is a prestigious academic appointment in University to promote excellence in teaching and research and to extend the frontiers of knowledge by hosting men and women who have won national and global acclaim for their novel contributions.

Objective

- To support excellence at University
- To increase visibility
- To encourage world-renowned people to spend some time at University
- To retain quality faculty at University

Qualifications to be a Dr TMA Pai Chair

- Will be a faculty of University or from outside the university.
- Must fulfil the basic educational qualification of the Institute/Centre.
- Should have an excellent grants/ publications/ innovation profile.
- Should have a proven track record of obtaining grants from outside sources.
- Should be able to take the academic activities to a higher level of excellence.
- Could be a distinguished scientist of the Nobel class from abroad.
- The primary requirement is that the Chair must be among the topmost in his/her field.
- The Chair will have enough academic freedom to pursue his/her research work, teaching and other innovative programs.

Process for choosing

- A Chair may be nominated by institutions/departments/Centres from within University.
- If self-nominated, the applicant must submit a statement of purpose indicating a clear vision for building a new academic/research initiative in Manipal.
- Confidential evaluations of the work of the nominee/applicant will be sought from two or more external experts who are well known in the field.
- The application along with the evaluations of the work of the candidate by experts will be placed before a selection committee of University headed by the Vice Chancellor.

- The tenure of a Chair is normally for two years and can be renewed if so recommended by the review committee.
- The selection committee will also fix the quantum of financial incentive (up to Rs. 10 lakhs per annum) to be paid to the Chair.

Expectations from the Dr TMA Pai Chair

- The Chair is expected to increase the overall visibility, nationally and internationally, of their group and of University.
- The Chair would attract partnerships with the best institutions in India and abroad.
- The Chair is expected to pursue high quality research and produce high quality work in the respective area of expertise.
- The Chair will be expected to develop and sustain a mentoring system for junior faculty, by providing advice and feedback on research and publication and help them to network.
- The Chair is also expected to help collaborate between different groups within the university.

Evaluation of Dr TMA Pai Chair

- A Chair will submit half yearly reports.
- Every two years the Chair will be evaluated by a review committee at University chaired by the Vice Chancellor.
- To the extent possible, the review committee will have as many members from the original selection committee that selected the Chair.
- The review committee will decide the continuation or discontinuation of the Chair.
- The performance of the Chair will be presented to the Board of Management, University.

Best Research Poster award: Annually the University awards the “Best poster presentation” by its PhD scholars

3.4.9 What are the incentives given to the faculty for receiving state, national and international recognition for research contributions?

University encourages research and recognizes the achievements of the faculty at various levels, state/national/international. Following incentives are given for faculty Scientific and Research publications:

Points are awarded for

- a) Published papers.
- b) Contribution in the form of books/chapters in books
- c) Patents granted

These points can be encased /accumulated and used for claiming financial support to attend International Conferences based on the norms laid down in the Research Incentive Policy for Faculty Scientific and Research Publications.

Detailed Research Incentive Policy is provided in **Annexure 2.7**

3.5 Consultancy

3.5.1 What is the official policy of the institution for structured consultancy? List a few important consultancies undertaken by the University during the last four years.

Individual constituent institutions based on their area of expertise offer different consultancy services ranging from academic support, research and testing services. University supports these institutions by providing necessary support in the form of infrastructure facilities. For List of Consultancies undertaken please refer item 3.5.5 and for more details refer the evaluative reports of constituent institutions.

University Policy on Clinical Trials and Consultancies

- (i) For clinical trials and consultancies, the Principal Investigator / Consultant / Project Coordinator/ Co-investigator will be paid 60% of the incentive payable to him/her and the balance 40% shall be retained with the parent institution.
- (ii) Out of the 40% retained by the institution, 50% shall be credited to the department's account maintained by the Head of the Institution and the remaining 50% shall be added to the institutional corpus.
- (iii) The maximum limit for any faculty shall be Rs. 15 lakh per year.
- (iv) In case of clinical trials sponsored by Centre of Clinical Excellence attached to the Department of Pharmacology, KMC, Manipal, the institutional share will be divided between Department of Pharmacology and the parent institution on 15:85 basis.

Off campus

Dubai

Consultancy cannot be officially practiced by an individual faculty member as he/she is a full-time employee of Dubai campus. The faculty members need to acquire legal license in order to practice consultancy, which cannot be done so, as they are already employed. Therefore, the law of the land does not encourage consultancy as an option for faculty members.

Plans for the future:

- **Center for Social Entrepreneurship (CSE):** Social outreach of the University includes but is not restricted to healthcare, poverty alleviation, literacy, education etc. Encouraging and fostering enterprise in the societies, University plans to start a Center that connects very well with this philosophy. Self-employment, social marketing, empowerment of women and disadvantaged section of the society, will be the outcome from this center. This center will be a part of Dept. of Commerce, School of Management, Manipal Institute of Technology, Manipal.

The center will be established with the objectives to:

1. Create small & medium scale enterprise in Udupi district
 2. Provide consultancy service to startups, businesses in transition on products, markets, feasibility etc.
 3. Connect with State and Central Government agencies to seek funding for training and incubation
- **Center for Software Development (CSD):** University has planned a new center which will be a part of School of Information Science under Manipal Institute of Technology. The main objectives of this center will be to:
 1. Develop software solutions to felt needs of Manipal University and health systems.
 2. Provide internship opportunities for students to work on live projects and train faculty on project management skills
 3. Market the product outside Manipal University system if such a potential exists
 4. Work with Technology transfer office to explore possibilities of outright sale of products

- **Centre for Consultancy, Training and Corporate Interface (CCTCI):**

The University, with an aim to tap the huge and relatively untapped market of providing consultancy services plans to establish **Centre for Consultancy, Training and Corporate Interface (CCTCI)**. This center will be a part of Dept. of Commerce, School of Management, Manipal Institute of Technology, Manipal.

The objectives of Centre will be to:

1. provide consultancy services to business enterprises in manufacturing and service sector in India and abroad
2. provide technical and behavioral training to business enterprises and academic institutions in India and abroad
3. partner with corporates on various social initiatives that contribute to the social and economic welfare of the society.

3.5.2 Does the institution have an institution--industry cell? If yes, what is its scope and range of activities?

University has in place of Director for Industrial Liaison and Placements, who coordinates with industry for placements, internship, consultancy etc.

Technology Business Incubator (TBI) is a new initiative of University for nurturing and developing innovation and entrepreneurial skills among its faculty members and students. It is one of the 54 TBIs funded by NSTEDB, DST, and Government of India to promote innovation driven start-ups in Udupi District, established in March 2010.

Manipal has thousands of students graduating every year and huge entrepreneurial population in the region. Many of them are keen on starting their own enterprise by exploiting the emerging opportunities. To turn their dream into concrete reality, TBI offers much needed infrastructure support and critical mentoring during the first three years of their venture.

TBI has a synergic fit with the vision of our University by providing an ecosystem for knowledge and wealth creation for personal and social benefits. It will also boost much-needed networking among academic/R & D institutions, industries and financial institutions.

Objectives of TBI are:

- To nurture entrepreneurship skills of students, faculty and people of the region
- To provide resources to incubatee startups
- To arrange funding from external agencies and venture capitalists
- To facilitate market survey, product marketing, financial and legal services
- To facilitate patenting services

The Practice School at MIT also facilitates industry-institution interaction.

The unique feature of MIT engineering curriculum is that the students have the opportunity to spend quality time in the industry. If UG students have four to six months internship in their final semester, PG students have 10-12 months internship in their second year, to gain valuable industry exposure. Students get to work in their area interest and improve their self-confidence and core-competence. Getting a first-hand experience of working in a competitive environment and dealing with real-time problems, students can further their ability to develop their problem solving skills and demonstrate their knowledge of professional and ethical responsibilities. By being part of on-going live projects, students apply the theoretical skills in the practical world, thus enabling them to adapt to the industry environment. This concept has been well

appreciated by industries who have regularly selected our students for internship. With the learning skills, our students have regularly converted their internships into full-time job offers. With this, the industries also gain by improving their profile amongst the student community and also get on-board, the placed students, early and smoothly.

The Associate Director (Industrial Liaison, Placement and Practice School) requests recruiting companies to permit the selected students to join as project interns, for a period of four to six months.

Industries where our UG students have undergone their final semester internships are ABB, Alcatel-Lucent, AMD, Ashok Leyland, BARC, BEL, Biocon, Bosch, Cadence, CISCO, Citrix Systems, ComViva, Cybage, Dr. Reddy's, ECIL, eLitmus, EMC2, Exeter India, Fidelity, Forbes Marshall, Freescale, GE, GE-Healthcare, GE-Medical Systems, General Motors, HAL, Honeywell, HP (R & D), iBibo, IIIT Hyderabad, IISC Bangalore, IIT Chennai, IIT Delhi, IIT Kanpur, IIT Kharagpur, IIT Mumbai, Infosys, Ingersoll Rand, ISRO, ITC R & D, Ixia Com, Juniper, Karmic, LSI, Mahindra Reva, Manipal Press, Maruti Suzuki, Mercedes Benz, Moser Baer, Motorola, Mott MacDonald, MuSigma, NAL, National Instruments, Nomura, ONGC, Oracle, Philips, Reliance, Samsung Electronics, SAP Labs, Schneider Electric, Scraft, Siemens, Simon India, Skoda India, Source Bits, ST Ericsson, ST Microelectronics, Tata Motors, Tata Steel, TERI, Texas Instruments, Thyssen Krupp, TVS Motor, Videocon, Volvo, Wipro Tech etc.

Some of the industries where our PG students have undergone their second year full-time internships include Brisa Tech, Cerner, Continental Corporation, Honeywell, Infineon, Ingersoll Rand, Intel, Ixiacom, KPIT Cummins, Microchip, Philips, ST Microelectronics, TCS, VMware, Whiz chip etc., while Altair, AMD, Brisa Tech, GE Lighting, HP, IBM, Intel, Ixiacom, KPIT Cummins, LSI, MOOG, NXP Semiconductors, Oracle, Philips BOP, Schneider Electric, Synopsys, VeriSign, Whiz chip, Wipro Lighting, Wegilantetc. These organizations have also selected some of these students for full time recruitment.

More details will be available in the evaluative reports of the constituent institutions.

3.5.3 What is the mode of publicizing the expertise of the institution for consultancy services? Which are the departments from whom consultancy has been sought?

The expertise of the institution for consultancy services is publicized through the individual institution webpage. Details of departments from whom consultancy is sought, are partially illustrated in item 3.5.5 and are also available in detail in the evaluative reports of constituent institutions.

3.5.4 How does the institution utilize the expertise of its faculty with regard to consultancy services?

Consultancy services are provided in the broad streams of

- Engineering,
- Health Sciences,
- Communication and
- Management.

Consultancy in following areas is provided whenever called for:

- Testing of materials,
- Environmental samples,
- Geological surveys and
- Guidance to district administration
- Training programmes on management/finance related topics for industry executives.
- University houses the nodal agency for H1N1 testing in India.
- School of Communication takes up projects on media and communication for various clients.
- Training to Anganawadi teachers, Para-medical staff of government institutions related to HIV etc.

More Details are provided in the evaluative reports of constituent institutions.

3.5.5 List the broad areas of consultancy services provided by the institution and the revenue generated during the last four years.

Please find below the broad areas of consultancy and revenue generated during the last four years in case of some of constituent institutions / departments of University.

1. School of Allied Health Sciences, Manipal

- In additions to Clinical Services Provided at Kasturba Hospital, Manipal, SOAHSis actively providing services at Dr TMA Pai Hospital Udupi where the 30% of the total income generated is used for the Academic Advancement of faculty members.
- Department of Health Information Management received an amount of Rs. 5 Lakhs as a consultation fee from University of Botha for the Launch of B.Sc. HIA program.

2. School of Life Sciences, Manipal

- Cytotoxicity / Geno toxicity / Biophysics

3. Dept. of Statistics, KMC Manipal

Areas of consultancy: Statistics, Epidemiology and Research Methodology

Dept. faculty runs a consultancy centre which provide consultancy in Research design, data processing, statistical analysis and use of various statistical packages for the benefit of research scholars, Graduates, Post graduates & Faculty members. Center provide consultancy for Research design, data analysis, report writing, also provide guidance PhD scholars, Conduct summer courses for research student & contribute to the research committee in evaluating PhD Protocols, interim reports etc.

Revenue generated: These Services are provided free of cost.

4. Manipal College of Nursing, Manipal

INC - GFATM -7 Project on HIV/AIDS & TB

The INC-GFATM Project on Strengthening Institutional Capacity for Nursing Training on HIV/AIDS & TB in India under GFATM 7 project contributes to this strategy. This project is executed in coordination with National AIDS Control Organization and Central TB Division. The project component being implemented through the Indian Nursing Council focuses on strengthening institutional capacity for nursing training on HIV/AIDS & TB in India. The principal Recipient for this programme is the Indian Nursing Council.

Manipal College of Nursing Manipal, Manipal University, is selected as one of the Sub Sub Recipient for this project. MCON.Manipal is covering beautiful 14 Karnataka districts. Geographically Karnataka has three principle zones called coastal strip, Western Ghat and Deccan Plateu and deccanplateu is consists of large area in Karnataka. Under GFATM Project Maniapl College of Nursing, Manipal's coverage area has representation from all above three principle zones of Karnataka i.e Shivamoga, Kodagu, Chikmaglur, Hassan Dakshina Kannada, Udupi, Gadag, Uttara Kannada, Haveri, Koppala, Belgaum, Dharwad, Bellary and Davanagere likewise we tried to have participants from all regions in this year from both private and public sector.

Following are the training details till Dec 2014

Number of Nurses trained on HIV/AIDS & ART : 2029

Number of ANMs trained on HIV/AIDS & STI : 905

Number of Nurses trained on TB : 263

Number of ANMs trained on TB : 119

Number of Nursing Administrators trained : 262

There are Seven faculty from Manipal College of Nursing had undergone special training about HIV/AIDS & ART under this project to train staff nurses

and 5 faculty were trainers for training on Tuberculosis. Supportive supervision of the staff nurses' is the part of this project which fosters a collaborative approach to strengthen staff nurse's performance on care support and treatment for PLHIVs. Through this way Manipal College of Nursing has become a part of NACP III, IV and RNTCP and trying to set an example for Public Private Partnership through this process. It is trying its level best to contribute towards the strengthening of public health and combat against present day's most stigmatized infection HIV/AIDS and biggest health problem of India TB at locally, nationally and globally.

Total Amount received till Dec 2014: Rs 2,69,05,300/-

ICMR-DHR FUNDED PROJECT on “Capacity building for nurse educators to conduct multidisciplinary research in geriatric area”

The principal investigator for the project is Dr Anice George, Dean, Manipal College of Nursing Manipal with all professors and HoDs' as co investigators. The project is of five years duration with first year for the preparation of Training module on Geriatric Health Research followed by training of trainers workshop, for the next four years there will be training workshops for nurse educators on “how to conduct multidisciplinary research in Geriatric care area”. For each year we have divided the entire nursing colleges of India in to four different zones (North, east, west and south) and each zone will be covered every year. A total of 120 nurse educators divided in four groups will be trained. Thirty nurse educators will be in one group and will attend the workshop for three weeks duration. ICMR-DHR have sanctioned a total amount of rupees 55laks towards this project accomplishment.

Nursing Research Methodology Workshop

- The Manipal college of Nursing initiated the Nursing research methodology workshop for Post graduate Nursing students of Karnataka. From 24th to 26th September 2013, PG students (16) were deputed by various institutions for the workshop. The amount generated: Rs 24000.
- The same workshop was conducted again from 25th to 27th February 2014 on Nursing research Methodology workshop was conducted for 14 PG students. The amount generated: 21000/
- Workshop on systematic review was organized for the faculty of MCON to sensitize the faculty on conducting systematic review.

5. Manipal College of Pharmaceutical Science, Manipal

- Formulation development
- Analytical testing services

- Preclinical animal testing
- Community Pharmacy
- Poison information center
- Drug information center

Income generated: 2 lacs/ year (Appox)

6. Melaka Manipal Medical College, Manipal

Areas of consultancy: laboratory management, diagnostic services

Income generated: Nil

7. Manipal College of Dental Sciences, Manipal

#	Areas of consultancy	Income generated		
		2012	2013	2014
1	Mechanical testing of materials	61, 894.00	1, 06, 656.00	1, 75, 362.00

8. Manipal Institute of Technology, Manipal

#	Department	Consultancy Service	Revenue
1	Civil Engineering	Civil engineering material testing, concrete mix design, strength of materials, soil testing, surveying, environmental lab, non-destructive testing and structural engineering lab. Individual consultancy by the faculty members related to design and analysis of civil engineering structures.	Rs. 60 Lakh (in the last four years)
2	Electrical and Electronics Engineering	Photometric testing and Energy meter testing	Approximately Rs 2 lakh per year for last four years
3	Mechanical and Manufacturing Engineering	Finite Element Analysis, Computational Fluid Dynamics, Tribology	Rs. 20,000
4	Chemical	Testing Laboratory Services	Rs. 38,384.00
5	Chemistry	IR spectral recording(FTIR), oil testing	Rs. 17, 156
6	Printing and Media Engineering	Colour science and quality testing of printing materials	Rs. 24,011.00
7	Mechatronics	PLC, Hydraulics	Approximately 50,000 for the last 3 years
8	Aeronautical and Automobile	Computational Fluid dynamics and Analysis	Rs. 57,760

Statement of revenue generated from testing and consultancy:

Code	Testing department	2010-11	2011-12	2012-13	2013-14
MITMA010	Testing/ Consultancy – Civil	1,224,600.00	1,849,163.00	22,62,935.00	21,66,809.00
MITMA011	Testing/ Consultancy – E & E	397,254.00	472,406.00	4,35,112.00	3,20,667.00
MITMA012	Testing/ Consultancy – Mechanical	---	---	10,454.00	22258.00
MITMA013	Testing/ Consultancy – Chemical	4,850.00	3,600.00	4,833.00	25,101.00
MITMA075	Testing/ Consultancy – Chemistry	500.00	---	---	16,656.00
MITMA206	Testing/ Consultancy – Workshop	---	3,691.00	10498.00	16051.00
MITMA219	Testing/ Consultancy – ICE	3,150.00	1,158.00	---	---
MITMA280	Testing/ Consultancy – PME	4,700.00	4,100.00	9,765.00	5,446.00
	Testing/ Consultancy – MTE	---	15000.00	15000.00	20000.00
MITMA346	Testing/ Consultancy – AAE	---	37,760.00	20,000.00	---

- Faculty of Architecture

- Heritage Conservation Project of Sannati, Dharwad District, Karnataka Rs. 71 lakhs from Archaeological Society of India. (2011-13)
- Gersoppa Temple Chaturmukha Basadi, Karnataka Rs. 1 lakh from Archaeological Society of India. (2011-12)

9. School of Communication, Manipal

- Film Making
- Advertising

Total income generated:	2012	:	Rs. 54,656.00
	2013	:	Rs. 1, 29,700.00
	2014	:	Rs. 12,000.00

10. School of Information Science, Manipal

Softjin has offered a research project to study certain aspects of VLSI Design for the benefits of both Softjin and SOIS. The amount is for Rs. 60,000/-.

3.5.6 Criteria specific to Health sciences

3.5.6.1 Give details regarding the consultancy services for Secondary, Primary Care Centers and Medical Practitioners

Consultancy is provided in the form of Clinical trials and Lab investigations.

Clinical trials: Please refer Criteria 3.2.4 for details

Mangalore campus:

Lab investigations:

Particular	2012-13	2013-14	2014-15
Revenue from Testing Samples from various associated labs/hospitals	43,61,209	56,25,797	74,22,241

Other than the above, some of our consultants have served as consultants to various governmental and non-governmental organizations for effective implementation of various healthcare policies and national health programmes.

Our faculty members are:

1. Technical Consultant for Karnataka State Health System Resource Centre and ICRA for Evaluation of Skilled Birth Attendant Training in 30 districts of Karnataka state.
2. Technical Consultant for Karnataka Health Promotion Trust and St John's National Academy of Health Sciences, Bangalore. Also, for Samastha Team Training in the Comprehensive care of PLHIV for doctors, nurses and counselors of Community Care Centers and integrated positive prevention clinics.
3. National Consultant on India adaptation of training package on WHO Child Growth Standard (Integrating Mother and Child Protection Card)
4. State Medico-legal Consultant
5. Consultants for NACO
6. Consultant for National Institute of Public Participation for Child Development
7. Ministry of Women and Child Welfare

Manipal Campus

Clinical trials: Please refer Criteria 3.2.4 for details

Lab investigations:

Particular	2011-12(April 1 st to March 31 st)	2012-13(April 1 st to March 31 st)	2013-14(April 1 st to July 31 st)
Revenue from Testing Samples from various associated labs/hospitals	Rs 14,14,110	Rs 21,34,550	Rs 7,41,315

A good network has been developed between Kasturba Hospital, Manipal and local healthcare agencies like PHCs, district hospital, private practitioners and nursing homes. Professional interactions and extension of consultancy services are provided. Several interactive sessions between consultants and other professionals are arranged through regular CMEs, workshops, conferences of local chapters of various professional associations. Indian Medical Association (Udupi and Manipal chapter) also conduct regular professional meetings

3.6 Institutional Social Responsibility (ISR) and Extension Activities

3.6.1 How does the institution sensitize its faculty and students on its Institutional Social Responsibilities? List the social outreach programmes which have created an impact on students' campus experience during the last four years.

University is fully aware of its social responsibilities and contributed for the community well-being in different forms. University also encourages its students and faculty to participate in social activities and help the needy.

Students activities:

1. **Volunteer Services Organization (VSO)** : was initiated by University to provide an opportunity to students to serve the society. VSO is presently guided by the Vice Chancellor, University. With volunteers strength of more than 1300 (including students, faculty members and their spouse), VSO undertakes projects which cover community, organizational and soft skills avenues. Projects are also planned in collaboration with the clubs/organizations of the constituent colleges of University and executed with the support of the University.

Objectives of VSO

- To respond to community needs
- To address the issues of society
- To develop the leadership potential of the students
- To enhance student learning

Regular Programmes

Weekly Programmes/Visits:

Nittur State Home for Children (Saturday, 2.30 pm - 4.30 pm)

ASARE, school for special children (Saturday, 3 pm - 5 pm)

Pediatric Ward of Kasturba Hospital (Sunday, 3.30 pm - 5.30 pm)

Pediatric Cancer Ward of Shirdi Sai Baba Cancer Hospital (Sunday, 3.30 pm - 5.30 pm)

Sri Krishna Balaniketan (Sunday, 2.30 pm - 4.30 pm)

Clean Manipal Campaign (Sunday, 5 pm - 7 pm)

Film screening at Cancer Ward (every fortnightly, Sunday, 2.30 pm - 5.30 pm)

Special Programmes

Spoken Kannada classes

Birthday celebration at orphanages (every month, last Sunday)

Health camps for underprivileged people

Blood donation camps

Collection drives (clothes, stationary, toys)

Theatre and drama workshops for children

Apart from VSO, there is another student organization AIESEC Manipal, which is India's first University-based local chapter that is involved in providing challenging incoming and outgoing internships, wherein students from other countries are involved in projects such as:





2. H.O.P.E.S (Health organization for public education by students)

It is a non-profit organization of KMC, Manipal which brings together medical students and uses their knowledge to educate the common man about the value of various health and hygiene measures. Initiatives are taken up targeting the various voids in our society concerning the lack of knowledge about various diseases widespread amongst us. To assess the impact and effectiveness of our initiatives, detailed analyses are carried out after completion and reports are made regarding the same.

The committee comprises of the following wings:

Teacher Advisor – Dr. Suma Nair

Planning and Initiation – Kugapiriyaraviraj and RanithaGopi

Execution – TanviBagade and SunayaPuranik

Analysis – DhanyaSoodana Mohan and ShrishtiKanodia

Fundraising – Debaleena Mukherjee and KavyaBahudodda

Web Designing – VinayAnand and JanakBahirwani

It aims to generate awareness among the general population regarding health issues and thus, eliminate misconceptions and taboos that surround various ailments. It seeks to educate people on a one-to-one basis thereby facilitating better execution of its ideas in light of their acceptance and co-operation.

Achievements:

- Conducted an essay writing competition for school children on “Substance Abuse” and “Personal Hygiene” to identify problem areas and issues to be addressed
- Organised talks on various topics suitable for different age groups
- Carried out awareness campaigns regarding Vector borne diseases and their complications among construction site workers in and around Manipal
- Vaccination programme for the migratory population in Manipal
- Awareness and education program for Government High School girls of age 12-15 years about menstrual hygiene and misconceptions

On-going Projects:

- Educating cashew factory workers about the occupational hazards
- Programme to inculcate ideas of health and hygiene in Primary school children
- Future Endeavours:
- Alcohol De-addiction programme
- Mitigate Drug Abuse by educating the target population
- Programme for hotel workers regarding importance of clean cooking practices

3. Social Welfare Committee

The Social Welfare Committee constitutes the philanthropic wing of the Student Council. Ever since its inception, it has been true to its purpose : to aid the less fortunate. Though the faces have changed over the years, the committee has been dedicated to this ideal.

Art Mart is our traditional inaugurating event. The members of the SWC put in their creative and culinary best to churn out some of the best greeting cards, clocks, candles, bags and of course the fudges and the brownies. Every year we organize a sporting extravaganza ' Sportz Quake', a unique blend of street cricket, football, badminton and volleyball, which has always received an overwhelming response from the students of all the constituent colleges of University as well as franchises from around Udupi. Apart from these fund raisers organized by the SWC, money obtained during Verve and SHADJA (KMC's own rock show) are also utilized. The proceeds from these fund raisers are used for funding the education of poor children, to families suffering from HIV infections for their treatment. Besides this, last year, the funds were also utilized for the treatment of a physically handicapped infant named Ravi, a resident of the slum at End Point. A part of the funds was also kept aside for the Thalassemia Fund. At the start of each year we hold a programme for the cancer patients admitted to KH on the occasion of World Cancer (Awareness) Day. As a part of our outreach programme we conduct medical camps free of charge in association with the staff of Kasturba Medical College. Those who are found to have any health problems are then referred to the hospital for further evacuation and treatment. Recycle drives are also a common feature in our list of activities. The books and

clothes thus collected are donated to various charitable institutions in and around Udupi. Children are forced to drop out of school due to lack of finance. To ensure that their right to education isn't denied to them the SWC, in association with DISHA has adopted the Sponsor A Child Programme wherein the staff and students of University can either collectively or individually sponsor the education of one or more children. The programme received a good response in its very first year and we were able to sponsor the education of 29 children. We hope to continue this programme over the coming years and do our bit in strengthening the society with educated individuals.

In an attempt to help the students who wish to reach out to the less fortunate we organise weekly visits to Asare, a home for the mentally challenged. We are also planning to organise visits to Shantiniketan Ashram, a home for under privileged children as well as to Hombelaku, a refuge for individuals with psychiatric disorders, in the near future. Blood donations camps are held by us once a year in collaboration with the Department of Haematology, KH. To mark the Diamond Jubilee Year of KMC, customized KMC umbrellas were sold to students and staff alike. These initiatives by us would not have been successful had it not been for the response of our fellow students and the ever supportive staff of KMC as well as those of other colleges.

It is said that droplets of water make an ocean. In this regard we hope to further expand our horizons in the coming years so that we are able to reach out to a larger number of people in the society who did not have the luxury of the opportunities that we had. Surely, with the support of our colleagues and our resolve to help, we can definitely succeed in our endeavor.

4. Project Umang 2.0

Concept: Project Umang is an issue-based project that is run in our local committee, which deals with children's education and development. As 35 per cent of the population is still illiterate, only 15 per cent reaches high school and only 7 per cent graduates, AIESEC focuses on improving the education system by inculcating and developing the extra-curricular activities of the children by conducting workshops and team building activities.

5. Project One World

Concept: This is an issue-based project that is run in local committee. The main intention of this project is to get as much of the world on a single platform as possible. Apart from the normal curriculum of schools and colleges, it is vital to have awareness of certain issues for an all-round development of one's personality and imbibing cultural tolerance in oneself. Interaction with interns from different countries is the best exposure a young mind could get to understand different cultures.

6. Project - Helping Hands

Concept: Project Helping Hands is an issue-based project that is run in our local committee whose objective was to help the inmates at the partner NGOs realize the value of their lives and help living it to the fullest.

7. Project Microfinance

Concept: The project was aimed at providing the interns experience about rural India and their financial problems. The Project was a platform to provide an external approach to Microfinance initiatives with ideas from the interns through workshops and seminars.

8. Project Genesis

Concept: The main objective of this Project was to promote awareness, compassion, education and support to make each day count in someone's life.

9. Regional Youth Leadership Conference

AIIESEC provides young students and fresh graduates with a platform where they can develop and explore their leadership potential. This is achieved in a variety of ways and one of them is being a part of AIIESEC Conferences, which are held throughout the year at the local, national and international scales.

AIIESEC, University hosted the South Regional Youth Leadership Conference successfully this year to contribute to and support the national association/Committee. The conference aimed to teach the new recruits about the principles and ethics of AIIESEC

10. Impact Week

Impact Week is a seven day event organized by AIIESEC, University. The event aims at creating an impact on our local reality on various social issues and forums.

The event includes the following events:

- Blood Donation Drive
- Think Tank
- Snake wrangler show
- Rural Talent Search
- Balakalakar
- Global Village

In addition a few more activities are undertaken by student committees at the college level. Details are available in the evaluative reports of constituent institutions.

11. University activities

1. **Health Insurance scheme-** To help the below the poverty line people, the University devised various health insurance schemes like, Manipal Arogya Surksha card, Manipal Arogya card, which entitles the individuals to have cashless healthcare at Manipal group of hospital within the stipulated times. The university spends about Rs 16 crores annually on this projects.

2. **Rural Maternity and Child Welfare Homes (RMCWH)** – with sole objectives extending maternity and child welfare in remote areas, University established 7 RMCWHs around Udipi district. These centers provide maternity care and immunization to children free of cost. University spends about Rs. 1 crore per center per year.
3. **Health camps** – various departments of medical and dental colleges organize health camps at different locations in a radius of 100 kms from Manipal. The individual requiring identified individual requiring hospitalization are referred to hospitals wherein they require subsidized treatment.
4. **Poor patient fund** – with a view to help the economically weaker section of society to have quality healthcare, the university established a poor patient fund. Any contribution to this fund by public is equally matched grant by university.
5. **ASARE** – an organization that runs a home for differently abled individuals is supported by the university.
6. **Hombelaku** – is a facility created and supported by university to take care of mentally challenged individuals on a long term basis. The facility is looked after by the department of Psychiatry of KMC, Manipal.
7. **Merit cum means scholarships** – to ensure an inclusive growth, the university created merit-cum-means scholarships. 5% of the students admitted to the various programs are provided with this scholarship. In the year 2014-15, the university spent about Rs 21.03 crores towards this scholarship.
8. **Emission testing facility** – the facility created at MIT is extended to all vehicles (not only faculty, students of the university but the general public including auto-rickshaws) at the subsidized rate, which would help in pollution control.
9. **Disaster support** – university extended its support by sending teams to different location whenever there is a natural disaster and provided the healthcare to the needy.
10. **Rural development projects** – the university provides financial support in organizing training programs, undertake research activities of an NGO, Bharatiya Vikas Trust (BVT), that is engaged in empowering rural public.
11. **Green Manipal** – university extends all supports to the surrounding public to ensure that there is green Manipal. This support has resulted in the university getting “Golden Peacock Award” for the environment management for the past two years.

Dubai campus

Community association and instilling a sense of social responsibility in the minds of youth, especially our student community is one of the core issues that University has always concentrated upon. To keep up this vision, Dubai campus takes varied efforts to organize blood donation camps, health awareness campaign, Pink Walkathon (Breast

Cancer Awareness Campaign), Go Green, environment Cleaning Campaigns etc., in association/collaboration with the local organizations.

3.6.2 How does the institution promote institution-neighborhood network and student engagement, contributing to the holistic development of students and sustained community development?

Through University and student organizations various events/activities are planned by individual constituent units which are related to community development. Details are available in response to item 3.6.1 and in the evaluative reports of individual constituent institutions.

Dubai campus

By encouraging students to take part in inter college competitions, events workshop/seminar and sports activities. The students of the Department of Biotechnology has been involved in creating awareness of better healthcare by organizing health awareness week and blood donation drive, and over past 8 years, we have donated more than 2500 bottles of blood to local hospital.

3.6.3 How does the institution promote the participation of the students and faculty in extension activities including participation in NSS, NCC, YRC and other National/International programmes?

