

SELF STUDY REPORT

Of



MANGALAM COLLEGE OF ENGINEERING
Mangalam Hills, Vettimukal, Ettumanoor, Kottayam, Kerala 686631

Affiliated to
Mahatma Gandhi University, Kottayam,
&
APJ Abul Kalam Technological University (KTU), Kerala

Approved by
All India Council for Technical Education, New Delhi
Submitted to



National Assessment and Accreditation Council
(NAAC), Bangalore

FEBRUARY 2016

PREFACE

MANGALAM College of Engineering (MLM) established in the year 2002, stands supreme in the field of technical education with a high level of excellence and quality in education. In keeping with MLM's goal of excellence, the academic program is supported and promoted by highly experienced and dedicated faculty committed to providing the student with knowledge and skills that they need to succeed in the rapidly changing world. Approved by the All India Council for Technical Education (AICTE) and affiliated to the Mahatma Gandhi University and APJ Abdul Kalam Technological University in Kerala, and promoted by the Mangalam Educational Society, Mangalam College of Engineering is functioning with a mission to bring out leaders for a technology – driven environment.

Founded under the leadership of, visionary and print media stalwart Shri. M C Varghese, Mangalam college of Engineering, nestled in Mangalam Hills, is located in the heart of Ettumanoor with nearest railway station just 3 Km away. The college provides a serene and beautiful ambience for the students for their academic pursuits.

The main ethos of the college is

- Inspire
- Imbibe
- Innovate

“Inspire the learners to imbibe the values and skills and innovate.”

With the decision to go for accreditation by NAAC, the College is taking another significant step towards its vision of excellence. The decision to apply for NAAC accreditation stems from our need to self evaluate our work and get corrective guidelines for further improving the quality of our technical education system. The management has formed seven Criterion Committees and a Steering Committee to lead the accreditation process. As per the recommendation of the steering committee the IQAC was established to check the quality of our courses. The recommendations of The IQAC have been implemented at each and every stage of our continual improvement. The incisive questions NAAC manual for self-study has led us as a beacon to steer ourselves to a better direction. This self evaluation has helped us to rededicate ourselves to strengthen our course delivery and to take new initiatives for a better future.



MANGALAM
COLLEGE OF ENGINEERING
Inspire | Imbibe | Innovate

Mangalam Campus
Mangalam Hills, Vettimukal P.O., Ettumanoor, Kottayam,
Kerala – 686631, Ph: +91-481-2533722, +91-481-2537053
Fax: +91-481-2533700
Web: www.mangalam.ac.in, E Mail: info@mangalam.in

(Approved by AICTE, Affiliated to MG University and an ISO Certified Institution)

MLMCE/001/2016-2017

9th February 2016

To, .

The Director,
National Assessment & Accreditation Council,
P. O. Box No. 1075,
Nagarbhavi, Bangalore – 560072
Karnataka, India

Dear Sir/Madam,

Sub : Mangalam College of Engineering – Submission of Self Study Report(SSR) for NAAC accreditation – LOI Track ID : KLCOGN25126 Reg.

Ref : Your letter NAAC/CAPU/SR/KLCOGN25126/Cycle 1/2015 dated 5th August 2015.

While thanking you for communicating the approval of the LOI submitted by us with reference to your letter No. NAAC/CAPU/SR/KLCOGN25126/Cycle 1/2015, dated 5th August 2015, I wish to inform you that we have hosted the entire booklet of SSR in the website of the college on 30th January 2016.

The college website ID : www.mangalam.in

We are submitting 5 hardcopies and 1 softcopy of the Self Study Report (SSR) together with applicable A&A fee. You are kindly requested to accept the same for further processing.

Thanking you,



Yours truly,

Chit
9/2/16

PRINCIPAL

PRINCIPAL
MANGALAM COLLEGE OF ENGINEERING



All India Council for Technical Education
(A Statutory body under Ministry of HRD, Govt. of India)

7th Floor, Chandralok Building, Janpath, New Delhi- 110 001
PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-India.org

F.No. South-West/1-2451354309/2015/EOA

Date: 07-Apr-2015

To,
The Principal Secretary,
Deptt. Of education, Govt. of Kerala,
Govt. Sectt. Annexe,
Thiruvananthapuram-695001

Sub: Extension of approval for the academic year 2015-16

Ref: Application of the Institution for Extension of approval for the academic year 2015-16

