प्रज्ञानं ब्रह्म

Manipal

INSPIRED BY LIFE

Annual Quality Assurance Report (AQAR)

2013 -14

School of Information Sciences Manipal

Submitted to

Manipal Academy of Higher Education

Manipal 576104, Karnataka

Vision

To be the centre of excellence in the area of Very
Large Scale Integration (VLSI)
Design, Embedded Systems & Health Care IT.

Mission

Carry out training & research relevant to
industrial & social needs
Design & deliver post graduate programs
with Industry & International collaborations.

Values

Integrity
Transparency
Quality
Teamwork
Execution with passion
Humane touch

"Values are the principles and beliefs that guide the decisions
and actions of individuals, cultures and businesses"

Annual Quality Assurance Report (AQAR)
in Accredited Institutions

(Revised in October 2013)

राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद्

विश्वविद्यालय अनुदान आयोग का स्वायत्त संस्थान

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL
An Autonomous Institution of the University Grants Commission
P. O. Box. No. 1075, Opp: NLSIU, Nagarbhavi, Bangalore - 560 072 India

The Annual Quality Assurance Report (AQAR) of the IQAC

All NAAC accredited institutions will submit an annual self-reviewed progress report to NAAC, through its IQAC. The report is to detail the tangible results achieved in key areas, specifically identified by the institutional IQAC at the beginning of the academic year. The AQAR will detail the results of the perspective plan worked out by the IQAC. *(Note: The AQAR period would be the Academic Year. For example, July 1, 2012 to June 30, 2013)*

Part – A

AQAR for the year *(for example 2013-14)* | July 1, 2013 – June 30, 2014 |

1. Details of the Institution

1.1 Name of the Institution	School of Information Sciences (SOIS)

1.2 Address Line 1	LG-02, Academic Block-5

Address Line 2	MIT Campus

City/Town	MANIPAL, UDUPI

State	KARNATAKA

Pin Code	576104

Institution e-mail address	office.sois@maipal.edu

Contact Nos.	+91 820 2925032

Name of the Head of the Institution:	Dr. Harishchandra Hebbar N

Tel. No. with STD Code:

+91 820 2925031

Mobile:

+91-9880504014

Name of the IQAC Co-ordinator:

Arockiaraj S

Mobile:

9901035900

IQAC e-mail address:

iqac.sois@manipal.edu

1.5 Website address:

http://manipal.edu/sois.html

Web-link of the AQAR:

http://manipal.edu/sois/about-sois/iqac-sois-manipal.html

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

1.6 Accreditation Details

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

1.7 Date of Establishment of IQAC :   DD/MM/YYYY   03/06/2013

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

   i. AQAR _____ _____ (DD/MM/YYYY)
  ii. AQAR_____ _____ (DD/MM/YYYY)
 iii. AQAR_____ _____ (DD/MM/YYYY)
 iv. AQAR_____ _____ (DD/MM/YYYY)

1.9 Institutional Status

University   State ☐   Central ☐   Deemed ☐   Private ☐

Affiliated College   Yes ☐   No [√]

Constituent College   Yes [√]   No ☐

Autonomous college of UGC   Yes ☐   No [√]

Regulatory Agency approved Institution   Yes ☐   No [√]

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

Type of Institution   Co-education [√]   Men ☐   Women ☐

                    Urban [√]   Rural ☐   Tribal ☐

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

                   Grant-in-aid + Self Financing ☐   Totally Self-financing [√]

1.10 Type of Faculty/Programme

Arts ☐   Science ☐   Commerce ☐   Law ☐   PEI (Phys Edu) ☐

TEI (Edu) ☐   Engineering ☐   Health Science ☐   Management ☐

Others   (Specify) | . Information Sciences |

1.11 Name of the Affiliating University *(for the Colleges)* | Manipal Academy of Higher Education (MAHE) |

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

Autonomy by State/Central Govt. / University | No |

University with Potential for Excellence | Nil | UGC-CPE | Nil |

DST Star Scheme	Nil	UGC-CE	Nil
UGC-Special Assistance Programme	Nil	DST-FIST	Nil
UGC-Innovative PG programmes	Nil	Any other (*Specify*)	Nil
UGC-COP Programmes	Nil		