One example is the NCC unit in MIT, the Four Karnataka Engineer Company. It is one of the few NCC Units present in Karnataka. The proud cadets of this unit are engineering students of MIT and Dr TMA Pai Polytechnic. Just like other NCC cadets all over the country, the cadets actively take part in various social and charitable activities. Activities like blood donation, tree plantation, cleanliness and literacy drives, visits to old-age homes, and clothes donation are part of the calendar. International students involve in extension activities through projects of AIESEC as detailed in item 3.6.1. There are combined activities like Walkathon, Utsav, MIST, SPIC MACAY etc., which promote holistic development of the students.

Dubai campus

In Dubai, the scope for students participating in extension activities including participation in NSS, NCC, YRC and other National/ International programmes is very much limited.

3.6.4 Give details of social surveys, research or extension work, if any, undertaken by the institution to ensure social justice and empower the underprivileged and the most vulnerable sections of society?

Kindly refer response to item 3.6.9.1. and 3.6.1.

Dubai campus

The faculty undertakes survey to evaluate current language-learning programs in schools, to assess their efficacy, to address any issues with reference to bilingual acquisition of English and Arabic, in order to suit the needs of the society. This survey study would enable a social cause of promoting Arabic particularly spoken Arabic among the student community, which in turn commits better collaboration between local Arabic community and expatriate Indian community.

3.6.5 Does the institution have a mechanism to track the students' involvement in various social movements/activities which promote citizenship roles?

VSO and AIESEC projects are done under guidance of faculty advisors who track their progress and feedback. AIESEC activities are reviewed on a period basis by Board of Advisors of AIESEC, Manipal.

Dubai Campus

The presence of students in the Facebook social network enables wide sharing of the role played by students in various social movements / activities which promote citizenship roles. In addition the Manipal web site enables a web-linkage to blog the news related to the same very easily.

3.6.6 Bearing in mind the objectives and expected outcomes of the extension activities organized by the institution, how did they complement students' academic learning experience? Specify the values inculcated and skills learnt.

These activities reinforce the Manipal values namely,

- Integrity
- Transparency
- Team work
- Humane Touch
- Quality
- Execution with Passion.

The students learning various management skills like

- Communication
- Listening skills
- Empathy
- Persuasion
- Leadership
- Focus
- Division of work
- Project Management
- Administrative and Financial Skills

3.6.7 How does the institution ensure the involvement of the community in its outreach activities and contribute to community development? Give details of the initiatives of the university which have encouraged community participation in its activities.

Involvement of the community is ensured by interaction with local NGOs, village heads and organizing the outreach activities in association with them. Association of Community Pharmacists of India (ACPI) carries out various community related activities in association with pharmacies and constituent institutions of University. Every month-end health check-up camp is organized by ACPI for benefit of the community.

The institution had started its outreach activities in the 1970s in the villages around Manipal, so as to improve the health of the community at a time when no other health facilities were available and the maternal and child health statistics in this area were very poor. These centers have since then provided antenatal, intra natal and postnatal care to pregnant women and provided the mother with adequate information so as to make her capable of taking care of the newborn with respect to nutrition, immunization and growth. These services are provided totally free of cost. Secondary or tertiary level care to the community is provided at Dr TMA Pai Hospital, Udupi and Kasturba Hospital, Manipal. These services are available to the people of the field practice area at concessional rates for out-patient services and free of cost for in-patient care, through the insurance services that have been provided up to a ceiling of Rs 100000 per family per year. The premium for the insurance is borne by the University and the concerned bank. For patients outside the field practice area, services at concessional rates are provided through a system called Green Card wherein expenses up to Rs 3000 for medical care and up to Rs 5000- for surgical care is taken care by the institution. The transport during these referral services and medicine at the outreach centre are provided free of cost.

These are some of the services provided by the institution that attract the population of the villages around Manipal.

3.6.8 Give details of awards received by the institution for extension activities and/contributions to social/community development during the last four years.

Chancellor of the University – Dr. Ramadas M Pai has received the following awards for his contributions to social / community development activities during last four years:

- **Padma Bhushan** Award for his notable contribution in the field of education, healthcare and literature
- Formally given the honorary title of **Datuk** by the Melaka Government for his

notable contribution to higher education in Malaysia

- In recognition of his significant contribution to medical education in the Caribbean, Dr Pai has been appointed by the Govt. of Antigua & Barbuda as that country's **first Honorary Consul General in India**
- Golden Peacock Award for lifetime achievement

University has won the following awards:

- Ranked No. 13 in India and No. 181-190 in Asia by QS University Ranking ASIA 2014
- Ranked No. 85 by QS University Ranking BRICS 2014
- Ranked No. 1 in India and 695 in the World in University Web ranking 2014
- Ranked No. 1 Private Deemed University by THE WEEK – HANSA Survey 2014
- ASSOCHAM National Education Excellence Awards 2014 – Won Best University Promoting Research award
- FICCI Overall Excellence award 2014
- 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” filed
- Ranked No. 3 among Top Private Universities in India by Careers360 University Ranking 2014
- Ranked No. 3 by SiliconIndia Top 20 Private Universities in India 2014 for MBA/Engineering courses
- Golden Peacock Environment Management Award successively for the year 2012, 2013 & 2014
- Ranked No. 1 in India under the Sub Urban category by UI GreenMetric Ranking for Global Universities 2014

3.6.9 Criteria specific to Health sciences

3.6.9.1 How does the institution promote institution-neighborhood network in which students acquire service training, which they contribute to sustained community development?

The institution has adopted a field practice area wherein students are involved in house surveys, health education, run peripheral health clinic and help in bridging the gap between academics and the community. This serves as basic training for students, which enables them to serve in the community once they begin their practice. This helps them to contribute to sustained community development.

3.6.9.2 Give details of percentage of paid and non-paid services

Mangalore

All these service (100 per cent) are free

Manipal

Since the entire population is covered under an insurance scheme with no premium, the inpatient services are non-paid, while 40 per cent of the outpatient services are paid.

3.6.9.3 What is the role of the institution in the following extension activities?

a. **Adaptation of the population in the geographical area for total healthcare**

The Department of Community Medicine has a field practice area where peripheral health clinics are organized to provide total healthcare to the community. All families in the Below Poverty Line category are covered by the health insurance.

b. **Awareness creation for prevention of diseases and promotion of health through Information, Education and Communication.(IEC)**

Health education/IEC sessions are conducted in the community. Faculty members deliver talks related to various health issues

c. **Community outreach health programmes for Screening, Diagnosis and Management of diseases by cost-effective interventions.**

This is implemented through peripheral health clinics situated in the field practice area. It is also facilitated by the school health programmes and the outreach health camps.

d. **Awareness creation regarding potable water supply, sanitation and nutrition**

Source of water supply is river. This water is treated in state of the art water treatment plant. This water is supplied to users after disinfection. Awareness is given to the user on optimum usage, prevention of wastage and reducing use for non potable purposes. Sewage is treated in sewage treatment plants for all buildings. Food courts and messes provide food for all boards as well as day scholars within the campus. Major Service provider is Chef on Wheels which is ISO 22001 certified. Students are advised not to waste food through poster displays.

e. **Awareness creation regarding water-borne and air-borne communicable diseases**

Awareness is regularly created regarding water-borne and air borne communicable diseases through the Dept. of Community Medicine, Community Dentistry, Public Health and Nursing institutions through their regular outreach camps and Rural Maternity and Child Welfare Homes network.

f. Awareness creation regarding emerging diseases (Communicable and non-communicable)

The Department of Community Medicine regularly organizes camps in the villages. The activities carried out in these camps include providing information about various communicable and non-communicable diseases, screening for NCDs and screening for cataract. It also provides school health services to identify children having any vision defect, cardiac abnormalities and other treatable morbidities, which are then referred to higher centres for further investigations.

The department carries out regular immunization programme that has ensured 100per cent immunization coverage of the children aged under five years and the pregnant women in the population. It also educates and provides family planning services to the eligible couples in the community.

g. Awareness creation regarding the role of healthy lifestyles and physical exercise

IEC activities are conducted in the community with respect to the above four (d,e,f,g) issues.

h. Participation in national programmes like Family Welfare,Population Control, Immunization, HIV/AIDS, Blindnesscontrol, Malaria, Tuberculosis etc.

The institution is actively involved in the implementation of various national health programmes. The institution has a DOTS centre, microscopy centre and the hospitals have ART centers.

3.7 Collaboration

3.7.1 How has the institution's collaboration with other agencies impacted the visibility, identity and diversity of activities on campus? To what extent has the institution benefitted academically and financially because of collaborations?

University enjoys academic and research collaborations with universities across the world specifically located in US, UK, Australia, Netherlands, Germany, France, Canada, New Zealand etc., in the areas of health sciences, engineering and technology, life sciences, social sciences and physical sciences.

Few examples of collaborations and their benefits (academic and financial) in MIT, one of –University's major constituent units are as follows:

#	Department	Collaboration
1	Civil Engineering:	Project title: Study of Self Compacting Concrete Composition for Accelerator Shield; Location: Manipal Institute of Technology, Manipal; Funding agency: BRNS, Department of Atomic Energy; Period of research: 2009-2012; Amount of research grant: Rs 41.47 Lakh. Accelerator Shield Lab was setup
2	Computer Science and Engineering	Introduced an elective course "Mobile Application Development" in collaboration with Infosys Technologies Ltd. under Campus Connect Program. Best Student Award awarded to one CSE student by TCS for being the best outgoing student among CSE and IT branches
3	Printing and Media Engineering	MoU with Chemnitz Technological University, Germany for joint research projects, Faculty and student exchange programmes and a joint dual-degree postgraduate programme under DAAD scholarship
4	Electronics & Communication Engineering	Department has collaborations with Academic Institutions and Industries. <ol style="list-style-type: none"> 1. Department has association with IISc under National Programme on Micro and Smart systems (NPMASS). Life time licenses (Coventorware 2014, Intellisuit, COSMOL Multiphysics, LEdit) have been provided free of cost. Department has set up a MEMS lab for simulation of FEM and MEMS. 2. Characterization of Nano materials Lab and Fabrication of Nanomaterials labs have been setup in the Department / Institution. These labs have been sponsored by DST and DBT. 3. Department has tie with Novoton Technology Corporation Taiwan. The Industry has supplied 20 Novoton ARM processor based embedded kits for academic purpose. These have been installed in one of our labs.

		<ol style="list-style-type: none"> 4. Department has association with ATMEL corporation India University programme. The Industry has supplied ATMEL embedded kits for academic purpose. These have been installed in one of our labs. 5. Department has tie up with M/s Freescale semiconductor corporation India University programme. The Industry has supplied Freescale embedded kits for student project competition / academic activities. 6. Department has association with M/s KARMIC, Manipal. The Industry academia collaborations on ASIC design/ verification and Analog and Mixed signal design using cadence tool. 7. Department has association with M/s Schneider Electric Bengaluru. The company has set up “Building and Automation Lab” for academic and research activities.
5	Instrumentation and Control Engineering	<ol style="list-style-type: none"> 1. Investigation and Physical realization of two degree of freedom anti-rest windup PID controller for fast acting control loops, Funding Agency: DST, Project amount: 13 Lakhs 2. Design and Implementation of Controller for Rotary Double Inverted Pendulum, Funding Agency: DRDO, Project Amount 2.66 Lakhs
6	Mechatronics Engineering	<p>MoU with Bosch Rexroth India pvt Ltd: In a joint collaboration with MIT, Bosch Rexroth has established a Centre of Excellence in Automation Technologies in the department of Mechatronics. It is a fully functional Centre with state of art equipment like Hydralulic and Pneumatic kits and trainers, Sensoric Kits, PLCs, Drives and Control Kits, Modular Production Systems and also associated software.</p> <p>The main objective of the center is to transfer current technologies to the students and the primary focus is on technology training, knowledge transfer, projects, application, research and innovation. This will result in bridging the technology gap between Industry and academics and also improve employability and self-competence of the students.</p>
7	Electrical and Electronics Engineering	<p>Mr Chidnand Burji , Lead Technical Architect and Group Edison Expert, Schneider Electric gave a talk on “Smart Grid Integration with Renewable Energy Sources” on 19 sept 2014 , MIT Manipal.</p>

More details are available in evaluative reports of individual constituent institutions.

Dubai campus

The Department of Biotechnology has been collaborating with local Universities Sheikh Zayed University, Dubai, UAE University, Al Ain and Khalifa University and research collaboration has been lead to research publication in the peer reviewed journals where both Dubai campus and local Universities get recognitions.

3.7.2 Mention specific examples of how these linkages promote

Examples from MIT are provided below. More examples are available in the individual evaluative reports of the constituent institutions.

Curriculum development

#	Department	Particulars
1	Computer Science and Engineering	(i) Electives offered in collaboration with Infosys : 6 th Semester: CSE 310.5 Building Enterprise Applications 7 th Semester: CSE 405.4 Business Intelligence (BI) and its Application 4 th Semester: CSE 226 - Essentials of IT (Open Elective) 6 th Semester: Essentials of Industrial Computing (Open Elective) 2 nd Semester M. Tech CSE & CSIS: CSE-542 Data Mining and Business Analytics (ii) Electives offered in collaboration with EMC² : 7 th Semester: CSE 403.2 Storage Device Technology 2 nd Semester M. Tech CSE & CSIS: CSE 556 Information Storage and Management. (iii) Electives offered in collaboration with Intel : 2 nd Semester M. Tech CSE & CSIS: CSE 512 Multicore programme optimization (iv) Electives offered in collaboration with Cisco : 6 th Semester BE(CSE): Advanced Computer Networks
2	Printing and Media Engineering	Feedback is obtained from faculty of Chemnitz University of Technology, Germany
3	Electrical and Electronics Engineering	The industry experts are invited to be the members in Department Curriculum Committee and appointed as Adjunct Professors With Technical inputs from Schneider department has deployed one elective course, on Advanced Energy Management CISCO sponsored elective on Advanced Computer Networks

* **Internship**

Computer Science and Engineering

Students are provided with -four to six months of internship

#	Department	Particulars
1	Information and communication Technology	Opportunity for M.Tech Students to pursue the Internship at ESIGELEC, France
2	Printing and Media Engineering	Five students have done their internship in Germany through DAAD scholarship.
3	Electrical and Electronics Engineering	Undergraduate and post graduate students are hired for internship in Schneider Electric, Bangalore.

* **On-the-job training**

Students selected for placements are given on-the-job-training

* **Faculty Exchange and Development**

#	Department	Particulars
1	Electronics & Communication Engineering	<p>Department has faculty exchange/ development with Academic Institutions and Industries.</p> <ol style="list-style-type: none"> Two research scholars and UG / PG students are working on FEM and MEMS design using simulation softwares at MEMS lab. Two research scholars and UG / PG students are working on Characterization of Nano materials and Fabrication of Nanomaterials. Faculty, UG / PG students have been carrying out projects using Freescale / Novoton / ATMEL embedded kits. Five Faculty members are involved in ASIC design / verification and Analog and Mixed signal design using cadence tool in association with M/s KARMIC, Manipal. One faculty member had been to National MEMs design center, IIT Kharagpur to carryout MEMs design simulation work during January – May 2014. One faculty member worked at Manipal International University, Malaysia during January 2014 – May 2015. Department sent him on deputation.

2	Computer Science and Engineering	<ol style="list-style-type: none"> 1. Dr. Geetha M., Professor, Dept. of CSE visited EFRIE, France for short term teaching assignment from 22-11-2014 to 22-12-2014 under Faculty Exchange Program with Partner Universities. 2. 'Principal's Meet' for a select set of Institutes from Karnataka, was organized by Education and Research Department of Infosys, in connection with Campus Connect Programme, on 7-3-2014 at the Bangalore Development Centre. 3. One faculty member attended Faculty Residency Program on 'Big Data' organized at IBM, Bangalore b/w June 18th to 20th 2014 4. One faculty member participated in Head Start-AIP HOD meet 2014, a Conference for Heads of Computer Science Department at TCS Tata Consultancy Services, ThinkCampus Electronic City, Bangalore on 20th November 2014
3	Electrical and Electronics Engineering	<ol style="list-style-type: none"> 1. Two faculties Mr.Shankarnarayana and Mr. Vikas Kumar Jhunjhunwala attended one-day hands on training on 8/10/2014 with regard to utilization of equipment sponsored by Schneider Electric. They had training regarding creating project , linking source code, compiling, downloading, debugging and running programs on 'MP Lab IDC PIC Microcontroller programming' at R&D center Bangalore 2. Dhruv Mohan, Arun Akshat Sharma presented a technical paper , project on "Automated Approach for Printed Circuit Board Verification" and secured consolation prize in Phase 1 of Texas instruments Innovation Challenge India Analog Design Contest 2014. A total of 365 projects from 165 colleges competed in Phase 1, among which 19 projects were declared winners and 29 projects were awarded consolation prize.
4	Humanities & Management	Mr. Praveen K Shetty Assistant Professor, was selected for the Erasmus Mundus (IBIES) scholarship (short term PhD) to pursue his study in Hochschule Bremen University, Germany From October 2014 to July 2015.
5	Mechatronics	"Training-the-Trainer Programme - Conducted by Bosch

	Engineering	Rexroth India pvt. Ltd. Held in December 2014 (24 days) No. of Faculty: 16
6	Printing and media Engineering	<p>1. Students Under Double Degree Postgraduate Programme</p> <p>Oct 2009 - Dec 2010 One student from Manipal University had been to Chemnitz University of Technology, Germany for double degree programme</p> <p>Feb 2010 – May 2010 Seven students from Chemnitz University of Technology, Germany had come to Manipal university for double degree programme</p> <p>Oct 2010 - Dec 2011 Four students from Manipal University had been to Chemnitz University of Technology, Germany for double degree programme</p> <p>Jan 2011 – May 2011 One student from Chemnitz University of Technology, Germany had come to Manipal university for double degree programme</p> <p>Oct 2011 - Dec 2012 Nine student from Manipal University had been to Chemnitz University of Technology, Germany for double degree programme</p> <p>Jan 2012 – May 2012 Six students from Chemnitz University of Technology, Germany had come to Manipal university for double degree programme</p> <p>Jan 2013 – May 2013 Two students from Chemnitz University of Technology, Germany had come to Manipal university for double degree programme</p> <p>Oct 2013 – Dec 2014 Nine students from Manipal University had been to Chemnitz University of Technology, Germany for double degree programme</p> <p>Oct 2014 – Dec 2015 Three students from Manipal University had been to Chemnitz University of Technology, Germany for double degree programme</p>

2. Faculty Exchange Programme

Sept 2010 – Nov 2010

Ms. Conny Schhmann, Chemnitz University of Technology, Germany, visited Dept. of Printing and Media Engineering, MIT, Manipal University for delivering lectures on specialized topics.

February to May 2012

Mr. Vinod Kamath, Assistant Professor, Dept. of Printing and Media Engineering, MIT, Manipal University, visited Chemnitz University of Technology, Germany for short term fellowship.

March to June 2013

Ms. Sumalatha G S, Assistant Professor, Dept. of Printing and Media Engineering, MIT, Manipal University, Visited Chemnitz University of Technology, Germany for her M. Tech internship.

3. Student Exchange Program

2010

Two UG students from Department of Printing and Media Engineering, MIT, Manipal University had been to Chemnitz University of Technology, Germany for UG internship.

One student from Chemnitz University of Technology, Germany had Visited to visited Dept. of Printing and Media Engineering, MIT, Manipal University for UG internship.

2011

Two UG students from Department of Printing and Media Engineering, MIT, Manipal University had been to Chemnitz University of Technology, Germany for UG internship.

2012

One UG student from Department of Printing and Media Engineering, MIT, Manipal University had been to Chemnitz University of Technology, Germany for UG internship.

One UG student from Chemnitz University of Technology, Germany had Visited to visited Dept. of Printing and Media Engineering, MIT, Manipal University for UG internship.

2013

One UG student from Department of Printing and Media Engineering, MIT, Manipal University had been to

		<p>Chemnitz University of Technology, Germany for UG internship.</p> <p>One UG student from Chemnitz University of Technology, Germany had Visited to visited Dept. of Printing and Media Engineering, MIT, Manipal University for UG internship.</p> <p>2014</p> <p>Two UG students from Department of Printing and Media Engineering, MIT, Manipal University had been to Chemnitz University of Technology, Germany for UG internship.</p>
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* **Research**

Printing and Media Engineering:

Indo German Project on ‘Establishment of New Newspaper Printing Houses – are Standardized Concepts Possible’

* **Publication:**

Computer Science and Engineering:

Infosys has paid for the part of the registration fees for publishing paper in the international conference.

* **Consultancy: Refer response to item 3.5**

* **Extension: Refer response to item 3.6**

* **Student placement: Please refer Criteria 5.1.13 for the details of students placement**

1. Companies visit institute for campus placement
2. Four students have been placed as Research Assistant in Chemnitz University of Technology, Germany after their Double Degree Master’s Program.

Dubai campus

The **School of Life Sciences** has been collaborating with local Universities Sheikh Zayed University, Dubai, UAE University, Al Ain and Khalifa University and research collaboration has been lead to research publication in the peer reviewed journals.

School of Design & Architecture:

Organization / Event	Details of Activities
<p><u>Participation in various Activities – APID</u></p> <p>APID is Association of Professional Interior Designer which assists the promotion of the highest professional ideals of interior design to governmental bodies, industry and membership. It is a platform where the entire interior design community comprising of designers, decorators, the supply industry, educators and students of interior design, and the various client bodies can come together for common benefit and a thriving community.</p>	<p>The Department has been actively participating in various activities conducted by APID like :</p> <p>Design Competitions :</p> <ul style="list-style-type: none"> • FOID(Festival of Interior Design) 2012 • Danube-APID Design Competition - 2012 • Lectures by Industry experts • Seminars by various product suppliers etc.
<p><u>Tasmena:</u> Tasmena is a non-profiting making design organization with an initiative towards building designers.</p> <p>TASMENA INITIATIVE is sponsored by</p> <ul style="list-style-type: none"> • Emirates Foundation • Dubai and Art and Culture Authority • Zayed University • Adobe Foundation 	<p>The Students have been actively involved in all the activities of Tasmena including :</p> <ul style="list-style-type: none"> • Design Walks through • Students Challenge Competitions 2010 onwards • Sit & Shade Design Competition – Design Days 2012
<p><u>Government of Dubai – Initiative</u></p> <p>The Architectural Heritage, Dubai Municipality</p>	<p>The faculty & Students of the Department attended the “Heritage Day” Event by Government of Dubai in APRIL 2013.</p>

School of Business:

- The department is consistently striving towards its growth and development by holistic concentration on quality of teaching, elevation of student satisfaction every year by catering to their needs of up-to-date curriculum, real-time case and scenario analysis, industrial visits, guest lectures, internships and placements.
- The department also attempts to keep its internal customers – its potential resource – faculty members satisfied with the competitive pay packages and faculty development programs that caters to their knowledge, skill and abilities to be up-to-date. This is in compatibility with the Manipal Group of Institutions strong belief that satisfaction of internal customers – our faculty members will truly lead to the satisfaction of our external customers – our Students. The department with its 13 full time faculty members and 12 visiting faculty members aims at excelling as a department that offers state-of-the-art management courses and project University, Dubai as a top quality service provider in the field of education. This synergy of full-time and part-time faculty has enabled us to get a third rank for the MBA programme, according to the research survey done by Forbes MiddleEast 2012

3.7.3 Has any MoUs been signed with institutions of national/international importance/other universities/industries/corporate houses etc.? If yes, how have they enhanced the research and development activities of the university?

Yes. University enjoys academic and research collaborations with universities across the world specifically located in US, UK, Australia, Netherlands, Germany, France, Canada, New Zealand etc., in the areas of Health sciences, Engineering and Technology, Life Sciences, Social Sciences and Physical Sciences. The collaborations primarily provide opportunity for undergraduate as well as postgraduate students of University to pursue twinning programmes and dual Masters programmes respectively in the partner universities. Vice versa, the collaborations are also encouraging students from the partner universities, to attend short term internships or one semester in regular programmes. In addition, it is encouraging exchange of faculty members, as well as joint research programmes. **Please refer Annexure 3.6 for List of MOUs.** MoUs have resulted in reinforcing the research culture in the University.

3.7.4 Have the institution-industry interactions resulted in the establishment/creation of highly specialized laboratories/facilities?

Few examples are in case of MIT, Schneider Electric has sponsored a laboratory for Electric and Electronics Dept. In case of SOIS, the following labs are established in association with industry:

#	Lab	Particulars
1	Base of Pyramid (BoP) Lab	<p>Over the past four years, University (University) and Philips having been working together, to acquire a greater understanding of the challenges and opportunities in addressing the needs of the "Emerging Consumer" or the "Base of the Pyramid". This ambition is to create an ecosystem, built around "Open Innovation" that will ultimately meet the aspirations of the emerging consumers. The programme mainly aims at promoting idea generation, concept development, research, community development, rural linkages and student exchange programmes.</p> <p>This programme is coordinated by the BoP Chair setup at University along with representatives from the partner industries.</p> <p>Philips has deputed a programme manager to coordinate this activity along with BoP Chair at Manipal. Manipal BoP Chair has a team consisting of coordinators from each institution of the University. The respective institutional coordinators carry out the activities as per the BoP guidelines in their institutions in coordination with the BoP Chair at University.</p> <p>The main activities in the BoP programme are:</p> <ol style="list-style-type: none"> 1. Idea Generation 2. Concept Development 3. Market Analysis and BoP Knowledge Development
2	AXIOM	<p>Axiom Design Automation India, a semiconductor design solutions company, has setup a state-of-the-art R & D facility in University. The facility will house a team of engineers contributing to Axiom's high end Application Specific Integrated Circuits (ASIC) design verification solution line.</p> <p>The relationship of Axiom Design Automation with University started with the recruitment of post-graduate students for internship in the area of Electronic Design Automation (EDA). After the initial success with the student's internship, Axiom set up a development centre consisting of 12 engineers working exclusively in the area of EDA tool development. It plans to create a pipeline of qualified professionals from the University in the years to come. The methodology followed by Axiom is a unique one where projects are defined at the beginning of the semester and the interested students are made to work in teams towards the completion of the project</p>

		<p>with a faculty member in-charge for each group. Each group is required to follow the process typically followed at the industry, like coding style, version control, documentation etc.</p> <p>Axiom provides the necessary support & help towards the completion of the project in terms of technical know-how and training in the areas of necessity.</p> <p>So far about 35 students from University have been working in the Axiom Design Automation, which contributes substantial work force at Bangalore unit.</p> <p>Ravishankar, CEO & managing director of the company signed an agreement on 20th February 2008 at Manipal to donate 20 licenses of MPSim Pro & Designer Classic (Software tools) to University whose total list price is more than 2 crores in the market (\$25,500/- per license).</p> <p>Under the University Partnership Program, Axiom Design Automation extends full waiver of the support and maintenance fee to University for 20 licenses.</p>
3	MDN Lab	<p>University & Manipal Dot Net (MDN), signed a Memorandum of Agreement on 20th June 2008 at Manipal to promote academic excellence & research in the area of software & hardware services. Under this agreement, students of University will be undertaking their internship at MDN & employees of MDN will be enrolled as part time students at University for the relevant courses.</p> <p>MDN is a highly entrepreneurial software and hardware design services organisation, located in Manipal. It is the first Electronic Hardware Technology Park Unit in the combined districts of Udupi & Mangalore. MDN undertakes projects in all areas of computer science and systems, providing both software and hardware services, VLSI, EDA Software, Embedded Systems, and Circuit Design. Presently MDN has the client base of Altera, Catalytic, Coverity, IPFlex & Synopsys.</p> <p>This agreement helps University students & faculty to work in the cutting edge technology at MDN, while engineers from MDN can pursue their masters programme at University.</p>
4	CERNER	<p>CERNER Healthcare IT solution provider has a partnership with MCIS in terms of offering mini projects to the students of MS Medical Software. When the students are at the end of their first semester, CERNER defines projects to the students. Students are expected to work on these projects under the remote guidance from the Architects of CERNER through mail exchanges and tele-cons. There will be one faculty member from MCIS on each project. Students are supposed to ensure the completion of the working model of the project assigned to them. After the completion of the project, students have to undergo an interview conducted by CERNER. Based on the performance of the students during the</p>

		implementation of the project and the interview, students are selected for the internship in CERNER. This helps the students to learn new things, experience the way industry works, meeting the deadlines etc. which are most important aspects for an industry
5	Nokia	Nokia Research Center, Bangalore & University has been jointly carrying out a research project called “Health Radar”. This research project is expected to help health authorities carry out early detection and rapid response in case of any disease outbreak. The faculty & students of School of Information Science are associated with the ongoing project in various capacities like technical support, coordination & student internships. Few of our MS Embedded Systems students from our institute have been working as interns in this project since January 2009. HealthRadar project from Nokia Research Center is aimed to positively impact the public health domain in developing countries across the globe.

Any other information regarding Research, Consultancy and Extension, which the institution would like to include.

Extension activities by Dept. of Community Medicine

Kasturba Medical College with a network of Kasturba hospital and 7 rural maternity and child welfare homes has provided preventive, promotive and curative health care to rural community for over 50 years. The field practice area covers a population of 50,000 to whom community health services are provided through 7 rural maternity and child welfare homes.

Udupi districts is one of the more developed districts in Karnataka with overall literacy rates and female literacy rates being 70.87% and 86.59% respectively (Census 2001) which has improved from the figures in 1991 which are 74.47% and 83.58% respectively.

The infant mortality rate which is considered as an important indicator of socioeconomic development is currently less than 30 in Udupi district and 7.28 in the field practice area of KMC Manipal(2001 census). The IMR figures in 1981 and 1991 for Dakshina Kannada district (Udupi was part of Dakshina Kannada district before it got separated) are 55 and 29 respectively. The IMR infield practice area was 12.88 in 1991. Life expectancy in Udupi district was 70 years which was higher compared to Karnataka (66 years). The crude birth rate and total fertility rate in Udupi district were lower (15/1000 population and 1.5) in Udupi district compared to Karnataka (20.9/1000 population and 2.4) and India (25.9/1000 population and 3.2). The crude birth rate infield practice area of KMC,

Manipal currently is 9.04/1000 population which is much lower. The antenatal coverage (at least 3 ANC checkups) is 90-100% in our field practice area which is significantly high compared to South India (80%), North India (15%) and India (37%) respectively. The rural community infield practice area gets benefit from Group insurance linked medical insurance scheme (Manipal Arogyasuraksha) through ICICI Lombard General Insurance Company limited. University contributes towards the subsidy of above scheme which enables a medical cover of Rs.30,000 per family without any premium to be paid by the members in the community.

There is a significant improvement in socio-economic conditions and health status of population in Udupi district over last two decades. This can be attributed to overall development and improved health care services to rural communities through health centers and hospitals of Kasturba Medical College, Manipal and Government of Karnataka.

Extension activities by Dept. of Public Health

- 1) **Contribution to Human Development Index Report (HDI):** Department of Public Health is supporting District Administration in preparing Udupi District Human Development Index (HDI) Report.
- 2) **School Health:**
 - **Screening refractive errors among school children:** Early detection of refractory errors among school children in Udupi and made appropriate referrals. More than 3000 children were examined.
 - **Cardiac Screening for Children:** School children were screened for congenital heart disease. This was done in government schools in Udupi district in which 3000 children were screened.
 - **Health and Nutritional status of school children:** A state wide screening of nutritional status of school children was done on children receiving mid-day meal. In this, 79000 children were covered.
 - **Adolescent health:** Department has participated in school health (Adolescent Girls) program called Meena Mela under Sarva Siksha Abhyana.
 - **Health education:** Various health education program has been conducted by the department especially on Malaria, Hygiene and Nutrition.

3) **Monitoring and Evaluation of Government Health programs**

- **Monitoring of Pulse Polio program:** Participated in the external monitoring for pulse polio program in Udupi District. The monitoring report was submitted to WHO polio surveillance officer.
 - **Evaluation of Mass Drug Administration for Filariasis:** Ministry of Health and Family welfare entrusted department of Public Health to carry out evaluation of Mass Drug Administration for Lymphatic Filariasis in Bijapur, Bagalkot and Udupi. Report was submitted to Ministry of Health and Family Welfare, Bangalore. During this household members were imparted knowledge on Filariasis transmission, prevention and importance of mass drug administration.
 - **Lymphatic Filariasis Survey:** Over 200 individuals were examined for Lymphatic Filariasis and its morbidity patterns in Udupi District.
 - **Evaluation of Child Protection Systems:** The department of Public Health (by Social work) has taken up an assignment to provide technical support for preparation of the District Child Protection plan (child protection issues) in co-ordination with women and child welfare department, Udupi District
- 4) **Capacity building initiatives:** Medical officers from 3 districts namely Mangalore, Karwar and Udupi districts were trained in Public Health in emergencies. School teachers were trained regarding HIV/AIDS under school AIDS education program.
- 5) **Tribal Health:** More than 700 koraga women's were examined and Hemoglobin level was estimated by using Haemocue method. Health Education on anemia was imparted to all tribal women on how it can be prevented.
- 6) **Cancer Registry:** Population and Hospital Based Cancer Registry program is initiated to assess the pattern and trend in cancer in Udupi District. Department of Public Health is contributing cancer data to National cancer registry programme (ICMR).
- 7) **Health camps:** The Department is conducting various health camps in Udupi and neighboring Districts as part of community outreach program.

Best Practices:

1. Directorate of Research
2. Technology Business Incubator
3. Endowment Chair
4. Research incentives

4.1 Physical Facilities

4.1.1 How does the University plan and ensure adequate availability of physical infrastructure and ensure its optimal utilization?

The Board of Management reviews the physical infrastructure requirements at periodic intervals for each constituent unit. The University has adequate infrastructure facilities as per requirements of the regulatory bodies for all its constituent units.

To create additional facilities / infrastructure required for new courses / programs, the following procedure is followed:

- Preliminary meeting is held prior to starting a new course /programme, to discuss and finalize the infrastructure requirements.
- Additional requirements as projected by individual institutions are reviewed and approved keeping in mind the financial resources available; and the additional infrastructure is created.
- Through coordinated efforts between various constituent units, the available infrastructure is put to optimum use.

(Details of additional facilities created in the last 3 years and the work in progress are depicted in the Annexure 4.1)

Dubai Campus

The university has planned and executed the space matrix based on the technical specifications and requirements of Technology and Media Free Zone (TECOM, a UAE Government Authority) and in concurrence with Knowledge and Human Development Authority (KHDA) which governs the academic requirements of a university. The planned total capacity of the space matrix is around 3000 students and our current enrollment is around 1300, which ensures excellent availability of physical infrastructure for additional expansion.

4.1.2 Does the University have a policy for the creation and enhancement of infrastructure in order to promote a good teaching-learning environment? If yes, mention a few recent initiatives. –

Yes. University has put quality policy in place to ensure optimal requirements of infrastructure and other facilities in place. It has taken the following steps to enrich the academic and infrastructure facilities:

1. Establishment of Central Instrumentation Facility, which is housed in the Innovation Centre, MIT for benefit of faculty members and students. It consists of state-of-the-art instruments like Scanning Electron Microscope, Ion Chromatograph, Nuclear Magnetic Resonance to name a few.
2. Creation of infrastructure

Details Of Buildings (MU Manipal) 2011-12 Onwards.					
#	Project	Year of completion / Built up area in SQM			
		2011-2012	2012-2013	2013-2014	2014-2015
1	Hostel for sports complex -A block	16075			
2	MIT academic block 5	31480			
3	MIT food court	4020			
4	MARENA	13488			
5	W and c. Block	10288			
6	Trauma block	8218			
7	MIT Girls Hostel		6806		
8	MIT bh1		6806		
9	MIT bh2		6806		
10	MIT bh 3			6806	
11	Hostel for sports complex -B block			19838	
13	Hostel for sports complex - C block	Completed, Not occupied			17625
14	Academic block for sports complex			11875	
15	KH dormitory block			9338	
16	MIT housing A block			6455	
17	MIT housing B block	Completed, Not occupied			9981
18	Block for management wing			3323	
19	Extension of OPD block			6503	
20	Philosophy and humanities block			1873	
	Total built up area in SQM.	83569	20418	66011	27606

Off shore campus

Dubai

The university has created a state-of-the-art physical infrastructure facility to promote and enhance teaching and learning. It has 41 lecture halls, 57 sophisticated labs and studios. All the lecture halls are smart class rooms equipped with white boards and with latest high resolution projectors installed in them. They have excellent lighting facilities and comfortable ergonomic chairs and tables for both students and the faculty.

Melaka

As part of a continual improvement process, facilities are regularly reviewed at the Board Meetings, Management Meetings, Heads of Departments and Faculty meetings.

Due to such reviews, a satellite Campus was built in Muar, Johor about 50 kms from Melaka using RM 50 million. This was to ensure that students were dispersed over a larger number of hospitals (and thus beds) which promoted the student-teacher ratio and improved the teaching environment. The satellite campus was a mirror-image of the Melaka campus with all facilities available for students and staff.

4.1.3 How does the University create a conducive physical ambience for the faculty in terms of adequate research laboratories, computing facilities and allied services?

- Periodic reviews are conducted by the institutional heads for reviewing the existing facilities to the students and identifying the additional facilities required.
- Statutory requirements are also reviewed for compliance.
- Feedback collected from students and faculty forms an input in these meetings.
- There are enough research laboratories in the University which are made available to faculty members to carry on their research activities.
- Every department has computing facilities and every faculty is provided with laptops for various academic and research activities.
- Statistics bureau of the University provides the required support for statistical analysis of the data generated in various research/academic activities

Dubai campus

The faculty and staff of the university are provided with much larger office spaces than required under the guidelines of TECOM. These offices are well lit and personal computers with high speed internet facility are provided. As already mentioned in point no. 4.1.2, the equipment used in the labs and studios are highly sophisticated and any kind of high end research project can be executed with a high degree of accuracy.

4.1.4 Has the University provided all departments with facilities like office room, common room and separate rest rooms for women students and staff? –

Yes. All the departments have the required facilities for teaching learning, faculty rooms, labs etc.

Dubai campus

Designated prayer rooms are provided for men and women and common lunch room is located for use by the students and faculty.

4.1.5 How does the University ensure that the infrastructure facilities are disabled-friendly?

All new projects undertaken ensure the availability of disabled–friendly facilities in terms of building access and utilities.

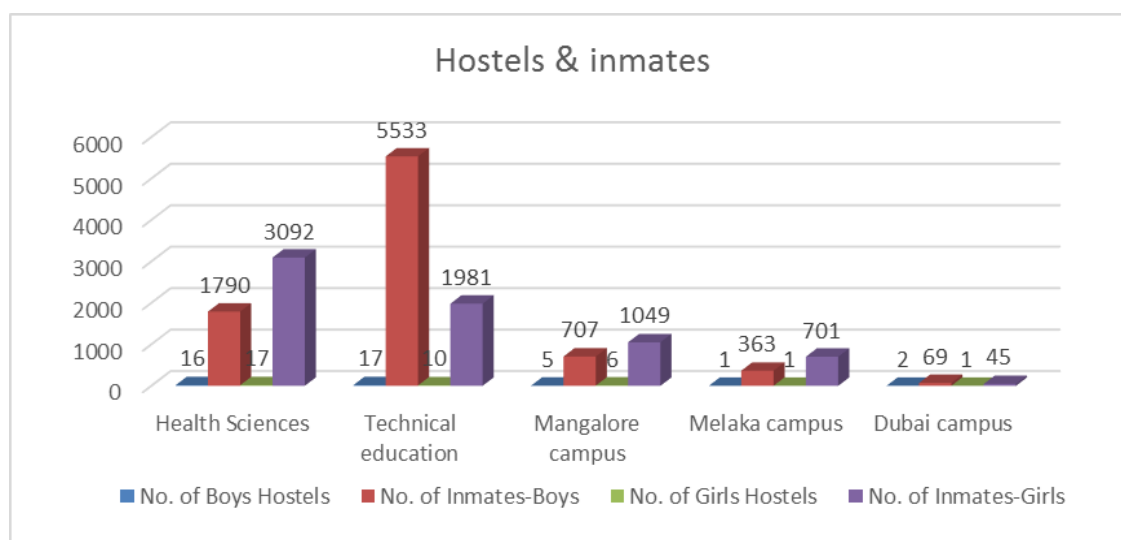
Dubai campus

The university has provided with designated parking facilities for physically challenged persons and required ramps are provided for easy access to the buildings, elevators etc.

4.1.6 How does the University cater to the requirements of residential students? Give details of

- * Capacity of the hostels and occupancy (to be given separately for men and women)
- * Recreational facilities in hostel/s like gymnasium, yoga centre, etc.
- * Broadband connectivity/Wi-Fi facility in hostels.

Location	Boys Hostels (nos.)		Girls Hostels (nos.)		Total (nos.)	
	Hostels	Inmates	Hostels	Inmates	Hostels	Inmates
Manipal campus						
a. Health Sciences	16	1790	17	3092	33	4882
b. Technical education	17	5533	10	1981	27	7514
Mangalore campus	5	707	6	1049	11	1756
Melaka campus	1	363	1	701	2	1064
Dubai campus	2	69	1	45	3	114
Grand Total	41	8462	35	6868	76	15330
Facilities available	<ul style="list-style-type: none"> • Cot, mattress, study table, chair and cupboard for each student • Uninterrupted power supply • Solar/electric-heated water facility, • Water cooler with filter • Common telephone • Common TV room • Common reading room • Hostel library • Gymnasium • Food court • Wi-Fi Internet facility • Night canteen • Mess facility • In-door games (carom, table tennis, chess etc.) 					



4.1.7 Does the University offer medical facilities for its students and teaching and non-teaching staff living on campus?

Yes, through University Medicare scheme. Medicare is a hospital-based plan offered by University through its network of associated hospitals. It is instituted primarily for the benefit of Students, employees and employee's dependants. The pre-paid health plan assists in extending medical facilities for both In-patient and out-patient services for the entire family, subject to limits specified.

Dubai campus

A dedicated medical room with first aid equipment is provided in the campus. Since we are in Dubai International Academic City, there are emergency ambulance facilities provided by the DIAC authority around the clock.

4.1.8 What special facilities are available on campus to promote students' interest in sports and cultural events/activities?

The sports and cultural co-ordination committee with student representative plan and conduct –programs/events throughout the year.

All sports facilities including indoor sports (MARENA) are available to the students. (Details are provided in Annexure 4.2)

Gymnasium facility at MARENA



Dubai Campus

A large 15000 sqft indoor sport facility with gym and activity rooms are provided in addition to a 50000 sqft of outdoor sports facility. This facility includes a full size basketball court, volley ball court, 2 badminton courts, tennis court, futsal court and the 250 meters running track.

4.2 Library as a Learning Resource

4.2.1 Does the library have an Advisory Committee? Specify the composition of the committee. What significant initiatives have been taken by the committee to render the library student/user friendly?

Yes. There are different Library committees for different locations. The Composition of each Library Committee is as follows:

Chairman - Head of Institution

Secretary - Librarian

Members - Heads of various departments

Student representative – Invitee

The committee has taken up the initiative in collection and development, e-Resources (Online journals, e-books and online databases) in particular, to meet the information needs of the users/students. (Refer Annexure 4.3)

4.2.2 Provide details of the following:

* **Total area of the library (in Sq. Mts.)**

Institution	Area (in Sq. Mts.)	Seating capacity
KMC Manipal	13950	1300
KMC Mangalore	2025	400
MIT Manipal	6503	800
WGSMA Manipal	150	100
SOC Manipal	465	100
SOM Manipal	286	58
Bangalore campus	181	60
Total	23560	2818

In addition there are departmental libraries catering to the department specific needs

* **Total seating capacity – 2818**

* **Working hours (on working days- OWD, on holidays- OH, before examination – (BE, during examination - DE, during vacation-DV)**

Basically the Libraries are open between 8.30 am to 11.30 pm. The details are as follows:

Institution	OWD	OH	BE	DE	DV
KMC Manipal	8:30 – 23:30	8:30 -16:30	8:30 – 23:30	8:30 – 23:30	8:30 – 23:30
KMC Mangalore	9:00 – 23:30	9:00 – 23:30	9:00 – 23:30	9:00 – 23:30	9:00 – 23:30
MIT	8:00 -23:00	9:00 -17:00	8:00 -23:00	8:00 -23:00	8:00 -23:00
WGSMA	8:30 – 19:00	Closed	8:30 – 19:00	8:30 – 22:00	9:00 -17:00
SOC Manipal	9:30 – 19:00	9:30 – 19:00	9:30 – 19:00	9:30 – 19:00	9:30 – 18:00
SOM Manipal	9:00 – 20:00	Closed	9:00 – 20:00	9:00 – 20:00	9:00 – 17:00
Bangalore campus	10:00 – 18:00	Closed	8.30 – 18.30	8.30 – 18.30	10.00 – 18.00

* **Layout of the library:** (Refer Annexure 4.3)

Individual reading carrels - Available,

Lounge area for browsing and relaxed reading - Available,

IT zone for accessing e-resources - Available

* **Clear and prominent display of floor plan** - Available;

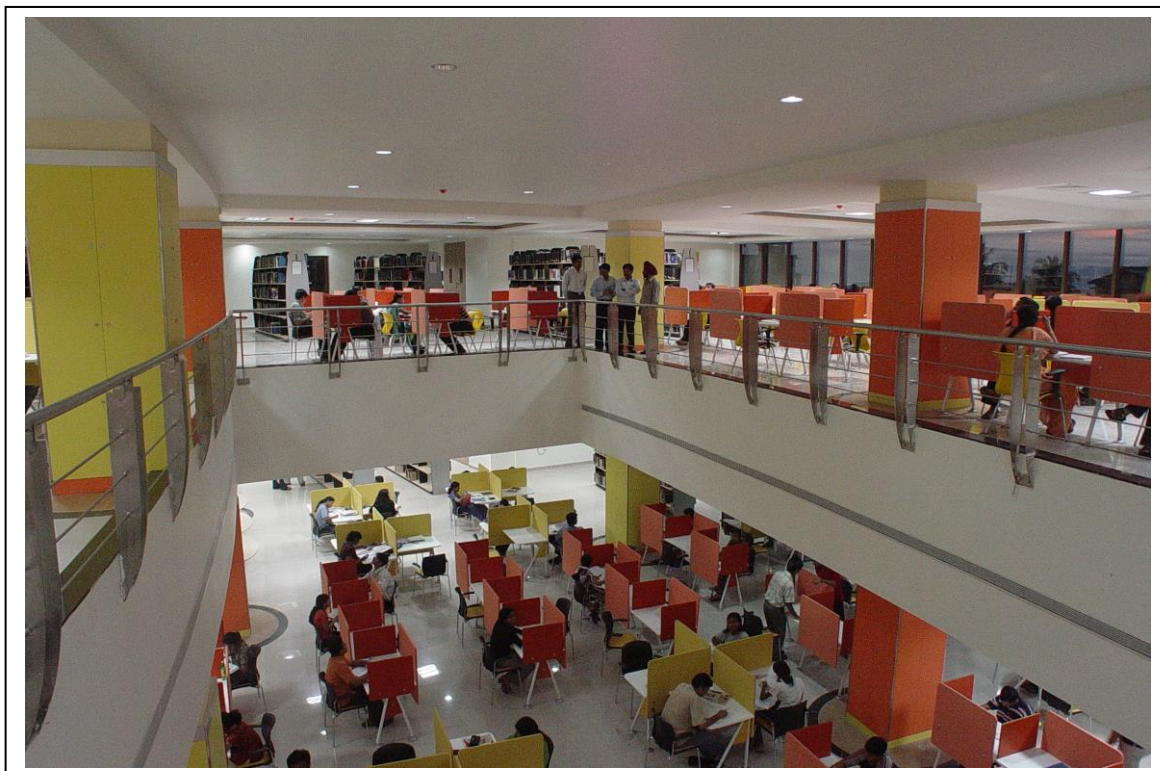
* **Adequate sign boards** - Available;

* **Fire alarm** - Available;

* **Access to differently-abled users** - Available and

* **Mode of access to collection** – Open/Restricted in few areas

Health Sciences Library



Dubai Campus

- Total area of the library (in Sq. Mts.) – **464.51 Sq. Mt.**
- Total seating capacity – **183**
- Working hours (on working days, on holidays, before examination, during examination, during vacation)
 - Library is open throughout the year except Fridays and government holidays. It is kept open for near to 14 hours a day between 08.00 AM to 09.30 PM during Sunday to Thursday and 09.00 AM to 01.00 PM on Saturday.
- Layout of the library (individual reading carrels, lounge area for browsing and relaxed reading, IT zone for accessing e-resources)
- Clear and prominent display of floor plan; adequate sign boards; fire alarm; access to differently-abled users and mode of access to collection
- The Library is equipped with clear displays of floor plan, and adequate sign boards on all areas of library. The library is also equipped with fire alarm and proper exit doors. The library's built environment is easily accessible by all the users including differently-abled users. The library has enabled open access to its collection.

Melaka

- Support facilities available in the library
- Computer labs with upgraded 50 desktops and 1 printer/photocopy machine.
- High speed through internet and Wi Fi to all users in the campus
- Audiovisual rooms (in the process of development)
- 10 Discussion rooms

4.2.3 Give details of the library holdings:

a) Print (books, back volumes and theses)

#	Name of the Libraries	Books	Journals Subscribed	Online Databases/	Online Journals & Books
	KMC Health Sciences Library, Manipal	Books- 64994 Back Volumes- 35037 Theses- 6668	526	12	Online Journals- 4553 e-Books- 408
	MIT Central Library, Manipal	Books- 115265 Back Volumes- 10509 Theses-64	270	3	Online Journals- 1700 e-Books - 698
	KMC Central Library, Mangalore	40363	282	4	2226 1576
	SOM Library, Manipal	14917	17	4	12(subscribed print+online Jls)
	SOC Library, Manipal	11515	56(34+17 Magazines)	2	e-books- 25
	WGSMA Library, Manipal	Books- 10134 Back Volumes- 511 Theses- 491	57	3	Online Journals- 2248 e-Books- 676
	SORM Bangalore	490	--	--	9
Total		Books- 257678 Back Volumes- 46057 Theses- 7223	1208 + (34+17 magazines)	28	Online Journals- 12324 e-Books- 1807

b) Average number of books added during the last three years

c) Non Print (Microfiche, AV)

d) Electronic (e-books, e-journals)

e) Special collections (e.g. text books, reference books, standards, patents)

Institution	b)	c)	d)	e)
KMC MPL	2035	769	4961	2050
KMC MLR	990	--	500	720
MIT MPL	2800	120	2178	58200
WGSHA MPL	572 559 540	579	3	590
SOC MPL	483	40	25	10
SOM MPL	1243	1606	3987	12368
SORM, Bangalore campus	67	--	--	--
Total	9289	3114	11654	73938

Dubai campus

a) Print

Books : **16,386**
 Back volumes : **1,488**
 Theses : **1,726**
 Periodical Subscriptions : **101**

a) Average number of books added during the last three years

Resource Type	Average Number of Books added per Year
Text books	287
Reference books	583

b) Non Print

Microfiche: **No**
 Audio Visual: **1,973**

c) Electronic

E-books : **1,32,000**
 E-journals: **32,000**

d) Special collections

Text books	:	4,503
Reference books	:	11,883
Standards	:	235
Patents	:	Nil

Melaka

a) Print

Books	:	8120
Back volumes	:	-
Theses	:	-
Periodical Subscriptions	:	-

Average number of books added during the last three years

Resource Type	Average Number of Books added per Year
Text books	54
Reference books	397

b) Electronic

E-books	: 29
E-journals:	31

4.2.4 What tools does the library deploy to provide access to the collection?

	KMC MPL	KMC MLR	MIT MPL	WGSHA MPL	SOC MPL	SOM MPL	BLR campus No
OPAC	Yes	Yes	Yes	Yes	Yes	Yes	No
Electronic Resource Management package for e-journals	--	--	--	Yes	--	Yes	No
Federated searching tools to search articles in multiple databases	--	Yes	--	Yes	--	Yes	No
Library Website	Yes	Yes	Yes	Yes	--	Yes	Yes
In-house/remote access to e-publications	Yes	Yes	Yes	Yes	Yes	Yes	No

Dubai campus

- * OPAC - **Available**
- * Electronic Resource Management package for e-journals - **Available**
- * Federated searching tools to search articles in multiple databases – **Not Available**
- * Library Website - **Available**

- * In-house/remote access to e-publications - **Available**

4.2.5 To what extent is ICT deployed in the library? Give details

Details	KMC MPL	KMC MLR	MIT MPL	WGSMA MPL	SOC MPL	SOM MPL	BLR campus	Total
Library automation	Yes	Yes	Yes	Yes	Yes	Yes	No	NA
Total number of computers for public access	110	15	25	12	7	1	15	185
Total numbers of printers for public access	5	2	1	1	1	1	1	12
Internet band width speed □ 2mbps □ 10 mbps □ 1 GB	1GB	2 mbps	10 mbps	1GB	100 mbps	1 GB	5 mbps	NA
Institutional Repository	Yes	Yes	Yes	Yes	Yes	Nil	Nil	NA
Content management system for e-learning	Yes			Yes		No	No	NA
Participation in resource sharing networks/consortia (like INFLIBNET)			Yes		Yes	No	No	NA

Dubai campus

ICT deployed in the library

- * Library automation –Library is automated with the library management software AUTOLIB, Barcode Technologies, and Electro Magnetic Security System.
- * Total number of computers for public access -**33**
- * Total numbers of printers for public access -**1 Heavy Duty Printer/Photocopier**
- * Internet band width speed - **16mbps.**
- * Institutional Repository–eQuestionBank and Project Theses are available
- * Content management system for e-learning– Green stoneand dedicated Library portal is deployed to organize specific contents of the institute.
- * Participation in resource sharing networks/consortia (like INFLIBNET) –
The University does not have membership with INFLIBNET/DELNET. However, it uses Library of Congress and other Union Catalogues for its bibliographic related need. Articles/Reference requests of the Students and Faculties are met by the library through its subscribed electronic resources and through the alliance with the parent campus libraries such as KMC college

medical library, MIT engineering library, and other associated college libraries.

Melaka

Melaka campus library is using KOHA web based library system where it's allow online renewal, online reservation. It also provides Web OPAC where users and search library collection online. The library is registered with National Library of Malaysia for interlibrary loan with all other organization/institution registered with them. In addition, the library will contact with University-Health sciences Library, Manipal, if there is any article needed by the academicians that not available in our collections or in local institution in Malaysia.

4.2.6 Provide details (per month) with regard to

	KMC MPL	KMC MLR	MIT MPL	WGSMA MPL	SOC MPL	SO M MP L	SOR M BLR campus
Average number of walk-ins	75413	3000	21000	4500	2500	260	--
Average number of books issued/returned	780/900	600	12000	2800	544	521	65%
Ratio of library books to students enrolled	8:1	22:1	1:5	20:1	1:10	1:26	3:5
Average number of books added during the last four years	2125/yr	829	3490	690	483	1442	35%
Average number of login to OPAC	1500	1200	12000	3300	1200	--	5%
Average number of login to e-resources	6014	900	49000	3900	150	1272	10%
Average number of e e-resources downloaded/printed	12900	750	8800	1500	100	985	--
Number of IT (Information Technology) literacy trainings organized	1	4	1	1	1	-	--

Dubai campus

#	Parameters	Numbers
1	Average number of walk-ins	12800
2	Average number of books issued/returned	188
3	Ratio of library books to students enrolled	10:1
4	Average number of books added during the last four years	835 books per year
5	Average number of login to OPAC	1450 per month

6	Average number of login to e-resources	1530 per month
7	Average number of e-resources downloaded/printed	1448 per month
8	Number of IT (Information Technology) literacy trainings organized –	Over 50

Melaka

#	Parameters	Numbers
1	Average number of walk-ins	55
2	Average number of books issued/returned	21
3	Ratio of library books to students enrolled	1:5.4
4	Average number of books added during the last four years	389
5	Average number of login to OPAC	11
6	Average number of login to e-resources	20
7	Average number of e-resources downloaded/printed	35
8	Number of IT (Information Technology) literacy trainings organized –	--

4.2.7 Give details of specialized services provided by the library with regard to

Manuscripts

Reference - Available @

Reprography - Available

Inter-library Loan Service - Available

Information Deployment and Notification - Available @

OPACS - Available @

Internet Access - Available @

Downloads - Available @

Printouts - Available @

Reading list/Bibliography compilation - Available @ +

In-house/remote access to e-resources - Available

User Orientation - Available

Assistance in searching Databases - Available

INFLIBNET/IUC facilities - Available @ + #

@ - Not available in SOC, + - Not available in KMC MLR, #- Not available in WGSHA

Dubai

Details of specialized services provided by the University Dubai library with regard to

- * Reference - **Reference Services are provided**
- * Reprography – **Reprography service is provided**
- * Inter-library Loan Service – **ILL service is offered** through the alliances with the local libraries.
- * Information Deployment and Notification – Library Portal is very active in updating the new arrivals, and library related news. Automated emails are sent for new arrivals, reminders, availability of reserved items etc.,
- * OPACS - **Library provides access to OPAC** through its dedicated web portal.
- * Internet Access – **33 workstations** with high speed internet access available. **WIFI** Access also provided to the patrons.
- * Downloads – Patrons are allowed to download any legitimate academic materials with no maximum bandwidth restrictions.
- * Printouts – Printouts/Photocopy facility is available in the library at a nominal fee.
- * Reading list/ Bibliography compilation – Such SDI, New arrival services are done online by email notification.
- * In-house/remote access to e-resources– In-house/remote access to the e-resources are available.
- * User Orientation – The library conducts the user orientation on the library resources and facilities to every new students/faculties at the beginning of the academic year. Individual/Group orientations are also conducted based on request.
- * Assistance in searching Databases – Yes.Such assistance is provided as on it is required. Library staffs are thoroughly trained to assist the patrons in searching the subscribed databases.

Melaka Campus

- * In case of new arrivals, Library will display all of them at one corner in the library. Besides that, Library has SMS services for book reservation and reminder for those who has library overdue. Library has hard bound copy of journals which are periodically borrowed for references by students/faculty.

4.2.8 Provide details of the annual library budget and the amount spent for purchasing new books and journals.

Institution	Budget (INR) (14-15)	Expenditure (INR)(14-15)
KMC Manipal	6,16,43,150.00	4,62,32,207.58
KMC Mangalore	1,61,22,000.00	2,27,13,800.00
SOC Manipal	8,75,000.00	8,75,000.00
MIT Manipal	1,63,45,000.00	1,59,46,768.00
WGSMA Manipal	25,00,000.00	10,45,703.00
SOM Manipal	30,00,000.00	26,92,000.00
Bangalore campus	1,50,000.00	1,43,000.00
Total	10,06,35,150.00	8,96,48,478.58

Dubai

The annual library budget of University Dubai Campus for the last academic year (2014-2015) was AED 546,262/-. And it spent about AED 508,885.38 for the purchase of new books and journals. The university accepted to spend about AED 500,000 for the current year on the library resources

Melaka

Annual budget for 2014 – RM 608 000. Total spent –RM 346, 595

4.2.9 What initiatives has the University taken to make the library a ‘happening place’ on campus?

University has an excellent Health Sciences Library, perhaps the best among all Health Sciences Libraries in India. The state-of-the-art library stretching over 1.5 lakh square feet, on five levels is a domain for information seekers; be it students, faculty or researchers. It has the capacity to accommodate 1300 students at a time. Besides the comfortable seating and reading environment, the library is well-equipped with modern facilities such as e-learning, access to internet and web resources including online journals and e-books. Library is providing a growing range of databases available in electronic form on the campus network. All the library services have been automated on modern lines. The library has fully computerized its collection, which could be accessible through OPAC. The library is enabled with Wi-Fi technology and security systems with Closed Circuit Television System (CCTV). There is a separate audio-visual room, computer lab, group study area and private study area in the library. The library has all the facilities for the students to learn. The Health Sciences Library is committed to provide a world class information support to its users. Library provides open access facilities which helps ease access and use of library as a learning resource.

Dubai

The library is a place where the patrons are very enthusiastic in using its services as it is a very organized environment and responsive in its service. The library utilized the technology well by using its automation software, automated email notifications, the dedicated library portal, barcode technology, etc., which helps the library patrons in knowing the library better than the traditional method. Also its extended working hours of over 14 hours a day helps the patrons to utilize the library at their convenience.

4.2.10 What are the strategies used by the library to collect feedback from its users? How is the feedback analysed and used for the improvement of the library services?

A suggestion box has been kept near the entrance of the library to collect the feedback from the users. Also online feedback option is given in the library website to collect the feedback from the users. Student's feedback are being analysed and considered wherever applicable for the improvement of online access to e-resources, various library services, computer infrastructure and other infrastructure facilities of the library.

Dubai

The library values the feedback/suggestions of the patrons. The online feedback form is provided in the library portal. The students are advised at the time of user orientation to provide their feedback/suggestions to the library email address. Such feedbacks are often reviewed at the library committee level and the resolutions as per the recommendations of the committee.

4.2.11 List the efforts made towards the infrastructural development of the library in the last four years.

- Development of library webpage
- Addition of online databases/online journals/e-books
- Implementation of integrated search solution software
- Development of Institutional Repository using e-prints software
- Digitization of previous years University Exam Question papers
- Installation of CC TV Cameras
- Replacement of P3 computers with Core2 Duo
- Plasma TV
- Installation of LCD Projector

Dubai Campus

Efforts made towards the infrastructural development of the library in the last four years include:

- Library have moved from its small 1000 square feet amenities to the much larger and sophisticated (fully air-conditioned and Wi-Fi enabled) 5000 square feet infrastructure in the year 2011.
- It has upgraded its Online/Internet Browsing Center with latest 33 computer workstations (P4/3.2Ghz/1GB Ram/80 GB Hard Disc with LCD Monitors)
- Extended its reading area from merely 40 seats to over 200 seats capacity.
- There are 4 Group discussion rooms dedicated for the patrons.
- It has devoted Audio/Visual section with 40” LCD TV, a DVD Player and comfortable seating in its new building.
- Wi-Fi has been enabled for the users to connect their personal laptops and other IT devices.
- Dedicated library Server had been set up to reduce the downtime of library provided electronic services.
- The library web-portal which caters the various electronic services of the university has been revamped.
- Wooden Book Shelves have been upgraded from its mere capacity of 3000 titles to 25000 titles now.
- Security and Surveillance systems are upgraded by installing Security Gate Antennas at the entrance and by Installing about 32 CCTV Cameras around the library.

4.3 IT infrastructure

4.3.1 Does the university have a comprehensive IT policy with regard to

- IT Service Management - **Yes** (Please refer **Annexure 4.4** for details)
- Information Security - **Yes** (Please refer **Annexure 4.4** for details)
- Network Security - **Yes** (Please refer **Annexure 4.4** for details)
- Risk Management - **Yes** (Please refer **Annexure 4.4** for details)
- Software Asset Management - **Yes** (Please refer **Annexure 4.4** for details)
- Open Source Resources - **Yes** (Please refer **Annexure 4.4** for details)
- Green Computing - **Yes** (Please refer **Annexure 4.4** for details)

Dubai campus

- IT Service Management – Please refer **Annexure 4.5** for details
- Information Security – Please refer **Annexure 4.5** for details
- Network Security – Please refer **Annexure 4.5** for details
- Risk Management – Backup restore, EDB, Device control etc.
- Software Asset Management – Please refer **Annexure 4.5** for details
- Open Source Resources – Proquest

4.3.2 Give details of the university's computing facilities i.e., hardware and software.

- Number of systems with individual configurations

Desktops: **6,900 Nos.**

Laptops: (Faculty)-**2,500 Nos.** (Students)- **12,000 Nos.**

Majority of the students admitted to the University are provided with a laptop as part of admission process.

Printers: **2,780 Nos.** (Includes multi-functioning printers)

Scanners: **200 Nos.**

- Computer-student ratio - **1:1**

- Dedicated computing facilities

Centralized computing facility at MIT

Computer Labs at MIT, Architecture, SOIS, SOAHS, SOM, WGSHA, Commerce, Communication, MCOPS and Life Sciences

All libraries of University has dedicated computer Lab with internet browsing facility.

- LAN facility

We have well connected Campus Network (LAN) facility with 10 Gbps/ 1Gbps/ 100Mbps.

- Proprietary software

Microsoft Campus agreement for Microsoft Software products

All academic related software packages

- Number of nodes/ computers with internet facility

Every corner of the Campus has internet facility, either wired or wireless

- Any other (please specify)

Data Centre

University has a state of the art physical infrastructure for the data centre that meets the requirements of industry standard. This Tier II (N+1) DC, spread over 3,000 sq.ft., will house the server and also the Network Operation Centre (NOC), hosting University applications, e-Learning portal, websites and host of other services.

Physical infrastructure at Data Center



Group Wide Connectivity

Manipal has established a very strong and reliable VPN infrastructure connecting all Manipal Group of institutions in India and abroad with high-performance MPLS (Multi Protocol Label Switching) backbone - committed step to move towards "Digital University".

This solution will provide for high flexibility in not only adding new sites and location but also in adding new services like video conferencing, VoIP etc. Manipal GWC is highly secure, scalable and provides high uptimes with all the redundancies built into solution.