2. IQAC Composition and Activities

2.1 No. of Teachers   14

2.2 No. of Administrative/Technical staff   2

2.3 No. of students   2

2.4 No. of Management representatives   1

2.5 No. of Alumni   2

2. 6 No. of any other stakeholder and

    community representatives   2

2.7 No. of Employers/ Industrialists   1

2.8 No. of other External Experts   1

2.9 Total No. of members   25

2.10 No. of IQAC meetings held: 11

2.11 No. of meetings with various stakeholders: No. 7   Faculty 5

Non-Teaching Staff Students 2   Alumni 1   Others 3*

* ONE meeting with Mr. Sandeep Patil, APCOG for SUBLIME Project

* TWO IMS meetings

2.12 Has IQAC received any funding from UGC during the year?   Yes [ ]   No √

If yes, mention the amount -

2.13 Seminars and Conferences (only quality related)

(i) No. of Seminars/Conferences/ Workshops/Symposia organized by the IQAC

Total Nos. 4   International -   National 4   State -   Institution Level -

(ii) Themes On VLSI, Embedded Systems and Healthcare IT

2.14 Significant Activities and contributions made by IQAC

- **SUBLIME** - Applied Cognition Systems (APCOGSYS), Bangalore & School of Information Sciences, Manipal have come up with a novel program. In this program students will be able to effectively apply their technical & design knowledge in realizing a prototype from a novel idea which will benefit the society.
- **Smart Sole project** - Students were carrying out the technical implementation of the DST funded project of School of Allied Health Sciences known as "Smart Sole".
- **Centre for Software Development (CSD)** - The objective of this centre is to identify the internal software requirements of the Manipal University, constituent institutions and hospitals and develop software's for their requirement.
- Two IMS internal audits and MRMs have been conducted.
- A talk on "**Meaningful by Design**" by Mr. Abhimanyu Kulkarni, Director, Philips Design India has been arranged on 20th April 2013
- Workshop on "**Medical Image Processing Application Development Using ITK and VTK**" on 25th & 26th October, 2013
- **Grant writing and Research workshop** - A five day workshop was conducted for the faculty of the institute to provide an overall perspective of research activities and also to discuss on how to go about writing project proposals 24-06-2013 to 27-06-2013.
- Talk on 'Role of statistics in research' by Dr. Sreekumaran Nair, HOD, Department of Statistics, MAHE
- **Community service –Mithra Association -** Members of SOIS have been actively participating in community service activities in and around Manipal. Sponsored tuitions/college fees for two students.

2.15 Plan of Action by IQAC/Outcome

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

Plan of Action	Achievements
Industry defined mini-project	SUBLIME project - Chest Vibrometer
Provide software solutions	Centre for Software Development (CSD) – Three software developed and deployed
Conducting workshops for faculty	A FIVE days grant writing and Research workshop conducted Talk on 'Role of statistics in research' by Dr. Sreekumaran Nair, HOD, Department of Statistics, MAHE
Conducting workshops/ guest lecture for students	Medical Image Processing Application Development Using ITK and VTK Embedded System and Next Generation Microcontrollers A talk on "**Meaningful by Design**" by Mr. Abhimanyu Kulkarni, Director, Philips Design India
Community service	Mithra Association - Sponsored tuitions/ college fees for two students
Conducting national level conference	Not conducted
Conducting IMS audit	Two audits conducted
Conducting FDP	Not conducted

 * *Attach the Academic Calendar of the year as Annexure.*

2.16 Whether the AQAR was placed in statutory body   Yes ☐   No ☑

   Management ☐   Syndicate ☐   Any other body ☐

   Provide the details of the action taken

   Nil

Part – B

Criterion – I

1. Curricular Aspects

1.1 Details about Academic Programmes

Level of the Programme	Number of existing Programmes	Number of programmes added during the year	Number of self-financing programmes	Number of value added / Career Oriented programmes
PhD	1	Nil	1	1
PG	7	Nil	7	7
UG	Nil	Nil	Nil	Nil
PG Diploma	Nil	Nil	Nil	Nil
Advanced Diploma	Nil	Nil	Nil	Nil
Diploma	Nil	Nil	Nil	Nil
Certificate	Nil	Nil	Nil	Nil
Others	Nil	Nil	Nil	Nil
Total	8	Nil	8	8
Interdisciplinary	8	Nil	8	8
Innovative	Nil	Nil	Nil	Nil

1.2 (i) Flexibility of the Curriculum: CBCS/Core/Elective option / Open options
        CBCS & Elective option
    (ii) Pattern of programmes:

Pattern	Number of programmes
Semester	7
Trimester	-
Annual	1(PhD)

1.3 Feedback from stakeholders*   Alumni [√]   Parents [ ]   Employers [√]   Students [√]
     (On all aspects)

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

*Please provide an analysis of the feedback in the Annexure

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

> Structure and syllabus modified in M.Sc. Tech (VLSI Design/ VLSI System Design & Verification). New electives added in M.Sc. Tech (Embedded Systems). Revision in examination evaluation Processes.

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

> Yes, Centre for Software Development (CSD) - The objective of this centre is to identify the internal software requirements of the MAHE constituent institutions and hospitals and develop software's for their requirement. A team comprising of faculty members, Software Architects, software developers and student interns are working in this Centre.

Criterion – II

2. Teaching, Learning and Evaluation

2.1 Total No. of permanent faculty

Total	Asst. Professors	Associate Professors	Project Coordinator	Professors	Others
25	19	3	1	2	Nil

2.2 No. of permanent faculty with Ph.D.

2

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

Asst. Professors		Associate Professors		Professors		Others		Total	
R	V	R	V	R	V	R	V	R	V
0	0	0	0	0	0	0	0	0	0

2.4 No. of Guest and Visiting faculty and Temporary faculty

3 Guest faculty	0 Visiting faculty	0 Temporary faculty

2.5 Faculty participation in conferences and symposia:

No. of Faculty	International level	National level	State level
Attended	3	1	Nil
Presented papers	3	1	Nil
Resource Persons	Nil	Nil	Nil

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

> - Industry Sponsored labs
> - State of the art teaching facilities
> - Industry standard hardware and software
> - Opportunities to work on industry defined mini-projects
> - Industry relevant curriculum
> - Opportunity to study abroad
> - All subjects with associated labs & seminar by all students in I & II semester.
> - In-house Centre for Software Development (CSD)

2.7   Total No. of actual teaching days
      during this academic year

      177

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

> Theory / Lab evaluation carried out by TWO examiners of SOIS. Paper seeing with a subject expert to clarify/ justify the marks awarded during the process of paper seeing

2.9   No. of faculty members involved in curriculum
      restructuring/ revision/ syllabus development

      | 11 | 9 | 2* |

      as member of Board of Study/Faculty/Curriculum Development workshop (*meeting for curriculum development)

2.10 Average percentage of attendance of students

      Above 80%

2.11 Course/Programme wise
      distribution of pass percentage :

Title of the Programme	Total no. of students appeared	Division				
		Distinction %	I %	II %	III %	Pass %
M.Sc. Tech (Medical Software)	22	*	*	*	*	100
M.Sc. Tech (VLSI Design)	50	*	*	*	*	100
M.Sc. Tech (Embedded Systems)	114	*	*	*	*	99.1
M.Sc. Tech (VLSI System Design and Verification)	11	*	*	*	*	100
M.Sc. Tech (Embedded and Wireless Technology)	28	*	*	*	*	96.4
M.Sc. Tech (IT Management)	16	*	*	*	*	93.7
M.Sc. Tech (Embedded Systems &	18	*	*	*	*	100

Instrumentation)						
M.Sc. Tech (Computing Technologies & Virtualization)	24	*	*	*	*	100
M.Sc. (Information Science)	17	*	*	*	*	100
M.Sc. (Digital Design & Embedded Systems)	5	*	*	*	*	100

Note: * existing system uses TEN POINT grading system.

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

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

Monitoring/ Evaluation:
- Conduction of periodic IMS internal audit (twice in a year)
- Review of internal audit by Management Representative from Department of Quality, MAHE
- External audit by TUV, Bengaluru

2.13 Initiatives undertaken towards faculty development

Faculty / Staff Development Programmes	Number of faculty benefitted
Refresher courses	2
UGC – Faculty Improvement Programme	0
HRD programmes	0
Orientation programmes	0
Faculty exchange programme	0
Staff training conducted by the university	1
Staff training conducted by other institutions	0
Summer / Winter schools, Workshops, etc.	7
Others – Seminar	10

2.14 Details of Administrative and Technical staff

Category	Number of Permanent Employees	Number of Vacant Positions	Number of permanent positions filled during the Year	Number of positions filled temporarily
Administrative Staff	4	0	0	0
Technical Staff	3	0	0	0

Criterion – III

3. Research, Consultancy and Extension

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

"Grant writing and Research workshop" - A five day workshop was conducted for the faculty of the institute to provide an overall perspective of research activities and also to discuss on how to go about writing project proposals.

Talk on 'Role of statistics in research' by Dr. Sreekumaran Nair, HOD, Department of Statistics, MAHE

3.2 Details regarding major projects

	Completed	Ongoing	Sanctioned	Submitted
Number	3	Nil	1	Nil
Outlay in Rs. Lakhs	14.9	Nil	1.5	Nil

3.3 Details regarding minor projects - Nil

	Completed	Ongoing	Sanctioned	Submitted
Number	Nil	Nil	Nil	Nil
Outlay in Rs. Lakhs	Nil	Nil	Nil	Nil

3.4 Details on research publications

	International	National	Others
Peer Review Journals	16	0	0
Non-Peer Review Journals	0	0	0
e-Journals	0	0	0
Conference proceedings	0	8	0

3.5 Details on Impact factor of publications:

Range 0-1   Average 0.2   h-index 0.1   Nos. in SCOPUS 3

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

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
Major projects	Nil	Nil	Nil	Nil
Minor Projects	Nil	Nil	Nil	Nil
Interdisciplinary Projects	Nil	Nil	Nil	Nil
Industry sponsored	Nil	Nil	Nil	Nil
Projects sponsored by the University/ College	Nil	Nil	Nil	Nil
Students research projects *(other than compulsory by the University)*	Nil	Nil	Nil	Nil
Any other(Specify)	Nil	Nil	Nil	Nil
Total	Nil	Nil	Nil	nil