Wi-Fi Internet Services

Conventionally, students are required to obtain content from classroom teaching. Today, we are not too far away from sending this content directly to students, to enable 'on-demand learning'. With wireless, the dimension of 'mobility' can be added.

The entire University campus is unwired with a two-layer secure wireless architecture - core and access network. This provides seamless connectivity across the entire campus and users can access the network from anywhere in the campus, both indoor and outdoor. The Wi-Fi mesh network is designed to provide wireless broadband Internet services, branded as I-ON, to about 12,000 students on campus (access points and subscriber modules). This wireless infrastructure is being used to access all IP based services like Internet, e-mail, eLearning and digital library; and this network has the capability to support Value Added Services (VAS) such as IPTV, Video conferencing, VoIP and any other converged multi-media services.

Dubai campus

- Number of systems with individual configurations- 546
- Computer-student ratio-250 computers for students
- Dedicated computing facilities-Library and Labs
- LAN facility-yes(Intranet & Internet)
- Proprietary software-

Software list

Sl.No	Software Name	Vendor
1	Autocad 2007	Autodesk
2	3DS Max 2008	Autodesk
3	Autocad 2009	mediasys
4	MAYA 2009	mediasys
5	V- Ray	mediasys
6	Corel Painter	Autodesk
7	Coreldraw	mediasys
8	Art rage	Autodesk
9	Modaris	Autodesk
10	Prima Vision	Autodesk
11	Visual studio .NET 2003	ETA.net
12	Sound Forge 8.0	NTS
13	Avid Liquid 7.0	NTS
14	Premiere Pro CS2	NTS
15	Creative Suite 3	NTS
16	Final cut pro	NTS
17	Adobe Photoshop CS2	Autodesk
18	Adobe Illustrator CS2	Autodesk
19	Adobe Acrobat Professional	Autodesk
20	Autolib 4.0	Autolib Software Sys
22	Microsoft XP	Universal - Bangalore
23	Microsoft Office 2003	Universal - Bangalore
24	Microsoft Office 2007	Universal - Bangalore
25	Microsoft server 2003	Universal - Bangalore
26	Microsoft office 2010	Universal - Bangalore
27	Microsoft Windows 7	Universal - Bangalore

26	Adobe Acrobat Reader	
27	Pro-E	Edutech
28	Ansys	Edutech
29	Staad	Edutech
30	NISA	Edutech
32	Oracle	
33	Mat-LAB	Edutech
34	Adobe CS6	Adobe

- Number of nodes/ computers with internet facility- 450

Melaka

- LAN facility – Wi-Fi
- Proprietary software – U-Medic, AP Info, Ravmod

4.3.3 What are the institutional plans and strategies for deploying and upgrading the IT infrastructure and associated facilities?

University has a structured plan to deploying and upgrading the IT Infrastructure and associated facilities.

- 1) The Laptops, Desktops, Printers and accessories are replaced and upgraded on regular intervals of six years.
- 2) The Campus Network is on Cisco Network Switches with 10Gbps/ 1Gbps uplink.
- 3) The University, Manipal Campus has 970Mbps internet bandwidth and University, Mangalore campus has 155Mbps Internet bandwidth for faculty and student usage.
- 4) 1Gbps link from National Knowledge Network has been commissioned at University, Manipal Campus.
- 5) The University institutions at Manipal, Mangalore and Bangalore are connected through MPLS Group Wide connectivity.
- 6) Microsoft Campus Agreement (Yearly Renewal) for Microsoft Operating System, Office and other software products for faculty and student usage.
- 7) Manipal University has online student portal, Alumni portal, digital repository – eprints, online payment gateway for student fee payment etc.

Dubai campus:

Dubai campus's plans and strategies for deploying and upgrading the IT infrastructure and associated facilities:

- Use of CLOUD for various infrastructure and platform services.

- Use of campus Wi-Fi for student engagement services – contents, self-services etc.
- Use of student portal in SAP for all their administrative and information services.
- Use of EduNxt, an online learning management portal for students and faculties.
- Use of virtual class room for learning / sharing contents with two-way AV
- Mobile apps for learning and student engagement services

Melaka

The IT infrastructure is constantly reviewed with student feedback actively sought on the effectiveness of Internet / Wi-Fi connections. Stand-Alone Desktops are provided in dedicated IT rooms with connected printers for students' usage. Currently Wi-Fi covers about 90% of the campus

4.3.4 Give details on access to on-line teaching and learning resources and other knowledge and information database/packages provided to the staff and students for quality teaching, learning and research.

- 1) E-learning (Learning Management System) has been implemented for students of Basic Sciences. The portal can be accessed using <http://elearning.manipal.edu>. The process has been initiated for creating the facility for clinical science subjects.
- 2) The KMC, Manipal, KMC, Mangalore, MIT, WGSMA, SOC and Humanities Libraries have e-journal subscriptions and faculty members can access the resource through Campus Network.

4.3.5 How does the university address issues such as authenticity and copyright with regard to online resources that lie outside the university?

University has subscribed to Turnitin Anti-Plagiarism Software. The faculty publications are verified through this software.

4.3.6 What are the new technologies deployed by the university in enhancing student learning and evaluation during the last four years and how do they meet new / future challenges?

Campus Wi-Fi connectivity

Email ID to all Students in collaboration with Microsoft

Student Portal

Budget has been approved to setup the Super Computer Facility

Online Student Feedback

On Screen Marking

4.3.7 What are the IT facilities available to individual teachers for effective teaching and quality research?

The IT facilities for faculties;

Laptop

Email Id

Internet Facility

Academic Software packages in their respective discipline.

Online Journals

4.3.8 Give details of ICT-enabled classrooms/learning spaces available within the university? How are they utilized for enhancing the quality of teaching and learning?

All the class rooms in the campus have LCD Projectors and internet connectivity. This will enable faculty members to conduct the classes and seminars effectively.

ICT enabled class room



4.3.9 How are the faculty assisted in preparing computer- aided teaching-learning materials? What are the facilities available in the university for such initiatives?

- 1) Faculties are provided with Laptops for preparing class room PPTs.

- 2) We have a full pledged audio-visual unit, which assists faculty in preparing teaching materials.
- 3) We have a Studio at School of Communication.

4.3.10 How are the computers and their accessories maintained?

We have a CAMC support for computers and accessories with competitive vendors. We have provided space to vendors to setup the service center in the campus. Currently, we are having service center for HP, Lenovo, Acer and Apple in the campus.

4.3.11 Does the university avail of the National Knowledge Network connectivity? If so, what are the services availed of?

Yes, currently we are availing the Internet Services.

4.3.12 Does the university avail of web resources such as Wikipedia, dictionary and other education enhancing resources? What are its policies in this regard?

Yes, Students are encouraged to use open resource on the internet

Dubai campus

The University Dubai campus library has Proquest online database facility that enables faculty, students and researchers to have access to thousands of book titles and journals which facilitates in up-to-date literature reviews and knowledge enhancement.

4.3.13 Provide details on the provision made in the annual budget for the update, deployment and maintenance of computers in the university?

The details of Computer budget in Lakhs for the FY 2013-14, 2014-15 and 2015-16 are as per the table given below.

#	Description	2013-14	2014-15	2015-16
1	Capital Budget - Computer	1901.77	1887.87	1979.2 (Excluding hospitals)
2	Operating Budget – R &M	602.13	677.55	736.95
3	Operating Budget- Internet Bandwidth	556.37	567.85	572.06

Dubai Campus

Every 5 years, computers are replaced. An amount of AED200, 000/- is allocated every year for IT updation.

4.3.14 What plans have been envisioned for the gradual transfer of teaching and learning from closed university information network to open environment?

The LMS for KMC, Manipal and Mangalore for Basic Science subjects has been implanted during 2004-05. The LMS has been implemented for WGSMA during the year 2012-13.

It has been planned to implement Learning Management Systems on edunxt platform for University Institutions in a phased manner.

4.4 Maintenance of Campus Facilities

4.4.1 Does the University have an estate office/designated officer for overseeing the maintenance of buildings, classrooms and laboratories? If yes, mention a few campus specific initiatives undertaken to improve the physical ambience.

Yes. University has an Estate Officer and his office.

However the entire maintenance of the campus including infrastructure is outsourced which is monitored centrally by the Director General Services.

Following are some of the initiatives undertaken to improve the physical ambience:

1. Waste water management infrastructure has been created by setting up state of the art Sewage treatment Plants to treat the sewage generated in the campus
2. Grey water treatment for reuse in flush system
3. Treated water is used for development of green cover across the campus
4. Rain water harvesting for ground water recharge and direct use
5. Energy management for reducing power consumption
6. Solid waste management by segregation into biomedical, hazardous and non hazardous wastes
7. Vermicomposting of vegetable waste
8. Solar water heating for all hostels and few hospital blocks
9. Air quality monitoring
10. Arboriculture

Details of the above are provided in Criteria 7

Dubai Campus

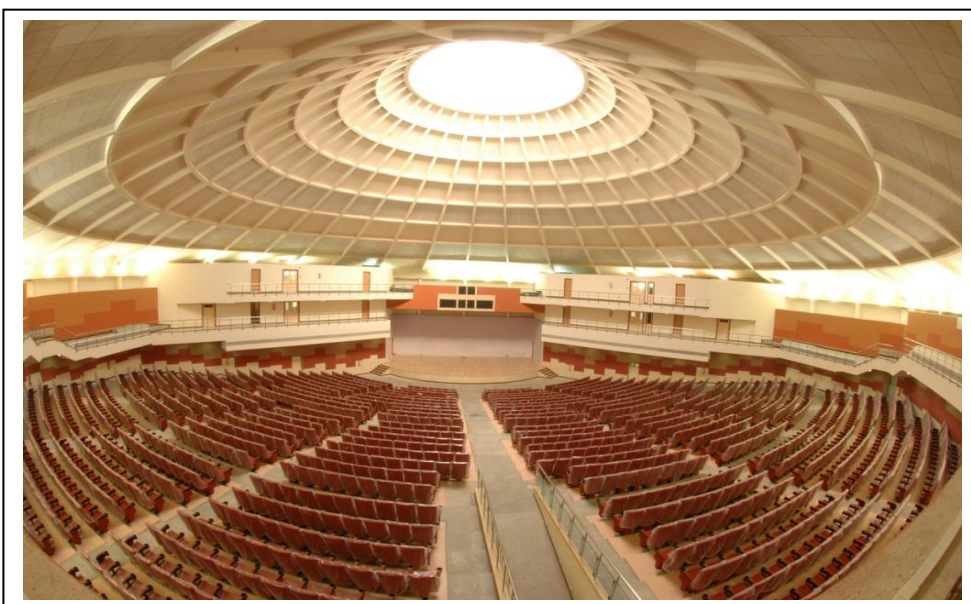
The campus is completely monitored by 24*7 CCTV and it is controlled by highly effective BMS (building management system). We have 19 security personnel and 25 cleaning staff who keeps the university a safe and clean place and to create a conducive learning environment..

4.4.2 How are the infrastructure facilities, services and equipments maintained? Give details.

The services are out sourced to an agency which has departments like Electrical Maintenance, Plumbing, Civil and Ancillary. University requirements are sent to the agency either by mail or phone. These are attended to by the relevant department. Review of this process is done on a monthly basis by the Director General Services, University.

Equipments especially medical related or laboratory related – An annual maintenance contract is entered into by the respective institution with the manufacturer through the Director Purchase. This ensures that proper maintenance is carried out.

Dr. TMA Pai International Convention Center



Destination Manipal – Experience theatre



Dubai Campus

Dubai campus has annual maintenance contracts signed with most of the equipment vendors. Periodic service and maintenance is being done and timely reports are generated.

Any other information regarding Infrastructure and Learning Resources which the University would like to include.

Best practices:

1. MARENA
2. Digital campus
3. Student Information system (SIS)

Student Mentoring and Support

5.1.1 Does the University have a system for student support and mentoring? If yes, what are its structural and functional characteristics?

Yes. Following are the student support systems

1. Teacher Guardian Scheme: Each faculty is assigned 10 First year students. Faculty will visit their hostels regularly and keep constant touch with their wards and their parents.
2. Faculty Adviser Scheme: For students other than first year, faculty advisers are assigned for each section to support students in overcoming their difficulties. Faculty advisors will act as mentors in solving the grievance of students.
3. Mentorship Scheme: Keeping in mind the cultural background and special needs of the international students, a mentorship scheme will be in operation. Mentors are the faculty of MMMC (Manipal campus).

The objectives of the Mentorship Scheme are to:

- Help the students to get acclimatized to campus life in Manipal
- Provide academic counseling
- Give personal and professional guidance
- Promote cultural integration
- Support co-curricular and welfare activities of the students
- Arrange remedial measures for students who are at the risk of failure

Students who have settled into the programme will benefit from the Mentorship Scheme, which will give:

- Encouragement to maintain the tempo of their learning
- Guidance on how to further improve their academic performances
- Advice on the need to be regular in attending classes and actively participating in group activities
- Suggestions on how to maximize and focus their academic endeavors

Dubai campus

Student support and mentoring is done by the Student Services Officer for the university at large, all aspects, emotional, academic and personal are generally handled by her. She maintains a very close interaction with the students in total confidentiality. In many cases the faculty and parental support is also sought. At the classroom level, the faculty also extend their help and mentor a specific group assigned to them.

Melaka

There is a 'Mentor-Mentee' system in place which is further supplemented by experienced counsellors / psychologists and psychiatrists.

Students are divided into groups of 8 or so to a Mentor who will assist them in their academic and other needs.

5.1.2 Apart from classroom interaction, what are the provisions available for academic mentoring?

1. Tutor support for weak students: Teaching assistants help students in critical subjects in each department.
2. Department of Continuing Education and Counseling: This department arranges various programmes both curricular and co-curricular for the benefit of students.
3. Academic related technical clubs with faculty advisers: Many technical clubs like I.E, IEEE, SAE, AkshayUrja, Tech Ahoy, Cutting Edge etc. conduct academic related programs and competitions for the benefit of students.
4. Providing time slots for students to interact with the faculty members.

5.1.3 Does the University have any personal enhancement and development schemes such as career counseling, soft skill development, career-path-identification, and orientation to well-being for its students? Give details of such schemes.

Yes. University has a separate department named as Manipal Centre for Professional and Personal Development (MCPD), which conducts regular programs for personal enhancement and development for students and faculty.

In addition, training and placement department conducts programmes (every semester) for soft skill development and career path identification for students.

Personal enhancement : Institution-wise personality development

Career counseling : Institution-wise cell for career counseling

Soft skill development : USIEF – for higher education at USA

Languages class : French, Spanish, German and Kannada

Yoga class

Seminar on career guidance

5.1.4 Does the University publish its updated prospectus and handbook annually? If yes, what are the main issues/activities/information included/provided to students through these documents? Is there a provision for online access?

Yes. University and its off shore campuses publishes updated prospectus and each institution publishes the “Hand book” containing information on academic regulations, student regulations, hostel regulations, security rules, disciplinary measures etc. (Refer Annexure 5.1 for sample Handbook & Annexure 2.1b for MAHE Prospectus)

5.1.5 Specify the type and number of University scholarships/free ships given to the students during the last four years. Was financial aid given to them on time? Give details (in a tabular form) for the following categories: UG/PG/M. Phil/Ph.D./Diploma/others (please specify).

With the objective of encouraging meritorious students and academic excellence, many scholarships are offered for deserving candidate and the same is disbursed on time. Following are the various types of scholarships given to students at University:

1. Merit cum means scholarships
2. AICTE scholarships
3. ITC scholarships
4. Teaching Assistantships
5. Scholarship for Konkani speaking students
6. Academy of General Education Students scholarships
7. Scholarship for GATE qualified students
8. Kadambi scholarships
9. Maulana Azad National Scholarship scheme etc.

Details of the scholarships given for the last four years are provided in **Annexure 5.2 Scholarship award function**



Dubai campus

The scholarships provided are on the following criteria:

- Students obtaining 95% and above are given a 30% concession in the 1st semester tuition fees.
- Students obtaining 90 – 95% in grade 12 exam are given a 25% concession in their first semester tuition fee.
- Students obtaining 80% to 90% in the Grade 12 are given a 20% concession in the first semester tuition fees.
- Students obtaining 70% to 80% in the Grade 12 are given a 15% concession in the first semester tuition fees.
- A student needs to maintain a GPA OF 3.6 on a scale of 4.0 and 9 on a scale of 10 in order to avail of the scholarship of 15% for the following semester.

MAESTRO Awards are also given to the topper in U.A.E in the streams of Science, Commerce and Humanities as they receive a complete waiver of fees for their entire period of study with us.

Melaka Campus

A large number of our students are supported by grants / scholarships by the Malaysian government.

5.1.6 What percentage of students receive financial assistance from state government, central government and other national agencies (Kishore Vaigyanik Protsahan Yojana (KVPY), SN Bose Fellow, etc.)?

University and its constituent units are approved on the basis of self financing private higher educational institutions. Hence the students do not get scholarships from the state and central governments.

The University has instituted merit-cum-means scholarships. In addition around 2 per cent of students have received AICTE scholarship this year.

Dubai campus

The government of UAE does not provide any person with residence or citizenship by naturalization. Thus there are no Government or national agencies which offer financial aid to Non-Emiratis.

5.1.7 Does the University have an International Student Cell to attract foreign students and cater to their needs?

University has an exclusive section headed by a Deputy Director for International Admissions, under Director Admissions, which deals only with the admission of international students and cater to their needs. To attract the foreign students, University participates in education shows in various parts of the world and brings awareness of various courses being offered. Also through other media like website etc. details of admission process is given to prospective students, apart from the information on courses being offered, (Refer Annexure 1.4)

1. University earmarks 15 per cent of the total seats for international students which include foreign citizens, PIO (Persons of Indian Origin) card holders, overseas citizens of India, Non resident Indians (NRI) and NRI sponsored students.
2. Study Abroad Programme: University has initiated a multi-disciplinary programme for international students from various universities across the globe to showcase Indian culture and traditions, India's place in world affairs and the role of media and communication.
3. International Association for Exchange of Students for Technical Experience (IAESTE): To enhance technical and professional development and promote international understanding and goodwill amongst students, academic institutions, employers and the wider community
4. International student exchange for cultural promotion (AISEC)
5. University entered into MoUs with various foreign universities for student exchange programmes.

Study abroad program students



5.1.8 Does the university provide assistance to students for obtaining educational loans from banks and other financial institutions?

Yes. University has signed an MoU with State Bank of India to provide scholar loans, exclusively for its students. These loans are up to Rs. 20.00 lakhs to the students of KMC Manipal/Mangalore and up to Rs. 7.50 lakhs to the students of MIT Manipal without any collaterals and Rs. 30.00 lakhs with collaterals in both cases and with reduced interest rates.

5.1.9 What types of support services are available for

Overseas students –

- All support and assistance are provided for the registration of the foreign students at the SP office.
- Separate AC hostels are made available to them.
- International food court for multi-cultured cuisine has been established inside the campus.

Physically challenged/differently-abled students –

- Almost all the buildings have lift facility and all new buildings are constructed with ramp facility.

SC/ST, OBC and economically weaker sections –

- Educational loan facilities are made available and University sponsored scholarships are provided to poor-cum-meritorious students.

Students participating in various competitions/conferences in India and abroad –

Competitions:

- Financial assistance in the form of TA and DA is provided to all the students who participate in the Inter University Sports and cultural competitions.
- Special coaching is arranged free of cost.
- Track suits and uniforms are sponsored to the students representing University in outside competitions.

Conferences:

- Rs. 25,000/- is provided to PhD students for participating and presenting research paper in the conference.
- Rs 5000/- is granted for attending national conferences and the registration fee is refunded for attending International conference.

Health Centre, Health Insurance etc. –

All students are covered under University Medicare (Health insurance) scheme. Out-patient facility is free and in-patient facility is free up to predefined limit at the University hospitals. Both Manipal campus and Mangalore campus have a very good tertiary care hospital.

Skill development (spoken english, computer literacy etc.):

- Continuing Education cell conducts regular course on skill development. Technical clubs conducts course on Networking, MATLAB, C, C++ etc.

Performance enhancement for slow learners –

- Faculty advisors help the slow learners.
- Teacher Guardian Scheme and Counselor Support.
- Need-based counseling

Exposure of students to other institutions of higher learning / corporate / business houses etc. –

- i) For Medical college, student exchange programme.
- ii) For Engineering and pharmacy students, industrial training and internship.
Details are provided in the reports of respective colleges.
- Practice school concept is introduced where UG students take up their final semester project in an industry or institutions of excellence like IITs.
PG students carry their one year project in an industry.

Publication of student magazines –

- All the colleges publish annual magazines wherein students contribute their articles.

To name a few:

- Dhvani by MCON Manipal
- Signum Vitalis by KMC Manipal
- Zeitgeist by MIT Manipal
- Excelsior by MCOPS Manipal
- Impetus by SOAHSM Manipal
- M.LIFE by MMMC Manipal
- Ink'D by KMC Mangalore
- Excelsior by MCODES Manipal

Apart from this, there are various clubs which will publish bulletins regularly in the form of E-letters, newsletters like AM plus, Eurobuzz etc.

Dubai campus

- a) There are a lot of facilities provided to overseas students:
 - Air- conditioned accommodation and food of their choice.
 - Apart from transport to and from college, they are given transport for all outings -and visits.
 - Drop and pick up from the airport.
 - Visa facilities
 - Lunch served at the university especially for the overseas students.
 - Immediate assistance for any sort of medical help needed.
 - Television, fax and telephone facilities available in the student residences.
 - Wi-Fi connections for usage of laptops and computers.
- b) Special facilities are provided for the differently abled students, such as:
 - Special car parking areas are allotted for them
 - Special slope are provided so that easy transport or movement is possible for the handicapped.
 - Special washrooms for the handicapped.
 - Writing desks differently designed for differently-abled students.
 - Wheel chair and beds in the clinic for emergency.
 - People with vision defects are given question papers with enlarged font so that they can read with ease.
 - Students with serious disability are allowed a little extra time for writing the papers.
- c) The support services of the institute are the same to all the students irrespective of their caste, religion or community. All share the same facilities.
- d) Students participating in cultural and sports activity in India and abroad are given extra help with the academics. Extra classes are held for their benefit. Apart from them a few tests and assignments due during that period are rescheduled for them to help them cope.
- e) Health centre is provided by the university with some basic help. Wheel chairs, stretchers and be facilities are available. The ambulance in certain

- times is easily accessible as they have one for the DIAC section alone. The DIAC also has a medical help center with a few paramedics to assist.
- f) Though we do not have a soft skills center for spoken English, we do have a soft skills lab where students can take listening sessions with headsets. Software with reading material is provided to them. The university is a member of the IEEE chapter. So all students can attend seminars, participate as volunteers and gain a lot more knowledge.
 - g) Slow learners are given special remedial classes by the faculty members as and when a situation arises. At times of need it is done on a one to one basis by faculty at their free hours. Also each department appoints mentors who look into the overall progress of the slow learners and seek parental assistance.
 - h) Students of the final year are given the opportunity to intern with corporate and business houses to gain firsthand experience. It proves to be an excellent training ground for our youngsters. As far as interactions with other universities are concerned, the students interact with other universities through intercollegiate events and seminars or debates and panel discussions.
 - i) Every year the Dubai campus comes up with an annual year book, GULF PULSE. This features all events happening in each department and the work done by students. It also covers all cultural and sport activities and showcases the creative writing talents of the students. Apart from this, it also brings out JIGSAW by the Media department and TECHNOVANZA by the Engineering department

Melaka

Students are covered by medical insurance for hospitalization and also outpatient treatment.

Cafeteria operator is not charged rental in order to keep prices down and passed on to students.

Overseas students have the facility of an International Student Office with an officer specifically to look into their needs / problems.

5.1.10 Does the University provide guidance and/or conduct coaching classes for students appearing for Civil Services, Defense Services, NET/SET and any other competitive examinations? If yes, what is the outcome?

No separate coaching classes are conducted to provide guidance for appearing any competitive examinations. But, books are made available at our libraries for the students to refer and prepare for these types of exams.

5.1.11 Mention the policies of the University for enhancing student participation in sports and extra-curricular activities through strategies/schemes such as

- **Additional academic support and academic flexibility in examinations** - Special training/coaching will be provided free of cost for the students participating in sports and extracurricular activities. Attendance will be given to the students for the missing classes who are attending the extracurricular activities.
- **Special dietary requirements, sports uniform and materials** - Sports uniforms and track suits are issued to the students participating in Inter-college competitions/Inter University competitions/any National level events etc.. Financial support in the form of TA/DA will be borne by University for the participating students.
- **Any other (please specify)** – Nil

5.1.12 Does the University have an institutionalized mechanism for students' placement? What are the services provided to help students identify job opportunities, prepare themselves for interview and develop entrepreneurship skills?

The University has a full time Director for Industrial Liaison and Placement who coordinates the placement activities, arranges for the campus visit of the Industries and coordinates the training of soft skills.

Other than this, each institution has separate faculty coordinator for placement activities, who will arrange group discussions/mock interviews etc. for students by faculty and external expert.

Placement orientation program

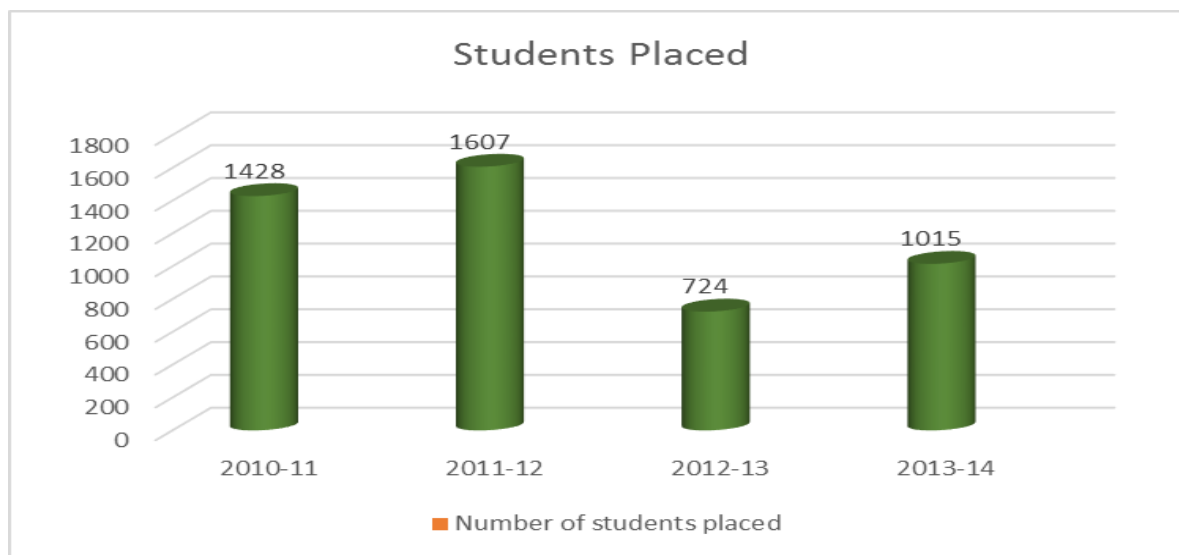


5.1.13 Give the number of students selected during campus interviews by different employers (list the employers and the number of companies who visited the campus during the last four years).

MIT

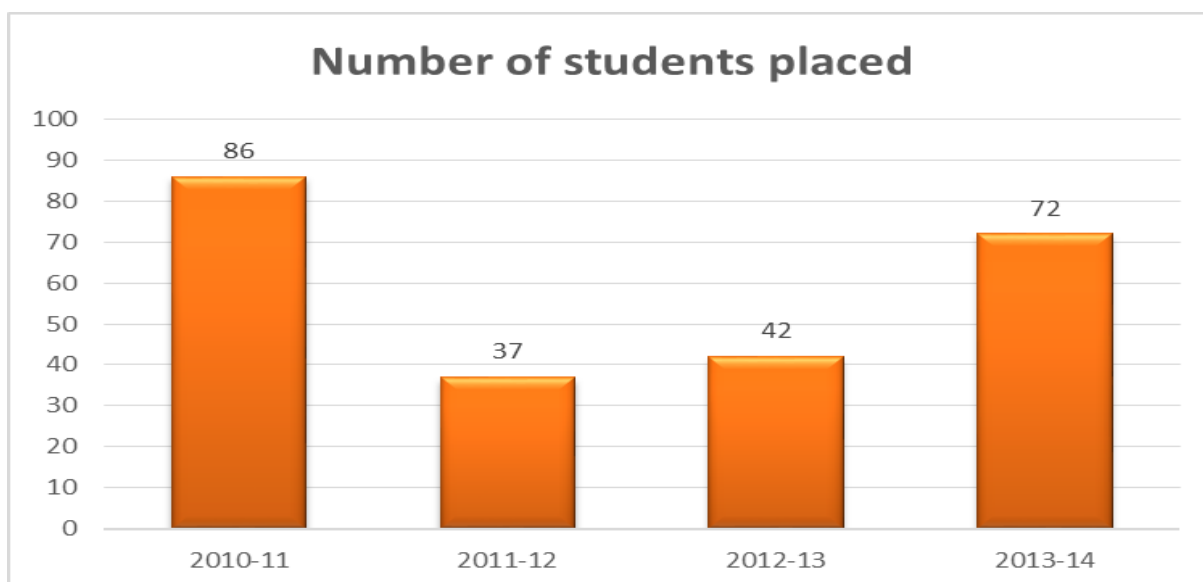
Year	Number of students placed	Major companies
2010-11	1428	Tata motors, ONGC and all the previous and many new.: Total 73 companies
2011-12	1607	ABB, Accenture, ACG World, Anglo Eastern, Ashok Leyland, Atkins, Bharat Electronics, Blue Star, CDD India, Cisco, Century Link, Citrix R&D, Comviva, Cybage India, Cycloid, Cypress Semiconductors, Deloitte Consulting, Delta Printing Press, Ericsson (Global, R&D), Exeter India, Fidelity India, Futures First, GE (EEDP, Healthcare), GMR Energy, Grasim, HCL (Core, Infosystems, Tech), Hero Moto Corp, Hindustan Unilever, Hindustan Times, Honda 2 Wheelers, IBM, iGate Patni, Impetus, Indo-MIM, Ingersoll Rand, InMobi, JSW Steel, L&T (ECC, Engg), M&M, Maruti Suzuki, Microsoft (IDC, IT, SMSG), Mphasis, Moog India, MuSigma, Nomura, OMPL (ONGC-MRPL), Oracle, Philips Electronics, Photokina, Punj Lloyd, Reliance, Robert Bosch, Samsung (Electronics, Heavy Industries), Sankalp Semiconductors, SAP Labs, Schneider Electric, Societe Generale, Source Bits, ST Ericsson, Tata Consulting Engineers, Tata Motors, TCS (Tech, TRDC), Tata Technologies, Tesco, Titan Industries, Toshiba TESI, Total Environment, Unisys Global, Voltas, Wipro (Infra, Tech, VLSI), Zuari Management Services etc : Total 84 companies
2012-13	724	ABB, ACG World, AGE Graphics, Atria Convergence, AKS Software, Altair Engg, Anglo Eastern, Atkins, Beckman Coulter, CDD Society, Century Link, Cerner Healthcare, Cisco, Citrix R&D, Comviva, Cybage, Daimler, Deloitte Consulting, EMC Corp, Emirates Printing, Enfrien Technologies, Ericsson (Global, R&D), Exeter India, Flipkart, Freescale Semiconductors, Futures First, GE (Healthcare, Lighting), Goldman Sachs, Grasim, HCL (Aero, VLSI, Mech), Hero Motocorp, Hindustan Zinc, Honda 2 wheelers, Honeywell Tech, HP R&D, IBM (Tech), Infotech Enterprises, Ingersoll Rand, Inolyst Consulting, Intel, JSW Steel, Juniper Networks, Kallows Engg, KPIT Cummins, L&T (ECC, IES),