3.7 No. of books published   i) With ISBN No. | Nil | Chapters in Edited Books | Nil |

ii) Without ISBN No. | Nil | | Nil |

3.8 No. of University Departments receiving funds from

UGC-SAP | NA | CAS | NA | DST-FIST | NA |

DPE | NA | DBT Scheme/funds | NA |

3.9 For colleges   Autonomy | Ni | CPE | Ni | DBT Star Scheme | Ni |

INSPIRE | Ni | CE | Ni | Any Other (specify) | Ni |

3.10 Revenue generated through consultancy | 14.9 Lakhs |

3.11 No. of conferences

organized by the Institution

Level	International	National	State	University	College
Number	0	0	0	0	0
Sponsoring agencies	NA	NA	NA	NA	NA

3.12 No. of faculty served as experts, chairpersons or resource persons | 3 |

3.13 No. of collaborations   International | Ni | National | 1 | Any other | - |

3.14 No. of linkages created during this year | Ni |

3.15 Total budget for research for current year in lakhs: 3.2

From Funding agency | Nil | From Management of University/College | √ |

Total   3.2 Lakhs

3.16 No. of patents received this year

Type of Patent		Number
National	Applied	1
	Granted	Nil
International	Applied	Nil
	Granted	Nil
Commercialised	Applied	Nil
	Granted	Nil

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

Total	International	National	State	University	Dist	College
0	Nil	Nil	Nil	Nil	Nil	Nil

3.18 No. of faculty from the Institution
    who are Ph. D. Guides
    and students registered under them

1

1

3.19 No. of Ph.D. awarded by faculty from the Institution   2

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

JRF   0   SRF   0   Project Fellows   0   Any other   0

3.21 No. of students Participated in NSS events:

University level   0   State level   0

National level   0   International level   0

3.22 No. of students participated in NCC events:

University level   0   State level   0

National level   0   International level   0

3.23 No. of Awards won in NSS:

University level   0   State level   0

National level   0   International level   0

3.24 No. of Awards won in NCC:

University level [0]   State level [0]

National level [0]   International level [0]

3.25 No. of Extension activities organized

University forum [2]   College forum [1]

NCC [0]   NSS [0]   Any other [0]

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

- Faculty Coordinator, Volunteer Service Organization
    - Visited Slum area at Manipal, 5 times during year mentioned above
    - Organised Sparsh Cultural event.

- MITHRA Association

Criterion – IV
4. Infrastructure and Learning Resources

4.1 Details of increase in infrastructure facilities:

Facilities	Existing	Newly created	Source of Fund	Total
Campus area	3013.82 sqm	Nil	MAHE	3013.82 sqm
Class rooms	8 (AC & ICT Enabled)	Nil	MAHE	8 (AC & ICT Enabled)
Laboratories	6	Nil	MAHE	6
Seminar Halls	1	Nil	MAHE	1
No. of important equipments purchased (≥ 1.0 lakh) during the current year.	Nil	2*	MAHE /SOIS	2
Value of the equipment purchased during the year (Rs. in Lakhs)	Nil	3.6	MAHE /SOIS	3.6
Others	Nil	Nil	Nil	Nil

Note: * ARM 7 EVALUATION BOARD (KEIL MCB2370U-ED) (10 numbers);
         Phidget Interface Kit (1)

4.2 Computerization of administration and library

All the administration and library services are computerised:
- Students Information System (SIS)
- People soft services for employee
- e-mail communications for informing about BoS meetings, faculty/ staff meetings, time table, mini-project schedules, seminar schedule, placement related activities, scheduling of final project viva, conduction of sessional
- Online attendance system
- Library access to read e-journal papers
- To check the availability of books in the library

4.3 Library services: Centralized Library

	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	656	2.9 Lakhs	2	-	658	2.9 Lakhs
Reference Books	-	-	-	-	-	-
e-Books	-	-	-	-	-	-
Journals	-	-	-	-	-	-
e-Journals	-	-	-	-	-	-
Digital Database	-	-	-	-	-	-
CD & Video	-	-	-	-	-	-
Others (specify)	-	-	-	-	-	-

4.4 Technology up gradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Depart-ments	Others
Existing	200	6	200 computers	No separate centre, students can use the lab.	No separate centre, students can use the lab.	4	Each faculty is provided Laptop	Nil
Added	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total	200	6	200	Nil	Nil	4	Nil	Nil

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

All faculty members are having adequate knowledge in computer and Internet access. Faculty members attend workshops and conferences to upgrade the skills in their area of expertise.

Website revamping training given for two faculty members of SOIS at MAHE

4.6 Amount spent on maintenance in lakhs :

   i) ICT   Nil

   ii) Campus Infrastructure and facilities   Nil

   iii) Equipments   3.6 Lakhs

   iv) Others   Nil

                          Total: 3.6 Lakhs

Criterion – V

5. Student Support and Progression

5.1 Contribution of IQAC in enhancing awareness about Student Support Services

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

5.2 Efforts made by the institution for tracking the progression

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

5.3 (a) Total Number of students

UG	PG	Ph. D.	Others
0	425	3	0

(b) No. of students outside the state   145

(c) No. of international students   0

Men

No	%
317	74.6

Women

No	%
108	25.4

Last Year						This Year					
General	SC	ST	OBC	Physically Challenged	Total	General	SC	ST	OBC	Physically Challenged	Total
536	6	0	5	0	547	421	5	0	2	0	428

Demand ratio 24:1   Dropout % 0

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

Nil

No. of students beneficiaries   Nil

5.5 No. of students qualified in these examinations

NET   0   SET/SLET   0   GATE   0   CAT   0

IAS/IPS etc   0   State PSC   0   UPSC   0   Others   0

5.6 Details of student counselling and career guidance

- Conduction of meetings to highlight the opportunities about study abroad programs
- Pre-placement meetings to brief about the company visiting for internship/ job placements

No. of students benefitted   425

5.7 Details of campus placement

On campus			Off Campus
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed
39	198	132	66

5.8 Details of gender sensitization programmes

Nil

5.9 Students Activities

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

State/ University level | 0 | National level | 0 | International level | 0 |

No. of students participated in cultural events

State/ University level | 0 | National level | 0 | International level | 0 |

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

Sports : State/ University level | 0 | National level | 0 | International level | 0 |

Cultural: State/ University level | 0 | National level | 0 | International level | 0 |

5.10 Scholarships and Financial Support

	Number of students	Amount
Financial support from institution	30	17.81 Lakhs
Financial support from government	0	0
Financial support from other sources	0	0
Number of students who received International/ National recognitions	0	0

5.11   Student organised / initiatives

Fairs   : State/ University level | 0 | National level | 0 | International level | 0 |
Exhibition: State/ University level | 0 | National level | 0 | International level | 0 |

5.12   No. of social initiatives undertaken by the students | 2 |

5.13 Major grievances of students (if any) redressed: Nil

Criterion – VI

6. Governance, Leadership and Management

6.1 State the Vision and Mission of the institution

> **Vision:**
>
> To be the centre of excellence in the area of VLSI Design, Embedded Systems & Health Care IT.
>
> **Mission:**
> - Carry out training & research relevant to industrial & social needs
> - Design & deliver post graduate programs with Industry & International collaborations.

6.2 Does the Institution has a management Information System

> Yes.

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

6.3.1 Curriculum Development

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

6.3.2 Teaching and Learning

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

6.3.3 Examination and Evaluation

> Introduced preparation of detailed answer scheme for evaluation by the examiners and
> paper seeing provided with subject expert to provide clarification to students on marks
> awarded

6.3.4 Research and Development

> - Promotion of externally funded research projects and journal publications
> - All enrolled for PhD to present their progress twice in a year – a follow up mechanism
>   established

6.3.5   Library, ICT and physical infrastructure / instrumentation

> Centralized Library
>
> Lab equipped with 200 computers and other peripherals.

6.3.6   Human Resource Management

> Online Support System
>
> Performance Management System (PMS)

6.3.7   Faculty and Staff recruitment

> Faculty and staff are recruited as per the MAHE guidelines
> (people manual available online)

6.3.8   Industry Interaction / Collaboration

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

6.3.9   Admission of Students

> Through all India level common entrance examination (MUOET) for ME/ M. Tech.

6.4 Welfare schemes for

Teaching	• MAHE Accommodation facility • Scholarship on course fee of employees children and / or spouse • Reimbursement of the children's educational expense • Scholarship for Academy of General Education Students (SAGES) • Laptop facility • MAHE interest subsidy scheme on housing/ utility loan • Felicitation of employee • MARENA Sports facility • Valley club • Medicare facility
Non teaching	• MAHE Accommodation facility • Scholarship on course fee of employees children and / or spouse • Reimbursement of the children's educational expense • Scholarship for Academy of General Education Students (SAGES) • MU interest subsidy scheme on housing/ utility loan • Felicitation of employee • Medicare facility
Students	• Scholarship • Students to present their work in the education forum likes conferences, provides the financial assistance to the students (Rs. 5000/-) • MARENA Sports facility • Medicare facility

6.5 Total corpus fund generated   511.2 Lakhs

6.6 Whether annual financial audit has been done   Yes √   No ☐

6.7 Whether Academic and Administrative Audit (AAA) has been done?

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	Yes	-	Yes	-
Administrative	Yes	-	Yes	-

Note: External Audit by TUV, Bengaluru & Internal audit by Quality Dept. MAHE

6.8 Does the University/ Autonomous College declares results within 30 days?

For UG Programmes   Yes | - | No | - |

For PG Programmes   Yes | √ | No | |

6.9 What efforts are made by the University/ Autonomous College for Examination Reforms?

Introduced preparation of detailed answer scheme for evaluation by the examiners and paper seeing provided with subject expert to provide clarification to students on the marks awarded

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

Suggested to conduct the examination & evaluation internally at SOIS

6.11 Activities and support from the Alumni Association

Alumni supports for the job and internship placement, guest lectures, training on latest technology.