		<p>M&M, Malayala Manorama, Maruti Suzuki, Michelin, Microsoft (IT, IDC, SMSG), MuSigma, NISM, Nomura, Oracle, Philips (Electronics, Innovation), Piaggio, Polaris, Qualcomm, Reliance, Ricoh Innovations, S&P Capital, Saankhya Labs, Samsung (R&D, SEL, SISO), SAP Labs, Sapiient Nitro, Schneider Electric, Sesa Goa, Shobha Developers, Shubhashray, Societe Generale, Sonata Software, Subex Systems, Systems Control, Tata Elxsi, Tata Motors, TCS (Tech), Telcon, Teradata, Tesco, Toshiba TESI, Total Environment, Unisys Global, Vakil Mehta Seth, Vedanta Aluminum, VKS Infrastructure, Voltas MH, Wipro (Lighting, Tech), WorkZ etc : Total 90 companies</p>
2013-14	1015	<p>Aavishk Buildtech, ABB, ACG World, AIG Analytics, AKS Software, Alcatel Lucent, Altair Engg, Amazon, Anglo Eastern, Appy Monkey Software, BabaJob Services, BPL Medical, Century Link, Cerner Healthcare, CISCO (Engg, TAC, Services), Citrix R&D, Cruise Line, Cybage Software, Cyberoam Tech, Daimler, Deloitte Consulting, Dhaval Color Chem, EMC Corp, Emirates Printing, Expicient Software, Freescale Semiconductors, Futures First, GE Healthcare, Goldman Sachs, Grail Research, Headway Solar, Hero Moto Corp, Honda 2 Wheelers, HP (R&D, Tech), IBM (Tech), InMobi, India Reads, Indian Army, Infosys (Tech), Ingersoll Rand, Inolyst Consulting, Internshala, ITC Packaging, Ixiacom, JSW Steel, Juniper Networks, Lam Research, L&T (Building Automation, Construction, Tech Service), M&M, Mahindra Comviva, Maruti Suzuki, Michelin Tyres, Microsoft (IDC, IT, SMSG), MuSigma, Nucleus Software, Oracle (PGBU, RGBU, Systems), Philips (Electronics, Innovation), Pioneer Printing, Polaris FT, Printwell, Quest Global, Rare Mile Tech, Reliance, S&P Capital, Samsung (Bangalore, Noida), SAP (Global Delivery, Labs), Sapiient Nitro, Sara Sae, Schneider Electric, Shell India, Societe Generale, Sonata Software, ST Microelectronics, Success Factors, Supernova Engineers, Tata Hitachi, Tata Motors, TCS (EIS, ITIS, Tech), TESCO, Think & Learn, Unisys Global, UST Global (Tech), VmWare, Wipro (Tech), Wisecells, WorkZ, Yamaha R&D : Total 112 companies</p>



SOM

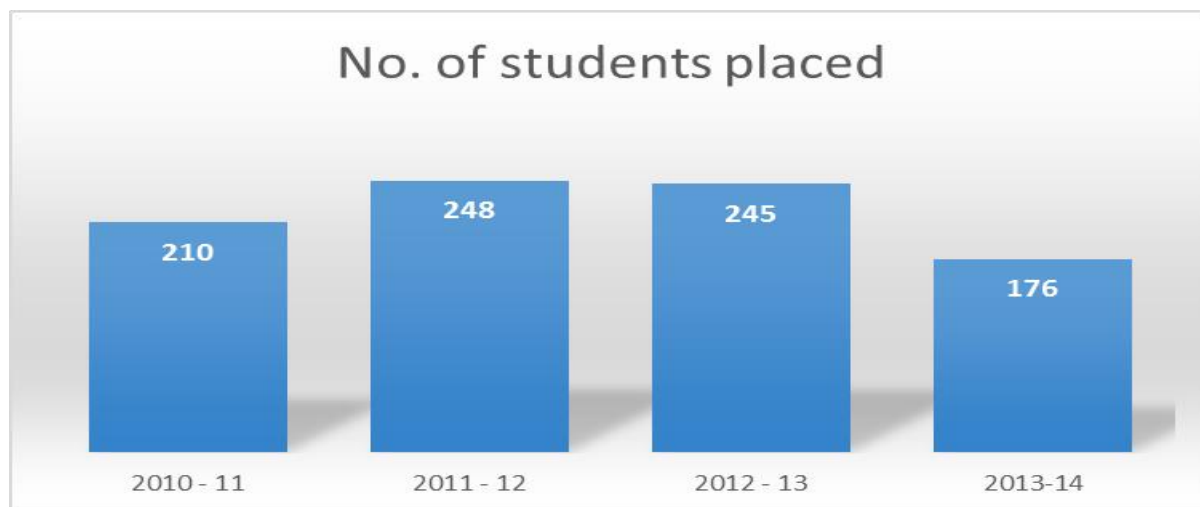
Year	Number of students placed	Major companies
2010-11	86	ACT TV, ITC, Northern Trust, Ranbaxy, Manipal Group, Ernst and Young
2011-12	37	Ernst and Young, ICICI Securities, MEMG, Nabler, ACT TV
2012-13	42	Alshirawi Dubai, delta printing press dubai, Goldman Sachs services Pvt. Ltd, vidal health, EMWare, mala healthcare, daikin airconditioning india pvt ltd, MDS, Northern Trust, Act TV, Ernest and Young,, Adsyndicate Services Pvt Ltd, ,MEMG, Manipal Hospitals, Manipal Press, Octavo Solutions, decathlon , narayani hrudalaya, ,indian infoline, Firstnaukri, coffee day groups (hotels and resorts department),PwC,Accenture, Kotak Securities Ltd., Glopore IMS,
2013-14	72	Alshirawi Group Dubai, ,Manipal Education & Manipal Global, Ample Technologies, Aryaka Networks, Café Coffee day, Clutch Group, Coreel Technologies, EduComp, First Naukri, Future group, Sterling Lab (Pharma), Hyperthink Technologies, Industry Arc, KPMG, Mahindra and Mahindra Finance, Manipal Degital System, MindTree, Mphasis, Mydeals, People Gamut, Robosoft Technologies, Seventh Sense Talent Solutions Pvt Ltd, Span infotech, Tricon Energy, Wellsfargo, Octova Solutions, Aricent, TCS, e & Y, American Express, MDS, Span info tech, Simply learn solutions.



SOIS

Year	No. of students placed for Internship/Total No. of students	Major Companies
2010 - 11	210/283	Whizchip, Intel, VMWare, GE Healthcare, ST Microelectronics, LSI Technologies, Synopsys, KPIT Cummins, Poseidon Design Systems, Brisa Technologies, Honeywell, Nokia, ST Ericsson, Mindtree, NXP Semiconductors, Philips, Manipal Dot Net, Symphony Services, Cerner, i2i Telesolutions, Encore Technologies, Microchip, Applied Cognition Systems, Tech Mahindra, Tata Elxsi, ISRO
2011 - 12	248/300	Cerner, Philips, HANDSREL, VMWare, Whizchip, ST Microelectronics, Freesal Semiconductors, BCS Innovations, Intel, Continental Corporation, Brisa Technologies, Renesas Mobile, ST Ericsson, Xilinx, GE Healthcare, KPIT Cummins, Applied Cognition Systems, Microchip, Synopsys, Arasan Chip Design, Softjin, Honeywell, Infineon Technologies, DSP Group, Ingersoll Rand, Vayavya Labs, Manipal Dot Net
2012 - 13	245/291	ST Microelectronics, KPIT Cummins, Philips, Manipal Dot Net, Applied Cognition Systems, IXIA COM, Glopore IMS, Panacea Medical Systems, KLA Tencore, Intel, Whizchip, Synopsys, Freesal Semiconductors, Infineon Technologies, Microchip, LSI Technologies, Xilinx, Wipro, NXP Semiconductors, ST Ericsson, iGate, Siemens

		Technologies, NetApp, Tata Elxsi, Brisa Technologies, DSP Group, NDS, Robert Bosch, Continental Corporation, BCS Innovations, Azoi Mobile Technologies, Sasken
2013-14	176/183	AadiSemicon,Aceice, Applied Cognition Systems, Adrit Technosolutions, Amaron Power Systems, Aptean, Aryaka, Atlas, BARC, BEL, BlackBUck, Bosch, Brevera, Brisa, Broadcom, CDAC, CITL, Consilient Tech, CVC, EMC, Emulex, Ensilica, ERDE, EZZoft, GE, Genpact, Global Tech, Grid India, Honeywell, IBM, Immortal Engg, Infineon, Intel, iSoft,ISRO, K2Tech, Kamath Transfromer, Lantiq, LSI, Matrix Publishing, MDN, MlCroschip, MIRS, Moxie, Native5, Nest, Neurosynaptic, NXP, Odigma, Opex Labs, Optimus Logic, Pace Wisdom, Pantach, PE Systems, Philips Innovation, Philips Lighting, Philips Research, BoP, PLX Tech, Pragati Automation, Reliable Technosystems, Ricoh, SAP, Siemens, Sloki Software, Smartplay, ST, Sysuniverse, Tat Autocomp, Technoelexis, Tenet, Three Media Tech, Tonse, Volmo, Whizchip, Wipro



MCOPS

Year	Number of students placed	Major Companies
2010-11	100%	AstraZeneca, Bangalore
2011-12	100%	Baxter India Pvt. Ltd., New Delhi
2012 - 13	100%	Bharat Serum & Vaccine Pvt. Ltd., Mumbai Cipla Ltd., Bangalore
2013-14	100%	Dr Reddys, Hyderabad

		<p>Eli Lilly, New Delhi Fox Insurance, Kolkata Indigene, Bangalore Jubilant Organosys, New Delhi Lupin Research Park, Pune Macleods Pharma, Mumbai MSD Pharma, New Delhi Nicholas Piramal, Mumbai Orchid Healthcare, Chennai Perrigo, New Delhi Ranbaxy Laboratories, New Delhi Sandoz Strides Arcolab, Bangalore Sun Pharma, Vadodara US Vitamins, Mumbai Zydus Cadila, Ahmadabad.</p>
2014-15	Ongoing (91% placed till now)	<p>Abbott, Advinus, Alembic, Bengal Chemical and Pharmaceuticals Limited, Biocon, Dr Reddy's, Eisai, Emcure, Global Data, GSK, Hospira, Himalaya, Intas, Johnson & Johnson, Kinapse, Lupin, Mylan, Nestle, Novo Nordisk, Pfizer, Quintile, Shodhaka, Sun Pharma</p>

Dubai campus: Placements

School of Life Sciences:

Year	Number of students placed	Major companies
2011-12	11	National General Insurance ; Holistic International Testing Services ; Cells 4 Life.
2012-13	6	MELT Frozen Yogourt ; Zayed Univerity ; Gyma Foods
2013-14	10	Scientific Clinical Laboratories ; MARS Chocolate Factory ; Celergen Health; Alliance Global LLC; University of Modern Science

School of Engineering & IT

Year	Number of students placed	Major companies
2010-11	NA*	
2011-12	35	<ul style="list-style-type: none"> • L & T Electrical and Automation FZE, Dubai • Scientechnic, Dubai. • Cignetix Systems Safety Equipment LLC, Dubai • Siemens LLC, Dubai • Porsche, Yemen

		<ul style="list-style-type: none"> • AL REYAMI Industries, Dubai • EMC Electromechanical Co LLC, UAE. • Sobha Contractors, UAE. • GL Noble Denton, Sharjah • Capsutec, Maringa, Brazil. • DREDGEYARD, Dubai. • Corodex Industries, Dubai. • Al Bwardy Engineering Enterprises, Dubai • Fisia Italiampianti, Dubai • FABTECH International LLC, Dubai
2012-13	28	<ul style="list-style-type: none"> • Scientechnic, Dubai. • Visionaire FZ LLC, Dubai • Murano Lighting Co. LLC, Dubai • Nova Systems LLC, Abu Dhabi • Technical Services Equipment Installation LLC, Dubai • Tetrattech Innovative Services FZE, UAE. • Almoe AV Production and Rentals, Dubai • Dialog Axiata PLC, Colombo, Srilanka • Rockwood International LLC, Dubai. • Dubai National Construction LLC, Dubai • Al Futtaim Carillion, Dubai. • Arabtec Construction L.L.C., UAE. • Parsons, Dubai • Emirates Robotics LLC, UAE. • Global Care Marine Safety LLC, Sharjah • Kanoo Machinery, Dubai • Ferrofab FZE, Dubai • Hellmann
2013-14	40	<ul style="list-style-type: none"> • Alliat LLC, Dubai • ARJ Water Technology LLC, Dubai • Eastern International, Sharjh • CommIT, Dubai • Tetrattech Innovative Services FZE, UAE • LS2Pluto General Trading LLC • Gates Engineering & Services • CKR Consulting Engineers • Extra Fibre Glass LLC • Shobha Contractors, Dubai • Overseas AST, Dubai • Aliq & Adnan Contracting Co., Dubai • Paramount Computers, Dubai • Unique Maritime Group, Sharjah • Prologix, Dubai • ETA PCS, Dubai • GECO Enterprises, Dubai • PILOSIO S.P.A, Udine, Italy • Etisalat, UAE • Dresser-Rand, Dubai • Hellmann • Prologix

2014-15	Ongoing	<ul style="list-style-type: none"> • Shobha Contractors, Dubai • Clickon, Dubai • TORRECID, S.A. Middle East, Dubai • Desert Group, Dubai • Advance Gulf, Dubai (ongoing)
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***Engineering Programs started in the year 2008.**

School of Design and Architecture

Year	Number of students placed	Major companies
2010-11	7	RAK Ceramics
2011-12	6	Home Gallery, Essentials Decor
2012-13	6	Space Well
2013-14	7	Camouflage Interiors, Natuzzi, Core ME

School of Business:

Year	Number of students placed	Major companies
2010-11	10	Ace Insurance and Reinsurance Brokers, KSA, Al Shamali Auto Spares, Al Buraq Auto Spares Part, Al Ghwasa, Blue Lagoon Marketing, Cares & Repairs
2011-12	15	Halliburton Real Estate Abu Dhabi, Praxis Solutions, Data Zone, Al Futtaim, Praxis Global Research, Heinz
2012-13	20	Oman Insurance, DULSCO, Ernst & Young, Jotun, LALS Group, Citi Bank, IDBI
2013-14	15	Oman Insurance, Jotham

School of Media and Communication:

Year	Number of students placed	Major companies
2013-14	11 Registered 11 Placed	Danube, Indian High School, Hug Digital, Maaya Media, Milkshake Media, Aura Group, Shells Advertising,

Melaka Campus

Year	Number of students placed	Major companies
2010-11	238	All MBBS and BDS graduates are mandatorily required to serve the government in the Minsitry of Health hospitals - MBBS for 2 years of housemanship plus a further 2 years of compulsory service whereas BDS graduates serve a 1-year mandatory service. Only on completion of this can they join the private sector. Therefore ALL graduates are employed and placed in various Govt hospitals
2011-12	255	
2012-13	250	
2013-14	238	

- The panel interviewing our graduates, comprising the Malaysian Ministry of Health, Malaysian Public Services Department and the Malaysian Medical Council, carry out their interviews in our campus. 98 % have obtained employment.

5.1.14 Does the university have a registered Alumni Association? If yes, what are its activities and contributions to the development of the University?

Yes

University with 15 units covering 272 courses has turned out a large number of graduates and postgraduates over the last six decades and its alumni are spread across the world. The University desires to have every single alumnus very much a part of the set up even today. No matter which constituent University institution an alumnus belongs to the University takes a lot of pride in each one. They are individual ambassadors for University.

With the intention of strengthening alumni activity, institutional alumni cell has been set up in each institution of University. University alumni affairs office has been set up with “STTAR” (Service, Teaching, Training, Administration and Research) as its core principles. This alumni portal will help both the University and the alumni to get in touch with each other. The alumni can get any kind of information about the University, fellow students, juniors, conferences, alumni meets, featured alumni, success stories of alumni using this portal.

Alumni are the mirrors that reflect the image of the institution to which they belong. The pillars of that institution grow strong when their alumni come into the limelight. This adds one more feather to the crown of the institute. Hence, it becomes very important for the alumnus to have an update of the alumni profile. The students passed out from the institution are likely to keep in touch with their alumnus to know about the recent developments in the campus. This would make them proud on discussion with their colleagues that their alumnus still cares for them and so do they. The Alumni Centre acts as a link between the alumni and the alumnus.

The Alumni Centre is built with two important objectives.

Increase in database of the alumni year on year: This helps us in contacting all our important alumni who have rose to great heights now. This helps us in raising funds from them and collecting important feedbacks about their alumnus, so that we can improve upon.

Increase the number of guest lecturers/seminars by the alumni: More of guest lectures and interactions are conducted whenever any alumni visit the campus. Their interactions influence the students who are presently studying here to know the then study pattern and experiences which help them build their career.

The total alumni base for the year ended 2014 is 1,12,655.

We have different modes of networking to keep in touch with our alumni. We may broadly divide them into formal and informal methods.

Formal – Visit the alumni at various places, request them to fill up the proforma and update their profile, inviting them as guests for important functions, conducting alumni meet at various places and make them aware of the recent developments.

Informal – Sending greetings to them as a public relation activity through e-mail and letters, attending the functions of the alumni on invitation, collecting the press-release details related to our alumni and sending appreciations, condolence meeting conducted on the demise of the alumni and condolence message sent to his family etc..

The regular activities of Alumni Centre, University, Manipal

- Publishing “Alumni News Digest” every month containing the news and events of the University colleges, achievements of faculty, staff and students and sending it to all registered alumni from the database. Publishing MIT “Distinguished alumnus of the month” profiles in the website to motivate students. Supporting alumni to form “Regional alumni association” at their workplace.
- Providing prominent alumni information to other alumni for their academic development.
- Involving alumni in conducting guest lectures, workshops based on their expertise.
- Organizing “Annual University Alumni Meet” including University 17 units every year and awarding the achievers with “Distinguished alumnus award”.
- Inviting alumni contributions for development activities of the institution.
- Arranging departmental meeting with nominees once in two months.
- Arranging campus round/visit to particular institution to alumnus during Alumni Meet and whenever demanded by them.
- Verifying the registration done by alumni in our University website and giving approval (through admin) for their confirmation and permanent record.
- Publishing details Alumni Meets, Alumni Awards/Recognitions, photos etc. at the alumni website through network administrator/Webgroup.

Alumni reunion



Melaka Campus: All Graduates are eligible to the Malaysian Chapter of Manipal Alumni.

5.1.15 Does the university have a student grievance redressal cell? Give details of the nature of grievances reported. How were they redressed?

Yes. University has a grievance redressal mechanism. The details are provided in **Annexure 5.3**

Melaka Campus

Students may approach the Deans / Deputy Deans directly in case of grievances and may also request to meet the Chief Executive of the College who has shown great interest of the welfare of students.

5.1.16 Does the university promote a gender-sensitive environment by (i) conducting gender related programmes (ii) establishing a cell and mechanism to deal with issues related to sexual harassment? Give details.

Yes. Grievance committee for Sexual harassment has been constituted at University.

Process followed to address the grievances:

The objective of the committee is to recommend appropriate action on grievances pertaining to sexual harassment from staff and students of University and the constituent colleges/hospitals. The committee will submit the report on such grievances, if any, to the Vice Chancellor, University for further action.

The staff and students will submit their grievances if any, to the Registrar. The University, based on the gravity of the grievances, will constitute a separate sub-committee from the above panel list to go into the details of grievances.

Dubai campus

The university often conducts special programs for women's day. Women's day on 8th March and Breast cancer awareness campaign on 2nd October are conducted on a regular basis.

1. On women's day, some successful women or creative entrepreneurs or great mothers are invited to speak to students and faculty. On similar lines doctors are invited to talk to the female students and faculty on breast cancer and other topics related to women's health and also show a few videos related to this. To create awareness in all pink ribbons are distributed to one and all and all visitors.
2. A cell has been created to deal with issues related to sexual harassment. The cell is made up of senior women members and a few male members. Any issue of harassment is taken up by this cell and both sides of the issue are tackled.

5.1.17 Is there an anti-ragging committee? How many instances, if any, have been reported during the last four years and what action has been taken in these cases?

Yes. University has a Monitoring Cell on Ragging comprising following officials as its members:

Director, Student Affairs, MAHE, Manipal	Chairperson
Deputy Director, Students (Health Sciences), MAHE, Manipal	Member
Deputy Director, Student Affairs (Technical), MAHE, Manipal	Member
Deputy Director, Student Affairs, M'lore Campus	Member
Chief Warden, MAHE, Manipal	Member
Chief Security Officer, MAHE, Manipal	Member
Associate Director, Student Welfare & Hostels, MIT, Manipal	Member
Chief Warden, MIT, Manipal	Member
Chief Warden, Mangalore Campus	Member
Heads of the respective Institutions	Member

Following are the incidents of ragging reported during the last four years:

Particulars	2011	2012	2013	2014
No of Ragging instances reported	NIL	2	1	2
Action taken	Enquiry conducted and necessary action taken.			

5.1.18 How does the university elicit the cooperation of all its stakeholders to ensure the overall development of its students?

Feedback from all the stake holders like students, faculty members, parents, heads of institutions, industries visiting the campus for placement etc. are taken and based on this actions are taken to elicit cooperation of all stake holders to ensure overall development of the students

Dubai Campus

The institution encourages the female students to actively take part in sports. Students take part in all intra and inter curricular sports events. Sports activities for girls range from Throw ball, table tennis, basketball, football, badminton and cricket. Among the cultural activities they participate in Dance, Singing, Musical instruments, Debate, storytelling, public speaking and quiz. They have actively participated in these activities with universities like University of Wollongong, BITS, Pilani, Dubai, American University of Sharjah, Gulf Medical college and DIAC.

Melaka Campus

Surveys are carried out to seek feedback from Melaka graduates and from employers, to improve the growth and development of the institution by the College in addition to meetings with students by the Chief Executive, the Deans, Deputy Deans and HoDs.

5.1.19 How does the University ensure the participation of women students in intra- and inter-institutional sports competitions and cultural activities?

In addition to common sports and cultural activities, exclusive events for women students are organized (both in sports and cultural activities) which ensure participation of women students in intra and inter-institutional sports and cultural events.

5.2 Student Progression

5.2.1 What is the student strength of the University for the current academic year? Analyze the programme-wise data and provide the trends for the last four years.

Student progression	UG to PG*	PG to M.Phil.*	PG to PhD	Ph.D. To Post-Doctoral	Employed		Entrepreneurs
					Campus selection	Other than campus recruitment	
SOAHS, Manipal	29%	-	-	-	100%		-
SOLS, Manipal	80	0	50	10	60		-
Dept. of Library & Info Science	-	-	20	-	100		-
Dept. of Statistics	-	-	6	-	72	11	-
Dept. of Public Health	-	3	-	-	100%		-
Dept. of Virus Research	-	-	2	-	8	5	-
MCODS Manipal	37%	-	-	-	-	18%	3%
MCON, Manipal	7.68%	7.66%	5.26%	-	63%	37%	-
MCOPS, Manipal	80%	-	10%	5%	85%	10%	5%
MMMC Manipal	20%	-	-	-	-	-	-
KMC Mangalore	60%	30%	30%	-	-	20%	10%
MCODS Mangalore	42%	-	-	-	-	-	-
MIT, Manipal	-	-	-	-	-	-	-
Faculty of Architecture	18%		33%	-	8%	82%	5%
Dept. of Atomic & Molecular Physics	-	-	80%	-	-	20%	-
SOM, , Manipal	-	-	-	-	60%	35%	-
Dept. of Commerce	30%	-	-	-	60%	5%	5%
SOC, MANIPAL	15%	-	0.1%	-	100%	2%	2%
Dept. of Geopolitics & Int. Relations	-	7.9%	9.5%	-	-	-	-
Dept. of Philosophy & Humanities	-	15.38%	38.46%	-	-	23.07%	7.69%
Dept. of European studies	-	-	-	-	-	-	-
SOIS, MIT, Manipal	-	-	4%	-	-	-	1%
WGSHA, Manipal	2%	-	-	-	59.30%	-	40.70%
SORM Bangalore	-	20%	80%	-	-	25%	5%

Dubai

Student Progression	%
UG to PG*	School of Life Sciences : 20% School of Design & Architecture : 10% School of Engineering & IT: 20% School of Business : 27% School of Media & Communication: 39%
PG to M.Phil.*	N/A
PG to Ph.D.	Biotech : --
Ph.D. to Post-Doctoral	Biotech : --
Employed	School of Engineering & IT : 100% School of Life Sciences : 40 - 50% School of Design & Architecture : 75% School of Business : 95% School of Media & Communication: 100%

Student strength for the current academic year is as follows:

Undergraduate	1325 students
Post Graduate	315 students

5.2.2 What is the programme-wise completion rate during the time span stipulated by the University?

Around 90 per cent. Details are provided in the reports of individual institutions.

5.2.3 What is the number and percentage of students who appeared/qualified in examinations like UGC-CSIR-NET, UGC-NET, SLET, ATE/CAT/GRE/TOFEL/GMAT/Central/State services, Defense, Civil Services, etc.?

Not applicable

5.2.4 Provide category-wise details regarding the number of Ph.D. / D.Litt. / D.Sc. theses submitted / accepted/resubmitted/rejected in the last four years.

Details of Ph. D thesis submitted/accepted/resubmitted/rejected

Year	Submitted	Accepted	Resubmitted	Rejected
2011	68	68	**	Nil
2012	52	52	**	Nil
2013	66	66	**	Nil
2014	90	90	**	Nil
Total	276	276	**	Nil

** We do not have the data separately for resubmission as revision & resubmission are part of the evaluation process

Dubai Campus

Dubai campus has just initiated its first Ph.D in Biotechnology. Being a young university campus, students of this particular program have just started and their submissions will take at least five years.

5.3 Student Participation and Activities

5.3.1 List the range of sports, cultural and extracurricular activities available to students. Furnish the programme calendar and provide details of students' participation.

- Inter-class cultural and sports activities at college level
- Inter-college cultural activities at the University level – USTAV. Following competitions were conducted in this mega event:

Literary and fine art events (7)

- Collage
- Cartooning
- Painting
- Rangoli
- Clay modeling
- Installation
- Sport Photography

Quizzes (1)

General Quiz

Speaking events (5)

- Debate
- Extempore
- Jam (Just a Minute)
- Poetry (Hindi)
- Poetry (English)

Game show events (2)

- Potpourri
- Antakshari

Acting events (3)

- Mad Ads
- Street Play (Skit)
- Mime
- Mimicry

Vocal musical events (5)

- Indian Classical Vocal (Solo)
- Indian Non classical Light Vocal (Solo)
- Western/Non Indian Vocal (Solo)
- Indian Non classical Light Vocal (Group)
- Western/Non Indian Vocal (Group)

Non-vocal musical events (1)

Instrumental Music (Solo)

Dance events (5)

- Indian Classical Dance (Solo)
- Indian non classical Dance (Solo)
- Western/Non Indian Dance (Solo)
- Indian non classical Dance (Group)
- Western/Non Indian Dance (Group)

Big group events (2)

- Fashion Show
- Cultural Parade

Students performing at UTSAV – MAHE Inter collegiate competitions



Inter-college Annual Sports Competitions – Following events were conducted:

1. Table Tennis (M & W)
2. Swimming (M & W)
3. Chess (M & W)
4. Basket Ball (M & W)
5. Badminton (M & W)
6. Cross Country Race & Athletics (M & W)
7. Cricket (Men)
8. Tennis (M & W)
9. Best Physique
10. Volley Ball (M & W)
11. Hockey (Men)
12. Throw Ball (Women)
13. Football (Men)

Hockey ground



- SPIC MACAY programmes
- GUNJAN – forum for artists and art lovers, which will organize chamber concerts of budding talents within the campus

Following cultural programs were organized under SPICMACAY & GUNJAN banner during the year 2014:

1. Yakshagana “Jatayu Moksha” performed by the students of Yakshagana Kendra, Udupi on January 4, 2014
2. Hindustani Classical Shehnai concert by Sri. Sanjeev & Sri Ashwani Shankar & Team on February 3, 2014
3. Hindustani Classical Vocal concert by Sri Kaushik Aithal, Bangalore on February 20, 2014
4. Hindustani Classical Violin concert by Vidushi Kala Ramnath, Mumbai on February 27, 2014
5. Award winning Drama “Kala Chakra” in Tulu – a local language by the artists of Rangabhoomi @ Udupi on March 1, 2014
6. Hindustani Classical Vocal by Pt. Shounak Abhisheki on March 16, 2014 at Pt. Jeetendra Abhisheki Sangeet Samaroh
7. Staff UTSAV was organized on April 8, 2014
8. UTSAV 2014 was organized from April 9 – April 12, 2014
9. Carnatic Vocal by Kum. Priyanka C Prakash, B’lore at Ranjani Memorial Music Program in association with Ranjani Memorial Trust from Sep. 7-9, 2014
10. Carnatic Vocal by Kum Archana & Kum. Samanvi, Udupi at Ranjani Memorial Music Program in association with Ranjani Memorial Trust from Sep. 7-9, 2014
11. Hindustani Classical Vocal by Pt. Ravikiran & team, Manipal on November 15, 2014, organized in association with Chirantana Trust, Surathkal
12. Carnatic classical Instrumental recital – “Chitraveena” by Sri Vishalam Sapooram, & team on November 23, 2014
13. Hindustani Classical Vocal by Smt. Padma Deshpande & team, Pune on December 19, 2014

- Other sports/games and cultural fests organized by respective institutions. (Please refer to Annexure 5.4)

Dubai Campus

Student participation and activities:

Vau De Ville - IMT Dubai	Amazing Manager	1 st position
	Unfinished Business	2 nd position
	Audacity	3 rd position
	Battle of the Bands	3 rd position
JASHN 2013 BITS, Pilani-Dubai	Group Dance eastern	1 st position
	Duet Dance Eastern	1 st position
	Duet Singing	3 rd position

	Solo singing western	2 nd [position
	War of DJ	3 rd position
UTSAV-Manipal	Group singing eastern	1 st position
	Solo dance western	1 st position
	Solo singing western	1 st position
	Solo dance eastern	1 st position

5.3.2 Give details of the achievements of students in co-curricular, extracurricular and cultural activities at different levels: University / State / Zonal / National / International etc. during the last four years.

University encourages the participation of its students at various Inter University competitions. Some of the students excel in this. Following are the prizes / awards won by our students at Inter medics, Technical fests, All India fests and other competitions:

Cultural Activities –

Kasturba Medical College - Manipal

EVENT	DATE	DETAILS – WINNERS / RUNNERS
SILHOUETTES 2013 (INTER COLLEGE FEST HOSTED BY AFMC)	13 FEBRUARY 2013 TO 19 FEBRUARY 2013	
INSTRUMENTAL SOLO	-do-	1 ST Prize : Jojo Joseph 2 ND Prize : Abhyu Ghimire
EASTERN SOLO WITH ONE INSTRUMENT	-do-	1 ST : Abhishek Ghosh
EASTERN GROUP VOCALS	-do-	2 ND : Gopika Menon, Rachana Shenoy, Lavanya Gandhi, Abhishek Ghosh, Manjunath, Purva Makhija
WESTERN GROUP VOCALS	-do-	2 ND : Tanya Chandra, Anil Mohan, Gopika Menon, Jasmeet Gill, Monisha
WESTERN VOCAL SOLO	-do-	1 ST : Monisha
GROUP INSTRUMENTAL	-do-	2 ND : Abhyu, Jojo, Rahul Singh, Anil Mohan
BEST BAND	-do-	KMC Manipal
NON-THEME DANCE	-do-	1 ST : Rishabh Agarwal, Pooja Kamath, Shivani Gupta, Eshna Singh, Ananya Sah, Ridima Behl, Akanksha Mohananey, Gauri Kulkarni, Ateeq Ahmed, Shashi

		Kiran, Amol Bansal, Renny Robinson
STAGEPLAY	-do-	1 ST : Mohammed Fahad Khan, Rahul Singh, Sarrah Idrees, Viraj Mohan Pandey, Aarushi Gupta, Akshay Dhanda, Kopal Rohatgi, Purva, Dhriti, Zoheb
MADADS	-do-	2 ND : Aravind Menon, Mohammed Fahad Khan, Rahul Singh, Sarrah Idrees, Aarushi Gupta, Dhriti
BEST ACTOR	-do-	Akshay Dhanda

School of Allied Health Sciences, Manipal

PANACHE'' in fashion show competition of Brand Scan conducted by TAPMI	27 th October 2013	Winner
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Manipal Institute of Technology, Manipal Instrumentation & Control Engineering

Atharva 2013- TAPMI Fest - (Dance)	--	Winner Sahil M John REG. NO. :- 120921486
IIM Kozhikode Echos 2013 (Dance)	--	Winner Sahil M John REG. NO. :- 120921486

Mechanical & Manufacturing Engineering Department

REVELS			
Sl. No.	Name	Event	Place
1	Shivam	Studio Work (photography)	II
2	Ashna	Port folio shoot (photography)	II
3	Ananya	pot pouri	I
4	Joydeep	India Quiz	II
5	Neil Joshi	India Quiz	II
6	Vipul Singh Takur	Sports Quiz	I
7	Joydeep	General Quiz	II
		India Quiz (Chakraryuha)	I
8	Akhtesh Oberoi	Entertainment	II

		India Quiz	I
		General Quiz	I
9	Ann John Mathews	Portaiture	I
10	Neeraja	Open art	I
11	Kumaran Janeja	Sports Quiz	I
12	Nishant D'Souza	Fantasy faces - face painting	II
13	Varun Rasa Samineni	Loan Wolf - solo quiz (literary)	I
14	Royston Mendonsa	Unplugged (music)	
15	Rohan Bhuyan	Call of duty (gaming)	I
16	Hashir Mohammad	Fifa - II (Gaming)	II
17	Nikhil Reddy	Need for speed (gaming)	II

TECHTATVA			
Sl. No.	Name	Event	Place
1	Siddarth Bhutari	Take off (construction)	III
2	Aditya Deshpande	Take off (construction)	III
3	Sunny R...	Design Y Heat Exchange, (Cheminova)	III
4	Samarth Harin Hattangady	Logic and GK WHIZ - Rilectic	III
5	Alex Roy	Junkyard Wash (Mechanize)	I
	Canute Lobo		
	Ajay Daniel		
6	Jeet	Junkyard Wash (Mechanize)	II
7	Sajal Jain	Swadesh (Energia)	II
8	Nikhil Reddy	Gaming (NFS - most wanted)	I
9	Sajal Jain	Eco Vision (energias)	II
10	Kunwarseep Singh Khanna	Reverse Engg. (Kraft wagen)	I
11	Sharva Hirematt	Contraption(Mechanize)	I
12	Pranoy	I am not noble (Acumin)	I
13	Rishab Aggarwal	ATR (Acumin)	I

Printing & Media Engg. Department

Event	Date	Details: Winner- Runner-
Techtatva 2013	16-19 Oct, 2013	Winner: Mr. Chinmay T.N., Graphic Designing
Revels 2013	20-23 March, 2013	Winner: Mr. Chinmay T.N., Nriyjanjali Runner: Mr. Arpit Shandilya, Mad-Ads

Welcomgroup Graduate School of Hotel Administration, Manipal

Event	Date	Details of prizes won by students
Alta-Vista 2013 at Department of Tourism Christ University, Bangalore	12 th September 2013	1. First Place in 'Nriya' (Dance Competition) 2. First Place in 'Extasis' (Best Manager Competition) 3. Second Place in 'Kotler's Quotient'

KMC – Mangalore

Incident 2011 Organized by NITK Surathkal

Sl no.	Events	Date of the event	Results	Name of the participants
1.	Fashion show	23-26 th feb 2011	First	Varsha, Swetha, Aaryani, Supraja and Shravya.
2.	JAM	23-26 th feb 2011	First	Atreya
3.	Debate	23-26 th feb 2011	Second	Atreya and Sarah
			Third	Rutajeet and AkshaySethi

Pegasus organized by CMC vellore 2011

Sl no.	Events	Date of the event	Results	Name of the participants
1.	Cartooning	20 th -25 th July	First	Akshay Naik
2.	Collage	20 th -25 th July	Third	Akshay, Reshma, Sowmya
3.	Collage	20 th -25 th July	Third	Semanti, Aanya, Saijal
4.	Rangoli	20 th -25 th July	First	
5.	Mad adds	20 th -25 th July	Second	

Nitesh third year MBBS student got the best dancer award.

Rakshitha third year MBBS student got the best female singer award.

Event	Date	Details: Winner- Runner-
PEGASUS (CMC VELLORE) 1. Fashion show 2. Nail Art 3. Mehandi 4. Face painting 5. Clay modelling 6. Debate 7. Rangoli 8. Eastern Classical Dance 9. Poster making 10. Sketching 11. Crossword 12. DC 13. Pictionary	JULY 2013	1. Winners 2. Winners 3. Winners 4. Winners 5. Winners 6. Winners 7. Winners 8. Runners 9. Runners 10. Runners 11. Runners 12. Runners 13. Runners
PULSE 1. Pictionary 2. Turncoat 3. Face painting 4. English DC 5. English Extempore 6. Debate 7. Indocentric Pot Pourri 8. Hindi Elocution 9. Clay Modelling	SEP 2013	1. First 2. Second 3. First 4. First 5. First 6. Second 7. First 8. First 9. First
VIBES 1. Nail Art 2. Collage 3. English Debate 4. Pass the remote 5. Lost in translation 6. Medical Quiz	SEP 2013	1. First 2. First 3. Second 4. Second 5. Second 6. Second

Incident-2012, NITK-Surathkal

Sl. No.	Event	Participants	Position
1.	Fashion Show	KMC Team	1st
2.	Antakshari	Rahul A and Amit S	1st
3.	Kannada Poetry	Shreyas N	1st

Pegasus 2012, CMC Vellore

Sl. No.	Event	Position
1.	Eastern Group Dance	1st
2.	Best Dancer	
3.	Eastern Acoustics	1st
4.	Best Singer	
5.	Debate	1st
6.	What's the good word	2nd
7.	Turn Quote	3rd
8.	Dumb Charades	3rd
9.	Pot Pourri	3rd
10.	Rangoli	3rd

Autumn Muse 2012, St. Johns Medical College, Bangalore

Sl. No.	Event	Position
1.	English Debate	1st
2.	Medical Debate	2nd
3.	English Debate	3rd

Pulse 2012, AIIMS, New Delhi

Sl. No.	Event	Position
1	English Pictionary	1st
		3rd
		3rd
2	Idiocentric Pictionary	1 st
		2 nd
		3rd
3	English DC	1st
		3rd
4	Idiocentric DC	1 st
		3 rd
5	Entertainment Quiz	2nd
6	Password	1st
		2nd
7	Hindi Password	3rd
8	T-Shirt Painting	3rd
9	Mock Press	1st

MCODS – Mangalore

BRAND SCAN- 2013 (Organized By TAPMI)	27-10-2013	Second Position
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MCODS – Manipal

- **Won First Place** Eastern non classical dance Dr. Gazal Gupta from Periodontics
- **Second prize in** Instrumental classical solo & **Third prize in** Eastern non classical solo, Quiz and Anthakshari – Dr. Mihir Kulkari from periodontics

Sports – 2011-12

Events	Organized by	Date	Performance
Table Tennis(men)	Amrita Vishwa Vidyapeetham University, Coimbatore	10 th to 12 th October 2011.	Lost in first round
Cricket(men)	Osmania University, Hyderabad	9 th to 19 th December 2011	Lost in second round
Tennis(men)	Manipal University	11 th to 15 th December 2011	Lost in second Round

Athletics(men)	RGUHS, Bangalore - Alvas College Moodbidri	17 th – 21 st December 2011	4 – Athletics Participated (1. Alden – MIT 2. Nanjappa P.K. – SOM 3. Arpan – WGSMA 4. Ayush – MCODES) -Nanjappa reached semifinal in 200mtrs.All other athletics performed well
Badminton	VIT University, Vellore	5 th to 9 th January 2012	Lost in first round
Squash	University of Pune, Pune	9 th to 11 th January 2012	Lost in Quarter final against University of Pune
Chess	VIT University, Vellore	8 th to 12 th February 2012	41 – place. Mr. Suri Shiva won the first place in first board by securing 8.5 points out of 9 points

Sports – 2012-13

Events	Organized by	Date	Performance
Cricket	Manipal University, Manipal	15 th To 30 th December 201 2	Lost in third round, Pre. Q. final
Chess	Calicut University, Kerala	27 th December 2012 to 1 st January 2013	11 th Place Mr. Shivasuri won the 3 rd place in first board by securing 7 points out of 9 points
Table tennis	Kannur University, Kerala	27 th to 29 th December 2012	Lost in Pre. Q. Final
Badminton	JNTU, Kakinad	8 th to 12 th January 2013	Girls-Lost in Pre. Q. Final Boys- Lost in first round
Tennis	Krishna University, Machilipatnam	17 th to 21 st January 2013.	Lost in Pre. Q. Final

Sports – 2013-14

Events	Organized by	Date	Performance
Tennis	Anna University Sports Board, Chennai	September 11-16, 2013	1 st time reached Q/F, Lost in Quarter final- 2-3
Chess	SRM University, Kattankulathur, Chennai	October 12 – 16, 2013	Performed well
Swimming	Guru Nanak Dev University, Amritsar	25 th to 29 th October 2013.	Mr. Sahiljit Butalia- Reg. No. 120909047 participated in 50mtrs and 100mtrs. Breast Stroke swimming competition. He was first in his heat and overall he got 9 th place. In 50mtrs breast stroke
Cricket	Pondicherry University	December 12 to 22, 2013	Lost in second round

Badminton (men & women)	Manipal University	15 th to 19 th December 2013	2 nd time we reached Q/F, Lost in Quarter final
Squash(men)	Mumbai university	18 th to 21 st January 2014	1 st time reached QF, Lost in Quarter final, 2-3

Sports – 2014-15

Events	Organized by	Date	Performance
Tennis (men & women)	Saveetha University, Chennai	January 5-8, 2015	Reached 2 nd round & 3 rd round
Chess	VIT University, Tamil Nadu	October 14 th to 19 th , 2014	Got 14 th place
Table Tennis	VIT University, Vellore, Tamil Nadu,	October 14 th to 19 th , 2014	Reached pre-quarter final
Badminton (men & women)	Bharathiar University Coimbatore, Tamil Nadu	December 26 th 2014 to January 2 nd , 2015 th	Got 4 th Place & 3 rd place
Squash (men & women)	Anna University, Thanjavur, Tamil Nadu	February 16 th to 19 th , 2015	Got 3 rd place & 2 nd place

5.3.3 Does the University conduct special drives/campaigns for students to promote heritage consciousness?

Various festivals like Diwali, Dussera, Onam, Independence Day, Ganesh Chaturthi, Republic day and other festivals like Ramadan, Christmas etc. are organized within the campus, wherein students participate in traditional attire and celebrate the festivals traditionally. In addition, the University encourages the foreign students to celebrate their national days.

Dubai Campus

Departments often organize field trips to various places to study the heritage of that country. Visits to museums, art galleries, Heritage village in UAE, study of architecture in Turkey, Goa etc. was done by our students. This helps them to understand and appreciate the various heritage of country.

5.3.4 How does the University involve and encourage its students to publish materials like catalogues, wall magazines, college magazine, and other material? List the major publications/materials brought out by the students during the last four academic sessions.

- Competition will be conducted to select articles for wall magazine
- Every year college magazine is published by an Editorial Board consisting of both students and faculty members

- Regular news bulletin are published by the students during various festivals like Tech Tatva and Revels
- Weekly news letter's covering local and regional news

Melaka

Newsletters published monthly to disseminate information to students. Students also place their articles in the Newsletter.

5.3.5 Does the University have a Student Council or any other similar body? Give details on its constitution, activities and funding.

University as such does not have a Student Council. However, every college / institution / unit has separate student council. (Details are provided in the reports of the individual institution/college)

5.3.6 Give details of various academic and administrative bodies that have student representatives on them. Also provide details of their activities.

No

Dubai Campus

Dubai campus students represent their campus with the DIAC Student Hub to coordinate all student events with all other universities. As and when events and seminars happen our students are invited to coordinate with the students.

Melaka Campus

A student Council holds its annual general meeting every year with new office bearers elected annually. It oversees student affairs from the student perspective, meets college management regularly to bring up both academic and non-academic issues affecting them during their course of the study. They are given an annual quantum of RM 50,000 for their activities.

Any other information regarding Student Support and Progression which the University would like to include.

Best practices:

1. Merit cum means scholarship
2. Teacher Guardian scheme

6.1 Institutional vision and leadership

6.1.1 State the vision and the mission of the university.

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.

Dubai campus: Vision and mission are same as parent campus

Melaka campus

Vision – A World Class educational centre in a multicultural environment

Mission –

Faculty of Medicine – to prepare our students for the humanitarian and altruistic practice of medicine and life-long learning while aspiring to promote excellence in health care through research and postgraduate training.

Faculty of Dentistry – Provide value based dental education and comprehensive health care at par with international standards in a conducive environment utilizing state-of-the-art-technology to ensure satisfaction of students, patients and staff. Striving to continually improve dental education, patient care, research, infrastructure and human resources to set a benchmark at national as well as international levels.

a) Vision and Mission are scrutinized by the Accreditation panel of Malaysia which ensures that they are in line with the National education policies.

b) Curricular and organizational changes are made with the Vision in focus.

6.1.2 Does the mission statement define the institution's distinctive characteristics in terms of addressing the needs of the society, the students it seeks to serve, the institution's tradition and value orientations, its vision for the future, etc.?

Yes. The mission statement of University defines the distinctive characteristics, reads:

“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”.

Similarly, the individual institutions under the university have developed their mission statements aligning the same to that of University mission statement. The mission statements focus on the approach, deployment and integration of various systems prevailing to deliver high-quality education with virtues and values that will make the students as future professionals in their chosen of stream of education.

Further, the Manipal values such as integrity, transparency, humane touch, quality, execution with passion and teamwork reinforces the vision and mission of the university.

6.1.3 How is the leadership involved:

*** In ensuring the organization’s management system development, implementation and continuous improvement?**

In line with the vision of University, i.e., “Global leadership in human development, excellence in education and health care”, the ‘leadership’ is committed towards continual improvement, sustained development and development of a culture for quality. The leadership of the ISO certified, self-financing deemed to be university in the private sector, is guided by the principle of sound judgment, effective communication and setting standards and benchmarks in quality education and administration, always striving to excel in stakeholder customer satisfaction. In this regard, University had approached QS Intelligence Unit for benchmarking its services.

Quacquarelli Symonds (QS) Benchmarking Service:

- MAHE, Manipal breaks into the international rankings for the first time during the year 2013 finding itself among the top 100 universities in BRICS countries . This is the first ranking for the BRICS countries and Manipal University is the only private university in the country to find a place in the new rankings. The University’s steadily growing overall progress is the reason why it could be judged along with some of the top universities in the five countries, to be placed 100th in the prestigious ranking. In 2014, the ranking was improved and MAHE was placed in 85th position among BRICS nation. Also, Ranked No. 13 in India and No. 181-190 in Asia by QS University Ranking ASIA 2014.

The Board of Management comprises of individuals who excel in their respective fields. The structure incorporates various committees, viz. Advisory committee,

Academic senate, Planning and monitoring committee, Finance committee, Selection committee, Board of studies, Grievance committee and the Executive committee. The Board of Management comprises of the Chancellor, Pro-Chancellor, Vice Chancellor, Registrar, and eminent personalities like Dr Pai Panandikar, former Director for the Center for Policy Research, Mr K V Kamath, renowned banker and winner of the Business Standard's 'Banker of the Year' for 2005-06. The chancellor of University, Dr Ramdas M Pai, the doyen of education sector, has been honored in various forums for his contribution to the field of education and healthcare.

Details of various committees and their roles are described in Annexure 6.1

* In interacting with its stakeholders



Other than this, wherever possible, management directly interacts with the stakeholders, obtains regular feedback and takes prompt actions on the basis of feedback analysis.

* In reinforcing a culture of excellence

Senior leaders effectively set the strategic direction of accomplishing the organization's objectives through careful top-down, bottom-up alignment of departments, constituent institutes and the employee key research areas. This alignment is achieved through the strategic planning process, when the prioritized strategic objectives cascade to organizational, departmental and employee goals. The senior management, then reviews the objectives and university goals, and identifies their role and that of their departments and constituent institutes, in achieving those objectives and goals by utilizing their

expertise and daily interactions with students, patients, employees, industry and the community. From this information, they propose their individual goals through guided discussions with their respective HoI and HoD. Proposed department and institutions goals are validated and aligned by heads of institutions and head of departments through discussions with key leaders in their department to enable internal linkage of goals, establish standards of performance for shared goals and to ensure that all university goals have been assigned. The senior leaders ensure that the university goals and objectives are supported and strengthened by the individual college and its departmental goals and objectives.

* **In identifying organizational needs and striving to fulfill them**

The policies of the university are framed in such a way that there is continuous improvement in every aspect. The senior leaders communicate effectively with the faculty and the staff through regular meetings, newsletters and bulletins, the university's internet and intranet and a number of publications and media activities.

University has a people-driven HR policy to motivate the employees to strive for excellence. The following are a few of them.

- Research incentives for the faculty
- Good teacher awards
- Privileges for conference/workshop attendance
- Scholarship for staff children/spouse

Internal audits are the best ways to encourage process driven planning and execution. The issues those are taken up at MRM are finalized and documented.

Leaders participate in discussions, both formal as well as informal, to facilitate decision making that will enhance planning and execution skills. Exit interviews are also aimed at creating an atmosphere congenial to learning, so that anything and everything that is brought out in the exit interview is taken care of.

Melaka campus:

The Chief Executive makes it his personal mission to meet students, faculty and staff regularly. He chairs the College Academic Board, comprising Heads of Departments and invited faculty which meets monthly to discuss academic and non-academic matters. He is fully supported in this role by the Deans and Deputy Deans.

Management/Head of the institution ensures that adequate information (from feedback and personal contacts etc.) is available for the management, to review the activities of the institution through Surveys carried out regularly from students, the primary customer.

Management encourages and support involvement of the staff for improvement of the effectiveness and efficiency of the institutional processes by encouraging and getting feedback from all staff and students

6.1.4 Were any of the top leadership positions of the university vacant for more than a year? If so, state the reasons.

No.

6.1.5 Does the university ensure that all positions in its various statutory bodies are filled and meetings conducted regularly?

Yes

6.1.6 Does the university promote a culture of participative management? If yes, indicate the levels of participative management.

Yes. University encourages participatory management by involving the stake holders at all levels.

- Departmental meetings are held at the departmental level, wherein all faculty members participate.
- Heads departments meetings are held at the institutional level.
- At the university level, heads of institutions meetings are held, where all of them take part and discuss the management issues.
- All HoIs are also members of the Academic Senate which is entrusted with the primary responsibility of maintaining academic standards.
- Other than this, HoIs are the members of Executive committee and three of the HoIs are also members of the Board of Management.
- Academic and Administrative Heads meetings
- Executive committee meetings
- Some of the senior faculty members are entrusted with additional responsibilities of senior officials' position at the university.

Thus University promotes the culture of participative management.

Executive committee meeting in progress



6.1.7 Give details of the academic and administrative leadership provided by the university to its affiliated colleges and the support and encouragement given to them to become autonomous.

Since University is a “deemed to be a university”, a unitary university, there is no provision to grant ‘autonomous status’ to any of its constituent institutions.

The overall administrative activities, operational issues and the overall control of constituent institutions are under the university leadership for all decision making purposes. Hence, all issues such as planning, strategic developmental issues, academic issues, administrative issues and financial control are vested with the university, under various and appropriate committees (Annexure 6.1).

However, institutions are receiving unparalleled support and encouragement from the university in all their endeavors to provide holistic educational experience to their students, to create a benchmark for quality education and to leverage technology in teaching-learning process.

All constituent units of University have functional autonomy to carry on with the academic and administrative activities to ensure the vision and mission of the university and the institution are achieved.

6.1.8 Have any provisions been incorporated/introduced in the university act and statutes to provide for conferment of degrees by autonomous colleges?

There is no concept of autonomous colleges as such in the deemed to be universities, as all the colleges are constituent institutions. However, autonomy is given to all the institutions for the day-to-day functioning of the institutions.

6.1.9 How does the university groom leadership at various levels? Give details.

Grooming the leadership can be felt at every level.

Frequent promotions are held to elevate the deserving candidates.

Heads of departments are appointed on rotation basis.

Some of the faculty members are given additional administrative responsibility at the university.

Successor chain is identified in advance and training is provided on job through meetings to take charge whenever there is a leadership change.

Workshops are conducted on leadership training at various levels right up to heads of institutions.

Leadership Transformation Programme (LTP) For Heads of Institutions (HoI's) Of University, Manipal

University has initiated a focused, customized and robust 'Leadership Transformation Programme' for the Heads of Institutions of its constituent Institutions to enhance their leadership capabilities. This programme is being conducted in association with a global human resource management consulting firm - Performance Consulting International (PCI), Bangalore, focused on building the performance capabilities and tangible results of the organization.

The entire duration of this programme is for nine months. The first part of the programme was Profile Phase, where each participant was made to know the self through a structured Leadership Development Centre. Senior assessors conducted a series of structured simulated situations through group discussions, individual presentations and individual role-plays. The output of the simulated exercises was then formulated into a standard evidence based feedback report. Half day workshop was conducted to set expectations and to brief the participants about the programme. Individual coaches/senior assessors were assigned to all the HoI's followed by one to one reflection dialogue with each one of them. The input was used to create a customized reflection & learning modules, which benefited in the executive coaching.

Each HoIs were assigned a Business Impact Projects pertaining to their respective institution. The individual coaches ensured that the BIP's are linked to their Key

Result Areas. The assessors have created a customized reflection journal for each leader. Reflection journal gave briefing for creating the project charter. With the help of reflection log, the HoI's presented their Business Impact Project before a panel consisting of Leadership team and their coaches during January, 2013.

In the development phase, a series of connect between the coach and the coaches have been scheduled in order to execute and accomplish the Business Impact Project goal and to attain behavioral and business transformation. The connection would be either through email/telephonic discussion or face to face meeting between PCI assessors and HoI's at the respective offices of the HoI's.

At the end of the project, each leader has to present their journey of successful completion of Business Impact Project before the Top Management.

Apart from this, the University always strives to maintain strong second line leaders in the form of Associate Deans/Directors, Heads of the Departments etc.

Synergic Manipal Integrated Leadership Engagement – SMILE: Given the changing dynamics of the education sector, it is important that the faculty members are equipped to take on the challenges and opportunities in Teaching, Research, Institution Building and managing Student Expectations. Considering the University's growth in the past and its leadership requirements in the future, University have finalized a plan on developing leaders from within, to grow them to higher-level roles and responsibilities in the institutions under Manipal Group. Keeping this in mind MAHE has initiated a sustained approach to faculty empowerment, leadership development and succession planning through a signature programme "***SMILE***", a nine month programme launched in January 2015. Sixty potential candidates have been shortlisted from various streams under the University from a pool of 172 volunteers who had self-nominated for the programme. This programme comprises of the Assessment Phase – Multisource feedback, Myers Briggs Type Indicator (MBTI) and a two day Development Centre. Workshops on different competencies have been conducted for the participants. Individual Impact Projects, Developmental Coaching and Mentoring are also an essential part of this programme.

6.1.10 Has the university evolved a knowledge management strategy? If yes, give details.

University level strategies

- Creation of proactive knowledge management and dissemination system
- Compile and disseminate all research (PhD theses, dissertations, publications) to all faculties in all University campuses to foster inter-institute work.
- Hold a research retreat to establish new research program priorities.

- A Director for Research will work with the faculty research committee to establish a focused program and agenda for a retreat to develop proposals to establish research program and resource priorities.
- Start an in house peer reviewed e-journal for University faculty and students.
- Encourage translational research through inclusion of collaborating institutes/departments as partners in faculty research
- Offer courses in Research Methodology and Research Management to University faculty so as to enhance capacity building of research oriented faculty in order to write good research proposals.
- Offer workshops for information about Intellectual Property Rights (IPR) and patents
- Build strategic international research partnerships
- Increase interaction between University and non-University Institutes by awarding short term fellowships.
- Offer post doctoral fellowship programmes and summer courses in research projects.
- Offer incubator / start up facilities for innovations with viable commercial demands. The university may function as a partner with the innovator in such projects.
- Create centers of excellence in specific areas
- e-Prints

6.1.11 How are the following values reflected in the functioning of the university?

* Contributing to national development

We conduct admission to our professional colleges through All-India entrance tests and students from all over India seek admission to our colleges on this basis. We made it clear in our prospectus that selection of students is made strictly on the basis of the ranks obtained by them in the entrance test and there is no other quota either management or discretionary. This procedure has received wide appreciation. With our students coming from all over India and who settle in different parts of the country after their graduation, we feel we have contributed to the educational advancement of those regions where our graduates are going to settle down in their professional career. We have two of our allied universities – University Jaipur in Jaipur, Rajasthan and Sikkim University in Gangtok, Sikkim and through these universities too, we are contributing to the educational and social advancement of Rajasthan and Sikkim States. With our collaboration with Manipal Health Enterprises Pvt. Ltd., a corporate body which is running many

hospitals in India, we are also contributing to the healthcare services to the people in the regions where these hospitals are located.

Proposal is under way to establish educational institutions in the state of Jharkhand.

*** Fostering global competencies among students**

With our twinning programmes in Medicine and Engineering with foreign universities, we are giving a good exposure to students to promote global competencies. With the excellent educational standards in our institutions, these students are able to effectively face the challenges of the competitive world by developing growth-oriented competencies. We have two active student associations IAESTE and AIESEC, which facilitate the student exchange activities. We have managed to send more than 300 students each year to various countries on exchange mode on technical and life-changing internship experience.

*** Inculcating a sound value-system among students**

Six Values of University are Integrity, Transparency, Quality, Team work, Execution with passion and Humane touch. All these values are in built in all the process of University, right from Admissions, Teaching learning, Curriculum design, Examination etc and thereby reinforcing and inculcating sound value system among students.

*** Promoting use of technology**

With the rapid strides taken by technology, we have adopted many new technologies in our academic programmes to help the students grasp the subjects with ease and clarity. Regular improvement in the curriculum with the usage of technology is also being done without in any way affecting maintenance of high standards

University, a global leader in Education, has always been the forerunner in implementing technology solutions in the various facets of education and healthcare services. With regards to IT, University has been very quick in realizing the potential benefits of IT as a big enabler in the effective delivery of higher education and healthcare functions. University has innovatively used technology in the following processes:

1. Admissions

University Admissions Office has been using the latest technology to the fullest extent possible ways in all the stages of its process. The automation and digitization of the office has improved the effectiveness of administrative operations and hence helped to cater to the requirements of the customers at a greater speed with ease.

Online Application

- Prospective students applying to any of the courses offered at University can pay the application fee through credit card or net banking in addition to the offline methods.
- A payment gateway is an e-commerce application service provider service that authorizes payments for e-businesses, online retailers, bricks and clicks, or traditional brick and mortar. It is the equivalent of a physical point of sale terminal located in most retail outlets. Payment gateways protect credit card details by encrypting sensitive information, such as credit card numbers, to ensure that information is passed securely between the student and the merchant and also between merchant and the payment processor
- A payment gateway facilitates the transfer of information between a payment portal (such as a website, mobile phone or IVR service) and the Front End Processor or acquiring bank. When a student fills an online application and selects to pay through online, a payment gateway-enabled merchant, the payment gateway performs a variety of tasks to process the transaction.
- Scanning & Data Processing
- The applications are scanned using OCR technology and the data along with the photograph and signature images are captured. The data and images are uploaded in the Admissions Software, Online Test Booking System and the website for application tracking.
- Admissions Micro site
- A separate micro site www.admissions.manipal.edu is exclusively created for Admissions. The Content Management System (CMS) has been enabled with the website design which facilitates easy and timely updating / maintenance of the page.
- The application status, results, announcements etc are hosted in the website on a daily basis which helps the student to track his application, results etc.
- Candidate can download application in PDF form or apply online with the option of paying the application and entrance test fee through Credit Card or Net Banking or Demand Draft.

Online Entrance Test

The salient features of the computer based ONLINE entrance test are:

- In the broadest sense, an online entrance test is the use of Information technology i.e., it involves the use of computers for delivering an examination. Questions are presented to the test taker on the monitor and the candidate submits his answers by

using the mouse. Answering a test online is easy. It requires minimal computer knowledge and basic familiarity with the use of computers. Moreover the testing software offers the test taker a demo to familiarize the candidate with the test taking interface and help him get acquainted with the process.

- The system provides scientifically designed test content and helps deliver the exams online through state-of-the-art test centers spread across 30 cities.
- The individual computers at the test centers are connected to the central server, which delivers the test, in real time through a reliable connectivity.
- The online entrance test is delivered in a secure, robust and highly reliable MPLS network which ensures built in security. Biometric verification systems ensure candidate validation and authentication. Each test node has a web cam for candidate authentication and verification. Questions are encrypted and made available only at a scheduled day & time. All test centers are equipped with IP camera which helps monitor the locations remotely via the internet. Immediate declaration of the test score helps avoid malpractice allegations and generation of real-time rank lists.
- The system uses a world class test engine which accommodates over 16 question types, some of which are Multiple Choice (Including Yes/No, True/False), multiple response, Hot spot, Drag & Drop, Fill in the blank, and Match the following, Ranking, Descriptive etc.
- The questions appearing on the screen will be in English. All questions will be of the Multiple Choice Question (MCQ type).
- Each MCQ will consist of a stem which may be in the form of a question or an incomplete statement and four responses labeled A, B, C and D. One of the four responses only is the correct or most appropriate answer. Candidates must choose the correct or most appropriate answer by clicking on the button next to the answer. Candidates can navigate freely through the questions.
- Each question carries one mark. Each correct answer will be awarded one mark. The wrong answer or unanswered questions will receive no mark.

Online Test Booking System

- OTBS is a web based scheduling software which facilitates the candidates to appear for the online entrance test at their convenience. The candidates will have the freedom to choose the place, date and time of their choice in the OTBS. The booking schedule will be notified in the prospectus and website for various courses. Candidates are required to login to the OTBS during this given time frame window for booking their slots. Candidates should enter their application number and online booking password while logging into the OTBS. The password

is sent to candidates immediately after the receipt of their application to their email id and also through SMS.

- Candidates can book slots of their choice on a first-come-first-served basis and subject to availability. If a candidate is unable to book a slot in a centre of his/her choice, s/he may choose to book a slot in an alternate centre, subject to availability. Re-schedule requests, if any will be processed by the Admissions Office.
- The e-hall ticket will be generated instantly after the candidate has booked his/her schedule in the OTBS. The e-hall ticket will indicate the e-hall ticket number, course/s applied, address of the test centre, test date & time selected by the candidate. The e-hall ticket can also be downloaded at a later date from University website. Candidate should provide the application number and online booking password to download the e-hall ticket. The copy of the e-hall ticket will also be emailed to the candidate.

Admissions & Student Information System Software

- The Admissions Software is created as an integrated system, aiming to computerize all University admission processes. Processes use registration, application and admission as general classifications. All data are stored in a centralized database in a secure server and hence the data retrieval and report generation is just a matter of a mouse click.
- The software also caters to all the requirements of counseling/admission which include real time seat matrix display, seat allotment; verification & authentication, automated printing of admission order, fee receipts etc.
- The Student Information System Software integrates various departments like the Admissions, Student Finance, Hostels, Evaluation and all the college offices of University. This helps administration and sharing of the data and also avoids replication of the work at all levels.

2. Marketing

Online Marketing

- Technology plays a key role in University Admissions and Brand Marketing. The focus is on using the Internet /online and mobile technologies to better understand what the young student wants and to deliver brand communication and key messages across various platforms. Whether it is through our websites, or using the Internet to disseminate knowledge and information and generating inquires.
- Search Engine Marketing: drive traffic to the site through keyword (CPC) and banner (CPM) based models on all platforms like Google, Yahoo, and educational portals like entrancecorenr.com, successcds.net etc.

- Search Engine Optimization: optimize the site so that it is at the top of search results for all relevant keywords.
- Email Marketing: We use multiple email management and broadcasting services capable of delivering more than 1,00,000 emails per day. Email communication is the pillar for student acquisition marketing and in a year we send approximately 5 million emails.
- SMS Marketing: SMS communication is sent to all students to inform them about all key dates during admissions process.
- Social Media Marketing: With social media gaining prominence, University is present across all social media platforms including Face Book, Orkut and Twitter. We use extensive engagement tools like games, photo based applications etc to drive student interest.
- Customer Relation Management Software
- CRM software is in place to track all student engagements. The system is able to track each interaction that happens with a prospective student across all channels including website, online marketing, email and phone. At any point of time the system allow us to see all communication sent and received from the student helping is quick problem resolution and management.
- The CRM tool is also a student engagement tool which allows for multiple campaign management for automatic and timely delivery of relevant communication to students. The current CRM system is delivering more than 30 campaigns targeted at prospective students.

3. Administration

Data Center

- University has setup a state of the art physical infrastructure for the data centre that meets the requirements of industry standard. This Tier II (N+1) DC, spread over 3000 sq.ft, will house the server park and also the Network Operation Center (NOC), hosting enterprise applications, e-Learning portal, websites and host of other services.

Website and intranet portal

- University is maintaining an informative and interactive Education website, <http://www.manipal.edu> representing all institutions under University - a gateway to prospective students, parents and also alumni of University.
- University has intranet portal mainly to provide information services to on-campus students, faculties and administrators. In addition, this portal provides a platform for various self service functions and online services to employees and students.

This has not only digitized and automated workflow, also reduced turn-around times of service windows, increasing the overall productivity.