6.12 Activities and support from the Parent – Teacher Association

No parent teacher association

6.13 Development programmes for support staff

Staff development programs conducted by MAHE

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

SOIS is an ISO 14001 certified institute. EMS awareness program conducted. To reduce electricity consumption - Displayed stickers in the labs for "Switch off lights and AC when not in use". To reduce water consumption - Displayed "save water" near the water taps and sprinklers are used in taps. To reduce paper consumption we are using back to back and one side used papers for printing.

Criterion – VII

7. Innovations and Best Practices

7.1 Innovations introduced during this academic year which have created a positive impact on the functioning of the institution. Give details.

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

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

Plan of Action	Achievements
Industry defined mini-projects	Program SUBLIME
Provide software solution	Centre for Software Development (CSD)
Conducting workshops for faculty	A FIVE days grant writing and Research workshop
Conducting workshops/ guest lecture for students	Medical Image Processing Application Development Using ITK and VTK Embedded System and Next Generation Microcontrollers A talk on "**Meaningful by Design**" by Mr. Abhimanyu Kulkarni, Director, Philips Design India
Community service	Mithra Association
Conducting national level conference	Not conducted
Conducting IMS audit	Two audits conducted
Conducting FDP	Not conducted

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

- • Project based learning (Industry defined mini-projects)

- • The program and subjects are updated frequently based on industry feedbacks

Provide the details in annexure (annexure need to be numbered as i, ii, iii)

7.4 Contribution to environmental awareness / protection

Awareness is created to reduce electricity consumption, water consumption and paper consumption.

7.5 Whether environmental audit was conducted?   Yes √   No ☐

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

Strength

1. Industry oriented programs
2. Alumni support for updating syllabi and students internship
3. Emphasis for Project based learning
4. Faculty with Industry experience
5. In house Centre for Software Development.

Weakness

1. Small percentage of faculty members with PhD.
2. Not having sufficient experience in research

Opportunity

1. Flexibility in curriculum design & delivery
2. Alumni support in curriculum design, delivery & Internship support
3. Study Abroad / International Programs with foreign universities.
4. Consultancy opportunity

Challenges

1. Getting research grants from government / Industry
2. Attracting best talents
3. Providing industry Internships to all students
4. Short period to train students to industry expectations

8. **Plans of institution for next year**

- ➢ International research grants
- ➢ Increase research enrolments
- ➢ Addition of industry partners in addition to the existing ones.
- ➢ Starting of new master's program in the latest area of technology.
- ➢ Expansion of Medical Imaging Research Suite (MIRS), a collaborative initiative with Dept. of Radio diagnosis, KMC, Manipal
- ➢ Strengthening student exchange programs
- ➢ Support student mobility with partner Universities
- ➢ Conduction of International conference and Workshops.
- ➢ Conduction of National workshops every year.
- ➢ Patents submissions.
- ➢ Addition of new foreign collaborations

Name _____   *Name* _____

_____   _____

Signature of the Coordinator, IQAC   *Signature of the Chairperson, IQAC*

_____ *** _____

Annexure - I

ACADEMIC CALENDAR (2013 – 14)

Events	Date/s
Odd Semester (August 2013 – December 2013)	
Internship Training Programme for IV Semester M.Sc. Tech	July 29 – Aug 3, 2013
Orientation Programme for I & III Semester M.Sc. Tech	August 01, 2013 (Thursday)
C Program for I Semester	August 02 – 08, 2013
First Internal Evaluation	September 16 – 18, 2013 (Mon, Tue, Wed)
Second Internal Evaluation	October 17 – 19, 2013 (Thu, Fri, Sat)
Third Internal Evaluation	November 18 – 20, 2013 (Mon, Tue, Wed)
Last day of instructions (Students)	November 27, 2013
University & End Semester Examinations	**December 5 - 28, 2013**
Last working day for faculty	December 28, 2013
Vacation for the faculty	December 29, 2013 to January 9, 2014
Even semester (January 2014 – July 2014)	
Orientation Programme for I Semester M.Sc. Tech	January 16, 2014 (Thursday)
Commencement of classes for II Semester M.Sc. Tech	January 13, 2014 (Monday)
C Program class for I Semester	January 17 – 24, 2014
First Internal Evaluation	March 3 – 5, 2014 (Mon, Tue, Wed)
Second Internal Evaluation	April 10 – 12, 2014 (Thu, Fri, Sat)
Lab Internal Evaluation	April 21 - 26, 2014 (Monday - Friday)
Last day of instructions (students)	April 30, 2014 (Wednesday)
University & End Semester Examinations	**May 7 – May 30, 2014**
Last working day for faculty	June 2, 2014
Vacation for the faculty	June 3 – July 20, 2014
Academic Year 2013 – 2014	
Commencement of classes	July 28, 2014 (Monday)

Annexure - II

Feedback Analysis

Feedback from Students, Alumni and Employer during July 2013- June 2014

1. **Student feedback – (July 2013 – June 2014)**
   Online feedback on faculty members under the following parameters has been collected.