People Soft Enterprise

- University is the first university to launch PeopleSoft applications in India. The objective of implementing PeopleSoft is to enhance the University processes to Global Standards and to disseminate academic & financial information to Students and Parents through Internet.
- PeopleSoft application is comprehensive enterprise-wide software that covers all aspects of management and operations of a modern university system. University, to start with, has implemented the Finance and Human Resources Management System. The PeopleSoft ERP application will provide critical management information in real-time to ensure the highest levels of responsiveness by the University to changing circumstances. The web-based architecture of PeopleSoft applications can support University's academic mission today and meet its technology requirements of tomorrow. Through PeopleSoft, University is implementing Global Best practices and facilitating access to information - anywhere, anytime. The University will be using a single database - leading to data consistency and reduced overheads.

Group wide connectivity

- Manipal has established a very strong and reliable VPN infrastructure connecting all Manipal Group of institutions in India and abroad with high-performance MPLS (Multi Protocol Label Switching) backbone - committed step to move towards "Digital University".
- This solution will provide for high flexibility in not only adding new sites and location but also in adding new services like video conferencing, VoIP etc. Manipal GWC is highly secure, scalable and provides high uptimes with all the redundancies built into solution.

Picture Archiving and Communication Systems

- Picture Archiving and Communication Systems (PACS) are high-speed, graphical, computer network systems for the storage, retrieval, and display of radiology images. With the development of integrated health care systems supported by the appropriate information infrastructures, PACS can be implemented over distant networks to provide remote access to patient information and to support one of the most promising forms of telemedicine, tele-radiology.
- University has implemented PACS in one of its premier teaching hospitals in the year 2000. Film-less diagnosis, 24x7 accessibility, simultaneous multi location

viewing, post processing manipulations, user defined set up, HIS/RIS/PACS integration, tele-radiology are some of its key benefits.

Student Information System (SIS)

- SIS application helps the University institutions in to track and maintain individual student personal information.

Online Screen Marking (OSM)

- University has adopted the digital marking of University exam answer scripts of all its institutions in Manipal, known as 'On Screen Marking' (OSM) from 01 July 2014. Under this all the examiners (internal/external) evaluate the scanned answer scripts on a computer screen with the help of a software. OSM has the advantages of simultaneous marking of answer scripts by internal and external examiners, error free totalling of marks by the system and mark by question option wherein the a particular question can be marked for all the scripts for better judgement. OSM has totally abolished the physical handling of answer scripts by the examiners and also reduced the paper consumption to a certain extent

Online Degree Certificate Verification System (ODVC)

- The Online Degree Certificate Verification System (ODCV), a 24x7 web based certificate verification service allows verifying certification status of the Manipal University graduates anytime and anywhere through online mode. The online portal access is free and open to all.
- The details will be useful to verify with the applications made by the students for employment purpose or admissions into the higher studies. The data presented here is based on the official records of the University.

4. Classroom and teaching

E Learning

- In University's drive for continuous excellence, It has designed a unique learning experience - online education. Now students can learn at their own pace, in a manner that suits their style of learning. The courses provide one with lively and interactive, multi- sensory learning, combining the simplicity of classroom teaching with a powerful visual medium that captures one's imagination. This is a whole new realm of educational experience.
- The content for e-Learning is provided by the faculty of University. Hence the experience is like learning in a virtual classroom. The multimedia content of all the courses is interactive and provides the students the ability to assess his knowledge by taking online tests at the end of each chapter.

- E-Learning is a web application that the students can access across the campus. E-Learning centre has been set up at Manipal and Mangalore campus, which provide a perfect ambience for learning. In addition to this, students can also access e-Learning at their hostels and in some places of the campus, they can also access it wireless.
- By initiating projects like e-Learning, University is also keeping pace with the changing technology, thereby providing the students the best of educational experience.

State of the art classrooms

- University provides state of the art classrooms to its students with latest Audio Visual facilities, wired/wireless internet connectivity and with suitable provisions to use laptops. Video conferencing facility is available in select class rooms to facilitate interactions with faculties across the globe.

Online Attendance/Student Feedback

- University has introduced online attendance system in few of its constituent institutions/departments .Online feedback on faculty and course evaluation is also introduced in most of the institutions/departments.

Student Computing

- University has provided wired or wireless infrastructure, in the entire campus, to provide access to information from their rooms/ residences. Students are connected to the internet, e-learning and information portals through high-speed internet gateway in the hostels. Internet kiosks also have been established in key strategic locations to provide internet access. University is providing each incoming UG/ PG student in Engineering, Medicine and Dentistry, a laptop, packaged with all campus services, for their computing, communication and presentation requirements. There are about 8000 notebooks on campus connecting students.

Faculty Computing

University has taken a huge initiative to provide laptops to all its faculties, free of cost, to promote extensive faculty computing, innovative teaching methods and research activities. Nearly 1800 faculties have been given laptops and this unique initiative of University is certainly first of its kind in India. The professional notebooks from HP, Lenovo and Apple have created a huge impact on the teaching-learning process in the University.

Library system

All central libraries are connected through EPAC - The Library Search Engine, which is a web-enabled search engine that can be accessed on Intranet, as well as on Internet. EPAC can be used to browse/search for an item (book/non-book),

along with its details and the availability, in a particular library. Online Journals subscribed by the library can also be searched and accessed through EPAC. The Health Sciences Library through its micro site provides electronic access to various full text and bibliographical databases. The Health Sciences Library is well equipped with modern facilities and resources in the form of CD-ROM, Online Databases, online journals, e-Learning, Video Cassettes, Books, Journals, Back Volumes of Journals, Theses and WHO Publications.

Event Management System

University has developed an application which enables effective and efficient way of approval of events, support requirements for these events and optimal utilization of University infrastructure resources.

ISO Documentation

In its efforts to sustain and promote green initiatives, University has reduced consumption of paper in most of its administrative processes and has hosted all ISO documents pertaining to 9001:2008 and 14001:2004 in its intranet portal to encourage paperless documentation.

Internet and email services

University has got a high speed internet gateway of 14 mbps through BSNL's STM ring, 100 mbps from Bharti Airtel gateway- all in one Manipal campus, to meet the internet requirements of faculties and students. All the institutions under Manipal group are behind Domain Controller and Active Directory (AD) infrastructure to support group policy implementation and remote management services. University has around 2,000 email users from the faculty group .E-mail facility to the students and alumni have been provided in collaboration with Microsoft.

Conventionally, students are required to obtain content from classroom teaching. Today, University is not too far away from sending this content directly to students, to enable 'on-demand learning'. With wireless, the dimension of 'mobility' is enhanced.

Wireless Campus

The entire University campus is unwired with a two-layer secure wireless architecture - core and access network. This provides seamless connectivity across the entire campus and users can access the network from anywhere in the campus, both indoor and outdoor. The Wi-Fi mesh network is designed to provide wireless broadband Internet services, branded as I-ON, to about 10,000 students on campus with the help of Motorola canopy equipment (access points and subscriber modules). This wireless infrastructure is being used to access all IP based services like, Internet, e-mail, eLearning and digital library, and this network has the

capability to support Value Added Services (VAS) such as IPTV, videoconferencing, VoIP and any other converged multi-media services.

5. Placements

Placement cells in the constituent institutions make extensive use of IT in improving their performance and increase their effectiveness. Use of Social Media, Group SMSes, Placement portal, Video Conferencing facilities for conducting interviews, use of Audio visual facilities to train the students, state of the art computer labs to facilitate recruiter's testing requirements are examples of use of technology in Placement process.

6. Alumni Centre

University with 15 units covering over 272 courses has turned out a large number of graduates and postgraduates over the last five and a half decades, and its alumni are spread across the world. The University desires to have every single alumnus very much a part of the set up even today. No matter which constituent University institution an alumnus belongs to, the university takes a lot of pride in each one. They are individual ambassadors for University.

University alumni affairs office has been set up with "STTAR" (Service, Teaching, Training, Administration and Research) as its core principles. University has developed an alumni portal to facilitate both the university and the alumni to get in touch with each other. The alumni can get any kind of information about the university, fellow students, juniors, conferences, alumni meets, featured alumni, success stories of alumni using this portal.

IT Award

One of the leading IT giants, IBM, awarded Dr H S Ballal, Pro Chancellor of University, the "IBM Achiever Award" for being a leader in using IT in higher education space. This provides testimony to University's goal to reach.....Destination Digital

* **Quest for excellence**

Pursuit of excellence in our teaching programmes has been our watchword and to maintain high standards, we have been regularly having workshops, seminars and symposiums for our faculty, inviting outside experts too to deliberate at length on the steps to not only maintain high standards but also improve on them. Following are some of the successful outcome for our Quest for excellence:

- Ranked No. 13 in India and No. 181-190 in Asia by QS University Ranking ASIA 2014
- Ranked No. 85 by QS University Ranking BRICS 2014

- 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” filed
- Ranked No. 1 in India and 695 in the World in University Web ranking 2014
- Ranked No. 1 Private Deemed University by THE WEEK – HANSA Survey 2014
- ASSOCHAM National Education Excellence Awards 2014 – Won Best University Promoting Research award
- FICCI Overall Excellence award 2014
- Ranked No. 3 among Top Private Universities in India by Careers360 University Ranking 2014
- Ranked No. 3 by SiliconIndia Top 20 Private Universities in India 2014 for MBA/Engineering courses
- Golden Peacock Environment Management Award successively for the year 2012, 2013 & 2014
- Ranked No. 1 in India under the Sub Urban category by UI GreenMetric Ranking for Global Universities 2014
- ISO 9001: 2008 and ISO 14001:2004 Certification
- NABH and AAHRPP Certified Kasturba Hospital at Manipal and NABL Certified Laboratory at University Medical Centre Mangalore
- Winner of IMC- RBNQ Award 2007 (modelled on MBNQA)
- International Asia Pacific Quality Award 2008
- FKCCI Export Excellence Award (last three years) (Federation of Karnataka Chambers of Commerce and Industry)
- Best Hostels in India Award - 2012

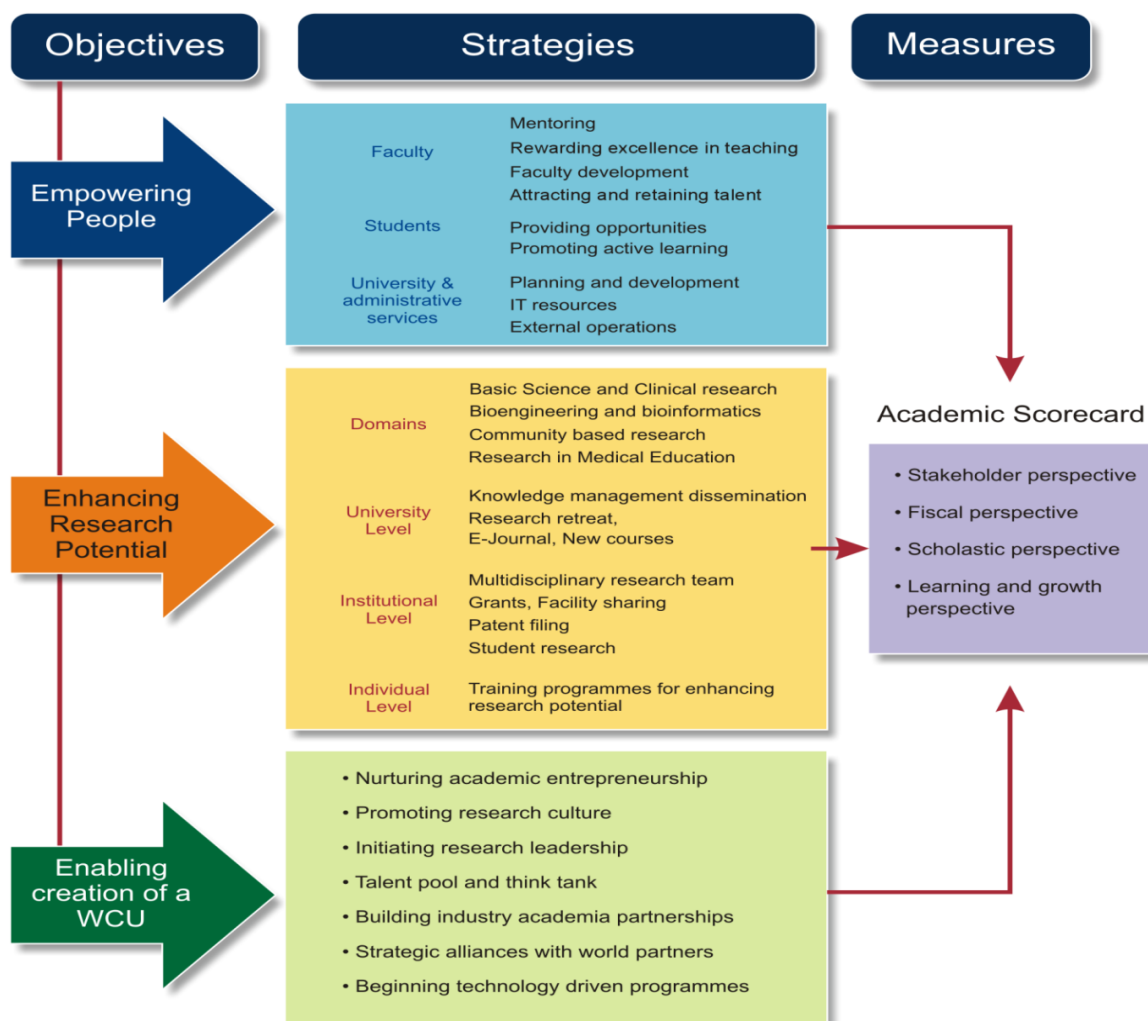
6.2 Strategy development and deployment

6.2.1 Does the university have a perspective plan for development? If yes, what aspects are considered in the development of policies and strategies?

- * Vision and mission : yes
- * Teaching and learning: yes
- * Research and development: yes
- * Community engagement: yes
- * Human resource planning and development: yes
- * Industry interaction: yes
- * Internationalization: yes

Vision and Mission of University as stated in Criteria 6.1.1 is driven by the following strategic plan framework which considers all the above aspects in the development of policies and strategies.

The Strategic Plan Framework



6.2.2 Describe the university’s internal organizational structure and decision-making processes and their effectiveness.

Board of management is the supreme body of the university.

Chancellor is the head of the university.

Pro chancellor is the functional head.

Vice chancellor is the academic head.

Registrar is the administrative head.

All correspondences to and from the university are routed through registrar's office.

Please refer Annexure 6.2 for detailed University organizational Structure

Dubai campus

The Academic President or the Director is the highest authority of the branch campus of the University. He oversees the chairs of the various departments (both

academics and administration), all of whom report to him. The faculty at large report to the respective departmental heads while the staff report to the functional heads of the units.

6.2.3 Does the university have a formal policy to ensure quality? How is it designed, driven, deployed and reviewed?

University has various policies in place to ensure quality at every level. May it be in purchase, HR, Admissions or in any other activity for that reason, only after meeting required criteria, purchases or recruitments or admissions are made.

Since the University is ISO 9001:2008 certified, all procedures have been streamlined and are in place. Periodic internal audits and annual review audits are conducted to ensure that the procedures are implemented properly.

Quality policy

University aims to strengthen its unique value system through:

- Providing value based higher education and healthcare services at par with International Standards;
- Promoting Research and collaborations;
- Meeting the societal objectives;
- Enhancing the proficiency of its students ,staff and faculty to achieve global competency through training and development;
- Demonstrating continual quality improvement in all its academic, healthcare services and co-curricular activities through upgrading the delivery system, and sharing the best practices;
- Exceeding the expectations of the beneficiaries, stakeholders and regulatory bodies.

Environmental Policy:

University (University) endeavors to promote community welfare and environmental protection to a level of performance that moves “**beyond compliance**”. Striving to set a benchmark on a National and International level for **education, healthcare and environmental management**, University is committed to a cleaner and greener Manipal. To realize this vision, the University commits to:

- Institutionalize best practices, comply with applicable environmental laws, regulations, and standards and where practicable exceed them.
- Preventing pollution through continually monitoring and improving its environmental performance

- Establish environmental management systems to minimize harmful effects on environment, human health and safety
- Promote use of clean and safe technologies in order to utilize natural resources efficiently
- Encourage transparency and communication of its commitment to sustainable development; simultaneously increasing environmental awareness amongst its stakeholders as well as the community at large

Foster education, research and information exchange on environmental protection and development to move toward global sustainability

(Please refer to Annexure 6.3)

6.2.4 Does the university encourage its academic departments to function independently and autonomously and how does it ensure accountability?

Yes. University does not interfere in the academic activities of its departments. Each department has been fixed with specific objectives. By monitoring the achievement status of objective and targets, accountability is ensured.

6.2.5 During the last four years, have there been any instances of court cases filed by and against the institute? What were the critical issues and verdicts of the courts on these issues?

Yes. There have been some instances of court cases filed by and against the University / constituent units. The details of these cases are provided in Annexure 6.4

Dubai campus:

There was an instance of a court case filed by a former employee seeking compensation more than what was due to him. However, the court ruled in University Dubai favor, in fact reducing the extending of monies payable to him.

6.2.6 How does the university ensure that grievances/complaints are promptly attended to and resolved effectively? Is there a mechanism to analyze the nature of grievances for promoting better stakeholder-relationship?

Grievance redressal cell is in place to address any grievances.

Complaints are addressed within the institution.

If not resolved, the same is forwarded to university for further disposal.

University has a time bound process to address the grievances. Details of the Students Grievance redressal committee and its functioning are explained in Annexure 5.4.

It is also to be noted that the University has appointed an Ombudsman as required by UGC guidelines

A separate Grievance committee headed by Chancellor / Pro Chancellor with Vice Chancellor, Registrar, Director Finance, Director Student Affairs, Deputy Director – HR, Legal Officer, Head of Institutions as members is also functioning to redress the Grievances of faculty and staff members.

6.2.7 Does the university have a mechanism for analyzing student feedback on institutional performance? If yes, what was the institutional response?

Yes. As a University, we are involved in getting the feedback from students every year. This feedback is taken through online and analyzed and report is submitted to top management. Top management will discuss the analyzed feedback report and forward the same to the concerned Institution / departments for necessary actions. Any concern expressed over the curriculum will be discussed at department level and escalated to Board of studies for appropriate measures.

Based on the Voice of Customer following are the improvements carried out in the recent years

- Regarding quality of food in the mess, the University has started Food Court to cater to the needs of all types of tastes.
- Air conditioned hostels have been constructed to provide better amenities to the student group including internet and telephone facilities.
- Centrally air conditioned lecture halls have been provided to impart a comfortable atmosphere of learning.
- Library has been provided with areas such a discussion rooms, internet facilities, Wi-Fi connectivity & a wide variety of books, publications and journals (both hard-copy and online).

The data regarding increase in the number of applicants applying for the courses from India & abroad shows that the level of customer satisfaction has been improved.

6.2.8 Does the university conduct performance audits of the various departments?

Yes. The performance audits are linked to annual institutional performance indicators already specified and notified. Other than this, there is a periodic internal audit from certified internal auditors and yearly once by the external auditors.

The outcome of the audit is initially discussed in the institution MRM and unresolved issues are forwarded to the university MRM for decisions.

In addition, the University started Academic audit of its constituent units. Proposed to have these audits every year.

6.2.9 What mechanisms have been evolved by the university to identify the developmental needs of its affiliated institutions?

University is deemed to be university in nature. It has no affiliated institutions. Hence, the following procedures have been adopted for constituent units-

- a) To ensure that all requirements as per the regulatory bodies are met – periodic review of facilities is conducted and if any deviations/deficiencies are identified, they are addressed immediately
- b) Whenever a new programme is started, needs are identified during the preliminary meeting and facilities are created.

6.2.10 Does the university have a vibrant college development council (CDC)/board of college and university development (BCUD)? If yes, detail its structure, functions and achievements.

University has a Board of Management, which is the apex body overseeing the functioning and development of the university and its colleges.

University also has a planning division headed by the Pro vice chancellor and deputy director for planning. This division is responsible to identify the areas for expansion, collaborations, international relations and understandings with universities overseas etc.

This has resulted in the following:

- Formation of university advisory committee
- Starting of new courses – Details provided in Annexure 1.2
- Signing of MOUs with various industries and universities – Please refer to Annexure 3.6
- Starting of University press – this is new venture of the University as detailed below:

University Press was established by a resolution of MAHE Trust in April 2011 with the objective of disseminating knowledge resident in the University by publishing scholarly works and taking them to the world as books, journals, monographs etc.

Preamble

University Press is a unit of Manipal Academy of Higher Education Trust and is committed to the dissemination of knowledge generated from within its vibrant academic environment and beyond

Vision

To be in the league of global university publishers in terms of quality of content, print and package and also serve the needy with required low-cost print of educative information on healthcare and consumer rights

Mission

To publish books, text books, monographs, translation works, journals, case studies, conference proceedings, reference works, in print and digital form and to expand into other pedagogical services

UniversityP became functional in November 2011 and the first year's plans were to

- Lay down the processes from sourcing of academic works to marketing
- Publish "A Book a Month"
- Be financially self-sustaining

Most of the processes are in place, University Press has published following books and journals so far.

Publications till now

Sl. no	Title of the Books/ Journals	Authors Name	Year published
1	The Path of Proofs – Pramanapaddhati of Sri Jayatirtha	Shrinivasa Varakhedi	2011
2	Indian Journal of Respiratory Care (January 2012)	Anitha Shenoy	2012
3	R Manual for Health Science Researchers	Asha Kamath, Sreelatha Meleth, Nalini Sathiakumar	2012
4	A Modern Introduction to Madhva Philosophy	R B Kotabagi	2012
5	Childhood Cancer	P D Gupta, H S Ballal	2012
6	Indian Journal of Respiratory Care (July 2012)	Anitha Shenoy	2012
7	Lectures on Matrix and Graph Methods	P D Gupta, Ravindra B Bapat, Steve Kirkland	2012
8	Ancient Stone Riddles: Megaliths of the Indian Subcontinent	Srikumar M Menon	2012
9	India-China Relations: Prospects for Synergy Building in the Twenty First Century	Arvind Kumar, Pranav Kumar	2012
10	Manipal Manual for Swallowing Assessment	Radish Kumar B, Jayashree S Bhat	2012
11	Healthy Heart	Ranjan Shetty, Krishnananda Nayak	2012

12	Manipal Laboratory Manual for Biotechnologists	Herman Sunil Dsouza, Shyama Prasad Sajankila, Satyamoorthy K	2012
13	Master Story Tellers of India	Jaba Mukherjee Gupta	2013
14	Indian Journal of Respiratory Care (January 2013)	Anitha Shenoy	2013
15	The Ramayana of Valmiki (A condensed version of Valmiki's epic)	M R Parameswaran	2013
16	A Birder's Handbook to Manipal	Ramit Singal	2013
17	Manipal Manual for Cognitive Linguistic Abilities	Mili Mary Mathew, Sreya N M, Jayashree S Bhat	2013
18	Indian Journal of Respiratory Care (July 2013)	Anitha Shenoy	2013
19	Lady Lokasundari Raman: Her Early Life and Times	Uma Parameswaran	2013
20	Exploring Nanotechnology in Healthcare	N Udupa	2013
21	Comets – Nomads of the Solar System	Srikumar M Menon	2013
22	Language of Logic: Navyanyaya Perspectives	Tirumala Kulakarni	2013
23	NLS-22 Book of Abstracts	DAMP	2014
24	Physical Science and Future of India	Mayank N Vahia	2014
25	Indian Journal of Respiratory Care (January 2014)	Anitha Shenoy	2014
26	The Practice of Geopolitics	M D Nalapat	2014
27	Last Bench Se	Abhinav Grover	2014
28	Healthy Heart 2 edition	Ranjan Shetty, Krishnananda Nayak	2014
29	Indian Journal of Respiratory Care (July 2014)	Anitha Shenoy	2014
30	Manipal Research Review Issue 1 Vol 1	N Udupa	2014
31	Valmiki Ramayana	M R Parameswaran	2014
32	Biomedical Spectroscopy	Santhosh C, Vasudevan Baskaran Kartha	2014
33	Manipal Research Review Issue 1 Vol 2	N Udupa	2014
34	Linier Algebra with Applications	Manjunath Prasad	2014
35	Indian Journal of Respiratory Care (J 2015)	Anitha Shenoy	2015
36	Manipal Journal of Nursing and Health Sciences (January 2015)	Anice George	2015
37	Vaidehi Dhvani	Vaidehi	2015
38	Manipal Research Review Issue 2 Vol 1	N Udupa	2015

39	A Concise Textbook of Drug Regulatory Affairs	N Udupa, Krishnamurthy Bhat	2015
40	Geoffrey Bawa	Nivi Ann Monsey	2015
41	Talat Mahmood - The Velvet Voice	Manek Premchand	2015
42	Legends of Travancore - A Numismatic Heritage	Joseph Thomas	2015
43	Puttakkana Highway	B Suresha	2015
44	Basic Concepts of Intellectual property rights	Manthan D Janodia	2015

6.3 Faculty empowerment strategies

6.3.1 What efforts have been made to enhance the professional development of teaching and non-teaching staff?

University has a centre for professional and personnel development, which organizes various training programs for both teaching and non-teaching staff. Apart from this, major institutions have their own continuing education departments, which will update their faculty members with their training programs regularly.

Faculty members are provided with yearly 15 days of special casual leave to attend seminars/conferences/workshops etc. Financial support is provided to attend these programs.

Reorientation/professional skill development workshops are conducted for support staff at regular intervals.

Around 36 professional development programs were conducted for Faculty, 10 programs for non teaching staff and 5 more for students and others. Details are available at criteria 2.4.10.

Training session at MCPD



6.3.2 What is the outcome of the review of various appraisal methods used by the university? List the important decisions.

Performance Assessment System:

An effective and well managed performance appraisal system is one of the best ways to provide the ongoing support system as it can give both individuals and managers a structured system to achieve goals and targets successfully without the need for close supervision. A performance appraisal system exalts the organizational decisions quality ranging from allocation of reward/incentives to transfers to training to promotions.

University practices a Performance Assessment System with the following objectives;

- To provide feedback on an employees' performance in the context of the goals, mission and values of the University as well as to align the employees performance with the same.
- To provide a formal opportunity to discuss professional development, performance goals and priorities, and accomplishments, and to define and clarify how their skills and work behavior contribute to the successful achievement of University and departmental goals and written documentation of the same.
- To ensure an ongoing dialogue that should exist between supervisor and staff member throughout the year, which is required to maintain a conducive work environment.

- To build a high performance work culture among its Employees.
- To express appreciation for outstanding contributions and performance; conversely, to discuss performance areas where improvement is possible or needed and to outline plans for improving performance.

The University administers Performance Appraisals for its teaching and non-teaching staff once in a year. Every employee will be assessed after successful completion of 12 months of service from the date of joining. Performance appraisal parameters and forms are customized based on the specialty of the Institute.

The Performance Appraisal System generally comprises of three aspects:

a) Individual Performance Objectives

This comprises of achievement of Individual Performance Objectives on the following criterions:

- Academic Activities
- Research / Publications
- University /Community Service
- Faculty Behavior / Conduct
- Recognition /Participation in National & International conference

b) Competency Assessment:

Second aspect is assessment of defined competencies

c) Student's Evaluation:

Third aspect is student evaluation. The Department Head gets the student's evaluation duly completed each year. The scores obtained by each staff will be incorporated in the performance assessment sheet.

Process:

All faculty members who have joined the institution on or before March 31 of the respective assessment year are covered under this exercise & those who have joined during the assessment year are graded A+ for that particular year, irrespective of their designation/performance and they are assessed in the prescribed format the next year onwards.

- Phase 1 - All the HOD's assess the performance rating & competencies assessment of their staff in the department. In case of the HOD's, the assessment will be carried out by the respective HOI's. Each faculty is required to sign off the filled report agreeing to the assessment

conducted. In the case teaching staff, both the appraiser and appraisee shall sign off agreeing to the assessment. An employee has the right to disagree with the assessment, where the matter will be reviewed by the University Committee chaired by the Vice Chancellor.

- Phase 2- The first review of the performance rating & competencies assessment of staff will be carried out by the respective HOIs. The HOI's may carry out any moderations to the scores of the staff if required.
- Phase 3- The final review of the performance rating and competencies assessment of staff of all the institutions will be done by the University Committee members.
- Phase 4 - Faculty members are graded designation wise as A++, A+ and A in ratio of top 30%, mid 60% and bottom 10% respectively. University also recommends normalization of scores to avoid bias if any.
- Phase 5 - Performance incentive is sanctioned to the respective faculty members based on their assessment for the year.

6.3.3 What are the welfare schemes available for teaching and non-teaching staff? What percentage of staff have benefitted from these schemes in the last four years? Give details.

All the faculty members and non-teaching staff are eligible for various welfare schemes that are introduced by University periodically. Some of the welfare schemes available are as under-

- Faculty accommodation / HRA facility in lieu of accommodation
- Earned leave encashment facility
- Healthcare – Medicare facility to all the employees and dependants
- Leave travel concessions
- Research incentives/awards for faculty research and scientific publication
- Financial support to participate in conferences
- Interest subsidy on housing loan
- Incentives for excellence in teaching and research
- Dr. TMA Pai Gold Medal for outstanding research
- Incentives for preparing e-learning materials
- Partial reimbursement of children's educational expenses

- Scholarship to employees' children and spouse for higher / professional education
- Subscription to professional societies
- Laptops to all the faculty members
- Group insurance scheme (Rs. 50 lakhs for teaching and management cadre positions and 10 lakhs for non teaching staff members)
- Statutory / mandatory scheme subscription (PF / EPF / Insurance / Gratuity)

Dubai campus:

Dubai campus provides its staff and faculty with the following benefits:

1. Subsidized transportation for commuting between home and office.
2. Short term advances
3. Airfare allowance for travel to their home once every year
4. Annual paid vacation for visiting their home towns once a year
5. Maternity and Paternity leaves.
6. Semester breaks for those who are unable to continue for short period of time due to family / health reasons.
7. Haj Leave for Muslim employees to visit their holy land.
8. Life cover for the employee with an insured value of AED 150,000.00 per person
9. Medical Cover, that includes both inpatient and outpatient services, for the employee up to an annual usage of AED 100,000.00
10. Children Education subsidy within the Manipal Group. Employees Children studying in any of the Manipal Institutions get a 50% waiver on the Tuition fee for the normal duration of their study.

All employees take advantage of the schemes mentioned above.

6.3.4 What are the measures taken by the University for attracting and retaining eminent faculty?

Please refer 6.3.3 above

Dubai campus:

Dubai campus sources its faculty from a number of sources such as online portals, newspaper advertisements, through references and also from its Home campus. This ensures that we are able to get the best faculty at a fairly competitive

compensation package. The use of referred candidates has yielded very good results and has developed good teams which have enabled us to achieve great results. The deputation of employees from our home campus enables us to share best practices at an operational level between both campuses and brings a higher pedigree of academic delivery, while keeping us aligned with the main objectives and goals of the parent campus. the deputation scheme also helps us retain eminent / good faculty within the University / Manipal System by giving them options to grow in their career by giving them varied exposure and growth opportunities which could not have been afforded to them with the same institution.

6.3.5 Has the university conducted a gender audit during the last four years? If yes, mention a few salient findings.

No.

6.3.6 Does the university conduct any gender sensitization programmes for its faculty members?

Following units of University have conducted gender audit – KMC Manipal, MIT Manipal, WGSMA Manipal, Dept. of Public Health, Dept. of Philosophy & Humanities, Dept. of European Studies and Dept. of Library & Information Science.

Dubai campus:

The University informs all the new employees about the sensitivities of working with in the region especially when dealing with students and employees of the opposite gender. The university enforces a moderate dress code in-line with local requirements.

6.3.7 What is the impact of the university's academic staff college programmes in enhancing the competencies of the university faculty?

University does not have an Academic Staff college as such. However, there is a Centre for Profession and Personal development at University which will cater to the training needs relating to academics to enhance the competencies of the University faculty. The details of the activities conducted by this center can be referred at Criteria 2.4.10

Training session at MCPD



Dubai campus:

Dubai campus does not have a staff college program in Dubai at present. It uses a mix of local training programmes and Training programs conducted at the new Academic Staff college for nominated Faculty and staff, as would meet the objectives of the University and the individual concerned. We have local training programmes conducted by the external experts and experts from Manipal in various core Areas such as Developing and choosing the right Academic Pedagogy, Research methodologies and Techniques at a university level, at the Departmental level we invite Industry / academic experts to share recent developments in the Industry and Academia related to the field of the departmental faculty and staff.