Parameters
Subject Knowledge
Lecture Content
Teaching style
Class Participation
Assignments
Assessment
Enthusiasm
Accessibility
Mentoring
Leadership qualities

The average **out of 5** for all the faculty members are calculated as **4.32**

2. **Alumni feedback-2013**

The feedback obtained from 99 students on the below mentioned 23 heads and average is given out of 5 as shown in the table:

	Service offered	Average out of 5
Q1	Quality of Teaching	4.27
Q2	Regularity of Teachers	4.45
Q3	Knowledge level of teachers	4.39
Q4	Lab assignments	4.13
Q5	Method of evaluation	4.31
Q6	Classroom facilities	4.74
Q7	Library facilities (at MIT)	4.73

Q8	Accommodation facilities (at MIT)	4.32
Q9	Sports facilities (at MAHE)	4.37
Q10	Lab facilities	4.75
Q11	Internet facility	4.49
Q12	Guest Lectures	3.73
Q13	Cooperation of office staff	4.60
Q14	Cooperation of technical staff	4.58
Q15	Cooperation of teaching staff in general	4.52
Q16	Cooperation of teaching staff in academics	4.49
Q17	Staff-Student relationship	4.55
Q18	Accessibility of teaching staff	4.48
Q19	Accessibility of Director	4.54
Q20	MCIS support in non-academics matter (sports, culture)	4.29
Q21	Placement support by MCIS	3.51
Q22	MCIS alumni support	3.97
Q23	Satisfaction level about your course	4.32

3. **Employer feedback on students' performance during internship:**

Project coordinator sends the following mail to the guides at industries where the students are doing internships and collect the feedback.

Feedback request mail format:

Dear Sir/Madam,

Kindly fill up the following table as a feedback on the candidate from MCIS, Manipal working as a Project Trainee under your valuable guidance. Please rate the candidate on a 10-point scale in each of the parameter.

Name of the Guide:

Designation:

Address:

Email Id:

Contact No:

Name of the Candidate:

Branch:

Sl #	Parameter	Rating (Max. 10)
1.	Regularity & Dedication	
2.	Ability to work Independently	
3.	Communication	
4.	Learning Ability	
5.	Leadership Quality	
6.	Ability to work in Groups	
7.	Design of Project Modules	
8.	Implementation of Designs	
9.	Testing of Implementations	
10.	Meeting Deadlines	
	Total (Max. 100)	

From all the feedbacks obtained during 2013 – 14, the average performance calculated as **84.683 out of 100**.

Annexure-III

<u>Industry Defined Mini-Projects (July 2013 – June 2014)</u>

Following are the list of mini-projects offered by the industry

Sublime project:

1. Chest Vibrometer

Following are the Projects defined by the APCOG

1. Pharmacy Inventory Management systems
2. Messaging Gateway
3. Finger print recognition system

Annexure-IV

Program and subjects updates

Following are the program and subjects updated during July 2013 – June 2014

List of BoS Members:

Sl No	Name of BoS Member	E-mail ID
Internal Members		
1	Prof. Harishchandra Hebbar, Offig. Director, SOIS, Manipal – Chairperson	harish.hebbar@manipal.edu
2	Mr. C S Ramashesha, Project Coordinator, SOIS, Manipal-Member	csr.shesha@manipal.edu
3	Mr. Prashanth Kumar Shetty, Associate Professor – Senior Scale, SOIS, Manipal-Member	pk.shetty@manipal.edu
4	Mr. B. Dinesh Rao, Associate Professor, SOIS, Manipal-Member	dinesh.rao@manipal.edu
5	Dr. Keerthana I, Associate Professor, SOIS, Manipal-Member	keerthana.prasad@manipal.edu
6	Mr. Arockiaraj S, Asst. Prof. - Selection Grade, SOIS, Manipal-Member	araj.s@manipal.edu
7	Mr. Shridhara Nayak, Asst. Prof. - Selection Grade, SOIS, Manipal-Member	shridhar.n@manipal.edu
8	Mr. Sundaresan C, Asst. Prof. - Selection Grade, SOIS, Manipal-Member	sundaresan.c@manipal.edu

9	Mr. Mohan Kumar J, Asst. Prof. - Selection Grade, SOIS, Manipal-Member	mohan.js@manipal.edu
10	Mr. Sudhakar Upadya, Asst. Prof. – Senior Grade, SOIS, Manipal-Member	sudhakara.upadya@manipal.edu
11	Dr. Kumara Shama, Prof., Dept. of E&C, MIT, Manipal-Member	shama.kumar@manipal.edu electronics@manipal.edu
12	Dr. Dinesh Acharya, Prof., Dept. of CSE, MIT, Manipal-Member	dinesh.acharya@manipal.edu computer@manipal.edu
13	Registrar, MU, Manipal	reg.mahe@manipal.edu gk.prabhu@manipal.edu
14	Registrar-Evaluation, MU, Manipal - Laxminarayana Rao P [Manipal University]	evaluation@manipal.edu pln.rao@manipal.edu
15	Deputy Registrar – Academics (Technical), MU, Manipal	dreg.mahe@manipal.edu cs.adiga@manipal.edu
External Members		
1	Mr. Manjunatha Maiya, Senior Project Manager, Philips Healthcare – Member	manjunatha.maiya@manipal.edu
2	Mr. Goverdhan P V, Manger, Academic Central, MaGE, Bangalore – Member	pv.goverdhan@manipalglobal.com
3	Dr. Laxminidhi, Asst. Prof., Dept. of E&C, NITK, Surathkal, Karnataka	laxminidhi_t@yahoo.com
4	Dr. Niranchan U C, Director R&T	ucniranjan@yahoo.com

5	Mr. Sandeep Patil H G, Applied Cognition Systems Pvt. Ltd., Bangalore Mobile: 9916824091	sandeepatilhg@gmail.com

Board of Studies meeting held on November 20, 2013:

1. **Updation & modification in the contents of M.Sc. Tech (VLSI Design) from January 2014 onwards.**
   Swapping of subject between regular & elective pool:

   - CAD for VLSI to Elective and Verification to Regular
   - Advanced Logic Synthesis to Elective and Scripting for VLSI to Regular
   - DSP made as an elective
   Introducing New Subjects:

     o Universal Verification Methodology
     o Physical Design

2. Updation & modification of the syllabus in M.Sc. Tech (VLSI System Design & Verification) from August 2014 admission onwards
   - Name change from Data Structures & Algorithms to Data Structures
   - Scripting for VLSI moved to 2nd semester from 1st semester
   - Content changes in:
     – Data Structures
     – Verification
     – Scripting for VLSI
     – Introduction of 2 new course work

3. Addition of 2 new electives in M.Sc. Tech (Embedded Systems)
   - Database Programming in Java
   - Mobile OS and Applications

Board of Studies meeting held on March 15, 2014

1. Updation & modification in the contents of M.Sc. Tech (Embedded & Wireless Technology).
2. Updation & modification of the syllabus in M.Sc. Tech (Computing Technologies & Virtualization).
3. M.Sc. Tech (Medical Software) Content Modification in the following subjects:
   - Medical Imaging in III Semester
   - Advanced Image Processing in IV Semester
4. Addition of an elective subject (Mobile Application Development using Android) in IV Semester of M.Sc. Tech (Embedded Systems)
5. Addition of an elective subject (IT Project Management) in IV Semester of all M.Sc. Tech Programs
6. M.Sc. Tech (VLSI Design) Content Modification in the subject EDA 604 -Advanced VLSI Design
Change in the University Examination Evaluation Process of SOIS to be implemented from May/ June 2014 examination onwards. (*details are given in Rules & Regulations: 4.2.9, 4.2.13 to 4.2.16*)

Abbreviations:

CAS	-	Career Advanced Scheme
CAT	-	Common Admission Test
CBCS	-	Choice Based Credit System
CE	-	Centre for Excellence
COP	-	Career Oriented Programme
CPE	-	College with Potential for Excellence
DPE	-	Department with Potential for Excellence
GATE	-	Graduate Aptitude Test
NET	-	National Eligibility Test
PEI	-	Physical Education Institution
SAP	-	Special Assistance Programme
SF	-	Self Financing
SLET	-	State Level Eligibility Test
TEI	-	Teacher Education Institution
UPE	-	University with Potential Excellence
UPSC	-	Union Public Service Commission

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1. IITs (Delhi, Guwahati, Mumbai, Madras, Kanpur, Kharagpur, Roorkee)
2. VEDA IIT, Hyderabad
3. Centre for Development of Advanced Computing (C-DAC)
4. IISc, Bangalore
5. BITS, Pilani
6. University of Pune
7. NIT, Tiruchirappalli
8. NIT Rourkela
9. Netaji Subhas Institute of Technology (NSIT)
10. Manipal Centre for Information Science
11. Punjab University, Chandigarh
12. IIIT, Hyderabad
13. Delhi University
14. Anna University
15. VJTI Mumbai
16. PSG College of Engineering, Coimbatore
17. Jadhavpur University

Times of India

INSTITUTE WATCH

- IIT Kharagpur
- IIT Madras
- IIT Delhi
- IIT Mumbai
- VEDA IIT, Hyderabad (industry-academia institution)
- C-DAC (conducts a diploma in VLSI Design)
- The Indian Institute of Science, Bangalore
- BITS, Pilani
- IIT Guwahati
- University of Pune
- NIT, Tiruchirappalli
- Manipal Centre for Information Science(offers an MS VLSI CAD course in a tie-up with Synopsys Inc)
- Punjab University, Chandigarh, in collaboration with Semiconductor Complex Limited, Mohali (conducts an MTech course in Microelectronics)

(Indicative examples)