6.4 Financial management and resource mobilization

6.4.1 What is the institutional mechanism available to monitor the effective and efficient use of financial resources?

- Well before the financial year starts, the HoIs submit their budget proposals (capital and operational) to the Director Finance.
- The Director Finance consolidates the requirements of all constituent units.
- Over a period of two days, the top management holds budget meetings with each individual HoI.

- After due deliberations and considering the available resources, allocations are made to each of the units.
- The HoIs in turn communicate to respective heads of the departments of the units.
- Once the allocations are made, the HOI is authorized to implement the budget proposals.

The same is reviewed and monitored periodically.

6.4.2 Does the university have a mechanism for internal and external audit? Give details.

Yes. The accounts are audited annually by a statutory auditor (external), who examines the accounts for the year. BoM / Financial Committee appoint the external auditors.

Dubai campus:

University has internal auditor and external auditor. Grand Thornton is the internal auditor and ERNST & YOUNG is the external auditor. Both the audits are ongoing and we draw monthly financial statement. All variances are examined and monitored.

6.4.3 Provide the audited income and expenditure statement of academic and administrative activities of the last four years.

Please refer Annexure 6.5

Dubai campus:

Revenue and Expenditure Statement				
Income	2011-12	2012-13	2013-14	2014-15
Fee Income	39,879,636	42,775,683	51,820,503	62,008,743
Other Income	4,617,055	5,099,103	6,344,926	8,269,110
Total	44,496,691	47,874,786	58,165,429	70,277,853
Expenditure				
Employee Cost	17,509,399	17,431,034	18,205,117	21,110,131
Other Admin Expenses	24,601,304	25,854,047	28,164,824	30,143,812
Finance Charges	4,276,521	7,632,807	5,433,657	4,581,658
Depreciation	10,028,050	16,592,511	16,762,548	16,759,053
Total	56,415,274	67,510,399	68,566,146	72,594,654
Profit/Loss	(11,918,583)	(19,635,613)	(10,400,717)	(2,316,801)

The main resource is from the revenue generated from the students towards tuition fee. We have parental support from the group for all capital expenses.

Melaka Campus

Revenue and Expenditure Statement				
Income	2011-12	2012-13	2013-14	2014-15
Fee Income	39,156,883	47,771,372	52,270,601	64,683,001
Other Income	528,292	620,715	990,591	7,522,946
Total	39,685,175	48,392,087	53,261,192	72,205,947
Expenditure				
Employee Cost	13,922,110	16,198,329	18,070,402	20,501,055
Other Admin Expenses	6,144,085	12,847,917	14,076,943	17,924,052
Finance Charges	2,784,398	3,245,039	2,723,581	2,403,135
Depreciation	4,426,880	6,965,340	7,158,540	6,881,846
Total	32,846,269	39,256,625	42,029,466	47,710,088
Profit/Loss	6,838,906	9,135,462	11,231,726	24,495,859

6.4.4 Have the accounts been audited regularly? What were the audit objections, if any, and how were they complied with?

Yes. Accounts are audited regularly. Till to date there are no objections from the external auditors.

6.4.5 Narrate the efforts taken by the university for resource mobilization.

As a self-financed university, resource mobilization is only through fee collection. Other forms of resource mobilization are

- Hospital Income,
- Research Grant,
- Consultancy Services,
- Donations,
- Endowments etc.

University encourages its faculty to apply for research grants, to render consultancy work. Approaches the Philanthropists and Alumni for donations / institute of awards, scholarship etc..

6.4.6 Is there any provision for the university to establish corpus fund? If yes, give details.

Yes. The corpus fund is created through internal accruals.

6.5 Internal quality assurance system

6.5.1 Does the university conduct an academic audit of its departments? If yes, give details.

Yes. Academic audit is conducted in various constituent colleges. The in-house audit team will visit the respective institution and verify the following:

- i. Admissions - compliance with accrediting body requirements
- ii. Infrastructure and resources - compliance with accrediting body requirements
- iii. Teaching-learning process - academic administration including the programme implementation, feedback, student counseling, examination and evaluation,
- iv. Innovation/best practices in teaching – learning process
- v. Research
- vi. Academic exchanges/twinning programmes
- vii. Other compliance requirements

Dubai Campus:

The officials from the parent campus visit the branch campus at periodic intervals and verify the following:

- i. Admissions - compliance with accrediting body requirements
- ii. Infrastructure and resources - compliance with accrediting body requirements
- iii. Teaching-learning process - academic administration including the programme implementation, feedback, student counseling, examination and evaluation,
- iv. Innovation/best practices in teaching – learning process
- v. Other compliance requirements

6.5.2 Based on the recommendations of academic audit, what specific measures have been taken by the university to improve teaching, learning and evaluation?

Academic audit is conducted in various constituent units at parent, off campuses and off shore campuses and the report of the same is submitted to the top management and actions are taken on the observations as deemed fit.

6.5.3 Is there a central body within the university to continuously review the teaching- learning process? Give details of its structure, methodologies of operations and outcome?

We have Board of studies and Academic senate within the university, which continuously review the teaching-learning process and bring in changes required to make the curriculum more effective.

Structure of Board of Studies: As per the clause 14 of MoA

Head of the department - chairman, registrar, registrar - evaluation, deputy registrar (academics), all professors of the department, two readers of the department by rotation according to seniority, two lecturers of the department according to seniority and not more than two external subject experts (academic/industry)

Structure of Academic Senate: As per the clause 10 of MoA

Vice Chancellor - Chairman, Registrar - Ex Officio Secretary, Heads of Institutions, Professors, one Associate Professor/Reader from each institution by rotation, one Assistant Professor/Lecturer from each institution by rotation, external members (educationists/experts) nominated by the chairman and not more than five persons who are not members of the teaching staff.

6.5.4 How has IQAC contributed to institutionalizing quality assurance strategies and processes?

There is a quality and compliance department in the university. All our institutions are ISO 9001:2008 and ISO 14001:2004 certified and have a committed internal auditors' pool, which will audit their allotted area on the basis of documented objectives and targets of the department and report the observations/non conformances, if any, to heads of the department/institution in case of deviation. These observations/non conformances are reviewed by the respective process owner/head of the department/head of the institution and required correction/corrective actions are taken. If the correction/corrective action could not be taken within the department, same will be discussed in the management review meeting. Matters unresolved, are further forwarded to the corporate management review meeting at the university level for decision by the top management (Please refer Annexure 6.6).

IQAC has been constituted recently.

6.5.5 How many decisions of the IQAC have been placed before the statutory authorities of the University for Implementation?

All the observations/non conformances raised in internal audit are reported and presented before the top management in the management review meeting.

6.5.6 Does the IQAC have external members on its committees? If so, mention any significant contribution made by such members.

External auditors audit each institution once a year.

6.5.7 Has the IQAC conducted any study on the incremental academic growth of students from disadvantaged sections of society?

Yes.

6.5.8 What policies are in place for the periodic review of administrative and academic departments, subject areas, research centers, etc.?

Management Review Meetings are conducted regularly to periodically review the administrative and academic departments, subject areas, research centers etc.

Apart from this, constituent units are reviewed as per the institution performance indicators by the top management.

Best practices:

1. Performance based assessment
2. Manipal Center for Professional and Personal Development

7.1 Environment Consciousness

7.1.1 Does the university conduct a Green Audit of its campus?

Yes. Manipal University is certified by TUV Rhineland as conforming to the requirements of ISO 14001:2004 Environmental Management System. (Please refer **Annexure 7.1**)

Every six months internal audits are conducted by trained auditors to assess conformity to ISO 14001 Environment Management System requirements.

In addition annual third party audits are conducted by the certifying body to assess conformity and continuation of certification.

In recognition of the University's Green Campus initiatives, the Institute of Directors has awarded the Golden Peacock Environment Management Award for three consecutive years 2012, 2013 and 2014. In addition the University is ranked number one in India and 35th in the world under suburban subcategory in the UI Green Metric World University Ranking 2014.

7.1.2 What are the initiatives taken by the university to make the campus eco-friendly?

A. Energy conservation

University has taken measures like: Up gradation of Air-conditioning systems, Use of solar heating and Reduction of Maximum demand & power Quality Improvement measures. Action plans for energy saving projects were made during the financial year 14-15 and budgeted. Once budget approval was received by the University, projects detailed in table 1 below were implemented. Expected results along with works carried out are tabulated below.

Table 1. Implementation of Energy saving methods

#	Energy Saving methods	Annual Energy Savings in lakh Units	Annual Energy Savings in lakh Units
A	Electricity	2013-14	2014-15
1	Replacement of conventional transformer with energy efficient low loss distribution transformers.	7.21	7.21
2	Installation of Automatic Switchable Capacitor bank (APFCR) for Transformer secondary side LT Panels for maintaining power factor 0.95 to 0.99	4.61	4.61
B	Pumps, Fans , Blowers		
3	Installation of energy efficient pumps/Fans/ Blowers against conventional.	2.3	3.00

C		Lighting	
4	Installation of Lower wattage Energy Efficient T5 & LED fittings for New & some of Old Building for Hostels & Hospitals.	7.5	7.80
5	Modifications of street light fixtures - HPSV to CFL /LED, Reduction of Voltage method & Timer.	2.3	2.30
D		DG Sets	
6	Installation of AMF Auto load sharing, auto synchronization panels in the Hospitals, Colleges, University & Hostels, developing optimum designs for day college loads & night Hostel loads.	2.15	2.15
E		Air Conditioning	
7	A Full-fledged integrated BMS system adopted from 2002 -2003 onwards, Demand based ventilation system using CO2 Sensors, Sequencing of chiller/pumps based on part load. Fully automatic ON/OFF control system for AHU based on operational requirement (Reducing human errors)	12.16	13.00
8	AHU Upgrades with VFD drives, Replacement of OLD AC units with Power Efficient water cooled Screw Chillers 57KW/Ton which lower starting Current & Building Automation System with Sensors, Installed in the entire building for Efficient Cooling, Automatic Switching on/OFF based on Occupancy & Fixed Time schedule.		
9	Replacement of old window /split AC units whose efficiency has come down in a phased manner. Last year we have replaced 100 number of Split Units.	3.88	4.9
F		Heat pump for Solar water Heater Back Up.	
10	Presently Electrical heaters are being used in solar system as back up for hot water. It Is proposed to install equivalent heat pump for each of the system to reduce electrical consumption	1.32	1.32
Total Savings of Manipal University Campus.		43.43	46.29

B. Use of renewable energy

Solar Water Heaters. Since the coastal belt of Karnataka is blessed with bright and sunny days round the year (except during the monsoons), solar energy is captured to meet the heating needs. This is done by installing solar water heaters in all hostel blocks and more recently in the new hospital blocks. Total installed capacity is 3.8 lakh liters per day

C. Water harvesting

Rain water harvesting systems are used for ground water recharge as well as immediate use. 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 after proper filtration. Secondly, diverting storm water drains and water harvested from roof tops to abandoned 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. Chlorination is done before pumping it to users. This scheme is adapted to twenty buildings within the campus and the results are shown in table 2 below. Additional Rain water harvesting systems using rainy filters with centrifugal discharge there by bypassing the need for conventional sand filters have been installed.

Table 2. Details of installation of RWH units for direct use

Year	Catchment area in Sq Mts.	Annual Qty Harvested/year in m3
2004	1858	6019
2005	7060	22874
2006	7432	24079
2007	7432	24079
2008	7432	24079
2009	7432	24079
2010	7432	24079
2011	*Average Annual rainfall of 4 meters 7432	24079
2012	17203	55737
2013	24863	80556
2014	27250	88290
Total	53510	173372.4

In the case of recharging the bore wells a pit of size 2m x 2m x 2m is excavated around the dry bore well and the casing pipe is fitted with a V-wire filter .Filter media is filled in the pit around the well. Storm water drains and roof top rain water is diverted into this pit. The rain water gets filtered and enters the bore well through the v-wire filter. This scheme is adopted in 11 locations around the campus as detailed in **Table 3** below

Table 3. Details of the installation of RWH for bore well recharge

Year	Catchment area in Sq Mts.	Annual Qty Harvested/year in m3
2004	2787	9029.88
2005	6503	21069.72
2006	10219	33109.56
2007	10219	33109.56
2008	10219	33109.56
2009	10219	33109.56
2010	10219	33109.56
2011	10219	33109.56
2012	10219	33109.56
2013	10219	33109.56
2014	10219	33109.56

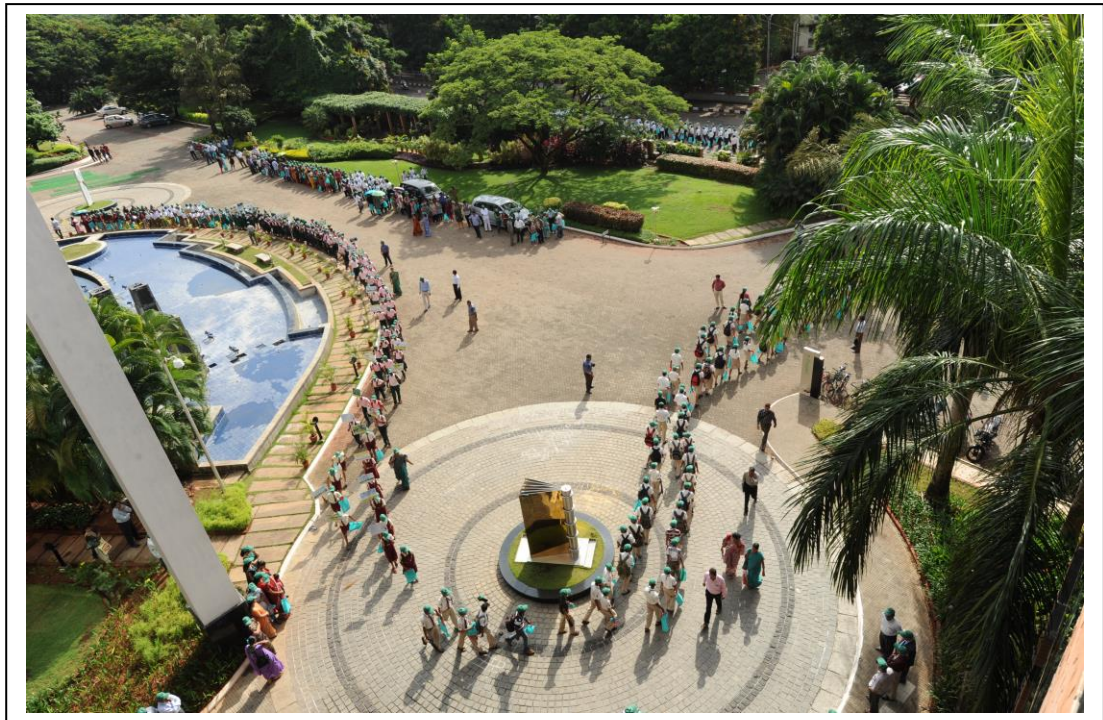
D. Waste Water Management:

The year 2010 saw the setting up of two new state of the art Sewage treatment plants, one at End point and the at MIT. This will ensure that the increased generation of sewage due to increased population would be properly treated and reused. Today the installed capacity for sewage treatment is 55 lakh liters per day. In addition, the distribution system for treated water has also been enhanced to ensure efficient reuse. Grey water is separately treated and used for toilet flush system. Treated water is used for gardening and arboriculture reducing the burden on fresh water sources. 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 for soil remediation in the University gardens.

Efforts for Carbon neutrality:

Plantation: Every year World environment day is celebrated in the campus to create awareness and concern among stake holders about environmental conservation. The top management participates in the tree planting session along with heads of institutions. Students from neighboring schools also participate in this exercise. Planting of about 10,000 trees is the next project the University has undertaken.

World Environment day procession



Hazardous waste management

Disposal of Hazardous wastes used oil is the major component of this category of waste generated which is collected separately and disposed to Authorized recyclers. Sources include maintenance of Diesel Generator Sets and automobile maintenance. Quantity generated is approximately 3500 liters per annum.

Spilled Mercury is another component under this category and was found to be generated in the hospital. The spilled mercury is scientifically collected using spill collection kits and cleaned using a cleaning apparatus designed by the hospital and reused for topping up.

Electronic waste management

e-Waste including desktop computers and accessories, compact fluorescent lights, printer cartridges are collected through separate waste streams and disposed of to Recyclers authorized by the Central / State Pollution control Boards. 30 Separate e-bins are located at designated areas within the campus exclusively function as collection centers.

Any other (please specify)

Vermi-composting: The University has established a mechanism where compostable waste from canteens, messes are segregated at source and collected for conversion into ecofriendly compost. The generated compost is used in gardens as manure. Mandatory Pollution Check is required for vehicles entering the campus. Moreover the University has provided a vehicle emission test center at subsidized rates (50%) for all public vehicles. In FY 2014-15 mandatory pollution checks were carried out for 8060 petrol vehicles compared to 4106 petrol vehicles in 13-14, 107 vehicles did not pass the test and were rejected. 691 diesel vehicles passed out of 700 tested

Dubai Campus:

In addition to the high level of energy efficiency around the campus, bio-degradable waste is treated separately as per the laws of the UAE and bio-hazardous materials are disposed of in a manner consistent with the local requirements of safety. Treated and recycled sewage water is used for watering the beautiful landscape surrounding our campus.

7.2 Innovations

7.2.1 Give details of innovations introduced during the last four years which have created a positive impact on the functioning of the university.

1. An in house vehicle emission testing facility approved by Government has been established where services are provided at subsidized rates for all staff, students and public. This encourages voluntary vehicle checks to keep pollution under check.

2. The University has established an air monitoring laboratory which has capabilities to monitor ambient air quality as well as stack emissions within the campus. This is in addition to the water quality monitoring being carried out for various waste water treatment plants in operation within the campus and constituent teaching hospitals.

3. **NAMMA ANGADI** by School of Communication, Manipal: Associated with ‘Namma Bhoomi’ project, Kundapura. A three days sales and exhibition program, planned, budgeted designed and executed by group of 20 students (Event Management) and supported by the student volunteers of the college. The event saw a sale Rs.15 lacs

4. **ARTICLE 19** - A three day Media Fest at School of Communication, Manipal: Planned, budgeted, designed and executed by students of BA III. In the year 2014 this fest had:

Harsh Mander :a renowned social worker & Writer

Vidya Dinker : a social worker

Hartosh Singh Bal: the political editor

Abhinandan Sekhri: a co-founder of Newslaundry.com.

ShivVisvanathan: a social scientist,

Bob Swaim: an American director based in Paris and Director of EICAR

It culminated with express awards.

5. **Blood donation, Free Dental & Eye check ups for the donors** at School of Communication Manipal.

- 200 Units of Blood was collected by the volunteers
- Planned, Marketed Designed Executed by the students of Master Degree
- Training is part of the curriculum

The camp had a festive atmosphere

6. **Youth Parliament for students studying Constitution of India** -The students of SOC, staged a street play in Malpe , with a theme on “**Cleaning the**

Malpe beach". Right to Information Applications by students have been used as stories for newspapers.

7. Experiential Learning at School of Communication Manipal:

- RJ Workshops for professionals.
- Tribute to RK Lakshman
- Mini industry projects for students.
- Life skill workshops for students and industry
- Special Workshops on theatre, pottery, photography, web-news writing.
- Experimental Animation links animation as a skill & art in a unique & personal expressive form of art.
- Visual materials such as flip books, water colours, paintings, drawings, storyboards and time lapsed photographs are used for creating animation.
- Submitting animated film / art works on to the blog to get reviews from professionals across.
- Students hands on training on real projects :
 - Ex: Community Radio, Projects

8. Six stranded integrated curriculum at Melaka Manipal Medical College Manipal:

Strand 1: Scientific Basis of Medicine Module

Strand 2: Doctor, Patient, Health, Community and Environment Module

Strand 3: Professional and Personal Development Module

Strand 4: The Normal Human Body and its Function

Strand 5: The Body's Reaction to Injury

Strand 6: Practice – Based Medicine

Best practice:

Curriculum integration: achieve horizontal and vertical integration by sequenced lectures, problem based learning, clinical updates and it is conducted by ICC (Integration Coordination committee) and BCC (Block coordination committee) which comprises of faculty members of all departments.

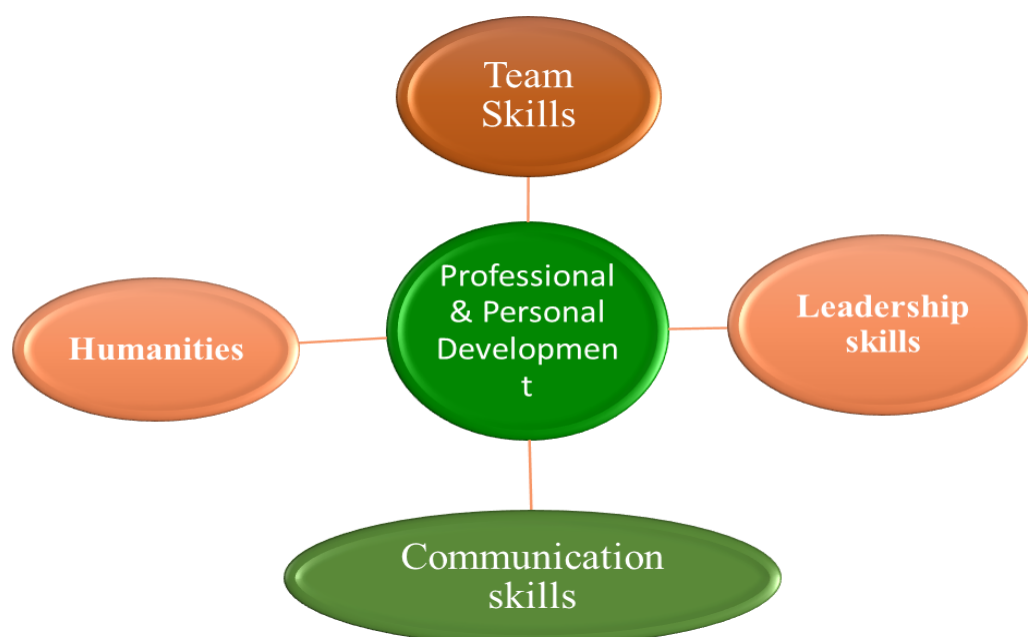
Mentored Student Projects: One of the most important hallmarks is Mentor Student Project. In this innovative research initiative a group of students undertake a project under the guidance of a mentor and then present it to the public. A meticulous process is followed by students which help in Develops research skills essential for the career development and provide Opportunity for students to write and present scientific work.

Problem Based Learning: Started in 2006, it is a very unique system in MMMC and is an example of how we aim to produce life long learners. We have now

gone a step ahead and carried out integration in PBL in order to present students with a holistic picture of health and disease.

Clinical skill laboratories: Our clinical skill laboratory is another unique set up for teaching clinical skills to students and has numerous mannequins and other state of the art facilities for 2nd year students.

Professional & personal development: Faculty from MMMC are actively involved in the PPD activity in which the students have various sessions in humanities, about project work, team building, communication skills, etc.. All of which helps in building an all rounder.



Merit based rearrangement of students in the dissection hall: Another unique feature is our peer assisted learning techniques, which include Prosection in Anatomy, where students learn from their peers.

Our mentorship scheme is a very robust system and appreciated by students and their parents for its efficacy.

Student Enrichment: We encourage collaborative learning extensively at MMMC and have numerous in-class and outside class activities to foster learning. Path theater is a unique drama based event on theories of pathology, model your microbe brings out creativity by students, Student lecture Series in biochemistry builds confidence and communication skills in students.

Student Award – 100% attendance: We at MMMC recognize student achievement and have innovative awards. Apart than the TMA Pai gold medal we have Shobha Nadig gold medal, distinction awards and a very unique 100%

attendance award, which I can proudly say that about 30% of students in a batch achieve

Basic Life Support: It is perhaps unique to MMMC that Basic Life Support course has been undertaken by every single faculty member, non teaching staff and students of MMMC

Feedback: Course and examination feedbacks: From students and external examiners which is communicated to faculty. Initiates curricular reforms (course content, curriculum delivery & assessment). All the feedbacks are collected online now.

Dubai Campus:

To begin with, the construction of a spacious state-of-the-art well equipped academic building and infrastructure has created a conducive atmosphere of learning for both students and faculty alike. In addition, our own sports facilities provide an excellent avenue for our students to have a wholesome approach in the learning process.

7.3 Best Practices

7.3.1 Give details of any two best practices which have contributed to better academic and administrative functioning of the university.

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 7.1A** 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 7.2**. 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 7.2** 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 7.1** 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 2013	MCOPS, Manipal	100
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 Acharya	Informative session on introduction to plagiarism and understanding of the plagiarism software and its reports	August 25, 2014	Interact, Manipal	150
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 7.4)

The Directorate also tracks Research grants through Unique Tracking Number (UTN). Details of the same are given in Annexure 7.5.

5. Evidence of Success

Refer Annexure 7.3

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.

Best Practice # 3

1. Title of the Practice

Manipal Centre for Professional and Personal Development (MCPD)

2. Objectives of the Practice

- Providing a platform for students: To nourish their creativity
- Fostering academic skills of faculty: To enhance their scholarship
- Nurturing professional growth of staff and students: To support career advancement
- Strengthening personal skills :To enable individual growth and attainment of full potential
- Building collaborative skills: To promote team building and leadership for organizational development

3. The Context

In the year 1985, Medical Education Department was established at Kasturba Medical College, Manipal. In the year 2011, its activities got expanded and converted into Manipal Centre for Professional and Personal Development. Over the years, a need was felt to have an internal faculty development centre to build up the competencies of the newly joined and younger faculty members and enhance their capabilities to impart education using latest pedagogies. In 2011, University established the Manipal Centre for Professional and Personal development (MCPD) to meet its training needs at all levels including non-teaching staff. The Centre has a vision to empower the students, faculty members and non-academic staff of all the constituent units of University. MCPD will back community-driven initiatives at University aimed in improving the quality of human life working in coordination with voluntary and self-help organizations at University. These initiatives are primarily aimed in empowering the weaker sections of the society. MCPD looks forward to inculcating civic responsibility among our students and staff, which would help in nation building.

4. The Practice

During the last four years the centre has held several professional and personal development programmes. For details of activities, please refer Criteria 2.4.10

5. Evidence of Success

Feedback Analysis of the various programmes conducted is attached as **Annexure 7.6**.

6. Problems Encountered and Resources Required

There were no problems encountered by the centre in implementation aspects. The centre is headed by a Director with support from Deputy Director, staff, suitable physical and IT infrastructure is created for smooth functioning of the centre. The centre utilizes the services of internal as well as external trainers for its programmes. The centre coordinates with the Heads of Constituent Units in publicizing its programmes among staff and identifying competent faculty members as trainers.

Best Practice # 4

1. Title of the Practice

Waste water treatment for reuse.

2. Objectives of the Practice

The objectives of the practice: As water is a basic necessity for functioning of a society it becomes imperative that the resource is protected and nourished, more the so in today's context of water scarcity across geographies. Being a private university and located in an area without public infrastructure capable to cater to the needs of basic sanitation compelled the University to pioneer in setting up an underground drainage system to collect waste water generated. This is then used for creating green spaces in the campus. Hence turning waste into a resource.

3. The Context

As with any new project to be implemented there were challenges in the areas of technology applicable to the current situation, identification of the right agency with requisite expertise to execute the project, identify and obtain all legal clearances from relevant authorities etc. Each of this was addressed and an implementation plan brought about. Finally budget approval was obtained for execution of works.

4. The Practice

As mentioned earlier, Manipal town even today does not have a public underground system in place to cater to the growing needs of development.

Hence this itself is a unique achievement being a private entity. During the last decade the university has set up three major treatment units that cater to all buildings like institutions, staff quarters, hostels, canteens and messes. Challenges in any system once operational are the maintenance and repairs. This is a continuous process the maintenance crew is engaged in.

The waste water generated in the campus is treated in state of the art sewage treatment plant of capacity 1500 cubic meter /day and 2 Sullage treatment plants of capacity 160 & 200 cubic meters /day within the campus. Treated water from the Sullage treatment plant is re-circulated back to the flush system. Dried sludge generated is used as manure for gardens. Treated water is used for gardening and arboriculture reducing the burden on fresh water sources. To keep pace with the ever expanding infrastructure, two new sewage treatment plants of capacity 2000 cubic meters /day each have been commissioned. Hence total installed capacity is 5500 Kilo liters per day as against current sewage generation of 5000 Kilo liters per day.

5. Evidence of Success

50,000 Cubic meters of sewage generated in the campus today is reused in arboriculture. The green cover development has led to an improved ambience for teaching and learning process. The entire gardening activity in the campus does not use a single drop of fresh water hence conserving the resource. This is visible evidence for one to see as one enters the campus. Further initiatives are in progress where treated sullage water is going to substitute fresh water used in cooling towers of air conditioners apart from the flush systems currently practiced. All treatment systems comply with the norms set up by the Pollution Control Board and constant monitoring through chemical and biological analysis in the in house laboratory keeps a check on water quality.

Frequently samples are also collected by the Authorities to check compliance to the laid down limits and these are found to be satisfactory.

6. Problems Encountered and Resources Required

With the introduction of this project during the start there were apprehensions with regard to the generation of odor leading to unhygienic conditions. This was put to rest once the plants were commissioned and the plants started stabilizing over a period of time. This was a challenge as any waste treatment system is bound to have some amount of odor generation. At the end of the day it is only the human ingenuity that was needed to address most of the challenges that arose due to project implementation.

Best Practices – Dubai Campus:

Best Practice # 1

1. Title of the Practice

Student Mentoring and Guidance

2. Objectives of the Practice

- i) To identify the problem areas for individual students whether it be academic, personal or psychological;
- ii) While helping them in their academic deficiencies, referring them to appropriate service areas within the university such as student services will help them in personal endeavors

3. The Context

- i) The primary challenge in implementing these kinds of measures is the buy-in of the student themselves and their willingness and courage to acknowledge their own problems.
- ii) The commitment of the faculty involved in empathizing with the issues faced by the student and to design appropriate measures to overcome such deficiencies.

4. The Practice

- i) The main constraint we are faced is the limited time within the context of the working hours as we are a commuted university located off the city in remote areas and thus the student has to be transported at a specified time regardless of the desire or for their need to stay back.
- ii) The availability of external experts is scarce and is costly to employ for students issues other than academic such as personal.

5. Evidence of Success.

Students have shown much better pass rates, participated in sports activities, bringing lots of accolades both in academics and sports for themselves and the university.

6. Problems Encountered and Resources Required

Refer answer to (3) above.

Best Practice # 2

1. Title of the Practice

Industry-Academia Interface by partnering with local industries

2. Objectives of the Practice

1. To provide hands-on experience to our students as an integral part of the curriculum;
2. To provide the requisite internship requirements and employment opportunities upon graduation;
3. To seek industry guidance in developing the curriculum for the respective disciplines; and
4. Lastly, the overall support of the industry in fostering our community ties in the UAE.

3. The Context

1. The primary challenge is to match the student requirements with the industry needs.
2. To integrate such a relationship as a part of the curriculum thereby making it mandatory for the student to get a practical hands-on experience.

4. The Practice

- The practice involves the student actually spending an extended period of time in a research project, working under a supervisor, which is then forwarded to our University and is awarded a grade based on their performance.
- In certain cases, the students are shown training facilities on industry trips as a part of their learning exercise.

5. Evidence of Success

The success rate of our graduating students in every discipline in obtaining either local or internal employment is truly indicative of the industry's recognition of the practical talent already imparted, in addition to the theoretical constructs of the classroom.

6. Problems Encountered and Resources Required

The main constraint we are faced is the limited time within the context of the working hours as we are a commuted university located off the city in remote areas and thus the student has to be transported at a specified time regardless of the desire or for their need to stay back.

DECLARATION

I certify that the data included in this Self-Study Report (SSR) are true to the best of my knowledge.

This SSR is prepared by the institution after internal discussions, and no part thereof has been outsourced.

I am aware that the Peer team will validate the information provided in this SSR during the peer team visit.



Dr. H VINOD BHAT

Place: Manipal

Date: January 11, 2016

STATEMENT OF COMPLIANCE

This is to certify that **MANIPAL ACADEMY OF HIGHER EDUCATION, MANIPAL**, a Deemed to be University has complied with all the provisions of the following Regulations governing it:

- DEC approval for distance education programme – *Not applicable as we are not running distance education programs*
- Approval by the UGC and MHRD for main campus, off-campus and off-shore- *Complied. All our campuses (main, off campus and off shore campus have been approved)*

Any false or misleading information provided by the institution, will be viewed seriously by NAAC and the accreditation given is liable to be withdrawn.



Dr. H VINOD BHAT

Place: Manipal

Date: January 11, 2016

प्रज्ञानं ब्रह्म



INSPIRED BY LIFE

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