Sir/Madam,

In terms of the provisions under the All India Council for Technical Education (Grant of Approvals for Technical Institutions) Regulations 2012 notified by the Council vide notification number F-No.37-3/Legal/2012 dated 27/09/2012 and norms standards, procedures and conditions prescribed by the Council from time to time, I am directed to convey the approval to

Regional Office	South-West	Application Id	1-2451354309
		Permanent Id	1-14189514
Name of the Institute	MANGALAM COLLEGE OF ENGINEERING	Institute Address	MANGALAM HILLS VETTIMUKAL .P.O ETTUMANOOR, KOTTAYAM, KOTTAYAM, Kerala, 686631
Name of the Society/Trust	MANGALAM EDUCATIONAL SOCIETY	Society/Trust Address	MANGALAM EDUCATIONAL SOCIETY MANGALAM BUILDINGS S.H MOUNT P.O KOTTAYAM,KOTTAYAM,KOTTAYAM,Kerala,686006
Institute Type	Unaided - Private		

Opted for change from Women to Co-ed	No	Opted for change of name	No	Opted for change of site	No
Change from Women to Co-ed approved	Not Applicable	Change of name Approved	Not Applicable	Change of site Approved	Not Applicable

To conduct following courses with the intake indicated below for the academic year 2015-16

Application Number: 1-2451354309*

Page 1 of 4

Note: This is a Computer generated Letter of Approval.No signature is required.

Letter Printed On:16 April 2015

Printed By : AE9732197



Application Id: 1-2451354309			Course	Full/Part Time	Affiliating Body	Intake 2014-15	Intake Approved for 15-16	NRI Approval status	PIO Approval status	Foreign Collaboration Approval status
Program	Shift	Level								
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	COMMUNICATION ENGINEERING	FULL TIME	Mahatma Gandhi University , Kottayam	18	18	Yes	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	COMPUTER SCIENCE AND ENGINEERING	FULL TIME	Mahatma Gandhi University , Kottayam	18	18	Yes	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	INDUSTRIAL ENGINEERING AND MANAGEMENT	FULL TIME	Mahatma Gandhi University , Kottayam	18	18	Yes	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	NETWORK ENGINEERING	FULL TIME	mahatma gandhi university kottayam	18	18	Yes	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	POWER ELECTRONICS AND POWER SYSTEMS	FULL TIME	Mahatma Gandhi University , Kottayam	18	18	Yes	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	STRUCTURAL ENGINEERING AND CONSTRUCTION MANAGEMENT	FULL TIME	Mahatma Gandhi University, Kottayam	18	18	Yes	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	VLSI AND EMBEDDED SYSTEMS	FULL TIME	Mahatma Gandhi University , Kottayam	18	18	Yes	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	CIVIL ENGINEERING	FULL TIME	Mahatma Gandhi University , Kottayam	120	120	Yes	NA	NA



All India Council for Technical Education
(A Statutory body under Ministry of HRD, Govt. of India)

7th Floor, Chandralok Building, Janpath, New Delhi- 110 001
PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-india.org

Application Id: 1-2451354309			Course	Full/Part Time	Affiliating Body	Intake 2014-15	Intake Approved for 15-16	NRI Approval status	PIO Approval status	Foreign Collaboration Approval status
Program	Shift	Level								
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	COMPUTER SCIENCE AND ENGINEERING	FULL TIME	Mahatma Gandhi University , Kottayam	120	120	Yes	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	ELECTRICAL AND ELECTRONICS ENGINEERING	FULL TIME	Mahatma Gandhi University , Kottayam	60	60	Yes	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	ELECTRONICS & COMMUNICATION ENGG	FULL TIME	Mahatma Gandhi University , Kottayam	120	120	Yes	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	INFORMATION TECHNOLOGY	FULL TIME	Mahatma Gandhi University , Kottayam	60	60	Yes	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	MECHANICAL ENGINEERING	FULL TIME	Mahatma Gandhi University , Kottayam	120	120	Yes	NA	NA
MANAGEMENT	1st Shift	POST GRADUATE	MASTERS IN BUSINESS ADMINISTRATION	FULL TIME	Mahatma Gandhi University , Kottayam	180	180	Yes	NA	NA

Note: Validity of the course details may be verified at www.aicte-india.org/departments/approvals

The above mentioned approval is subject to the condition that MANGALAM COLLEGE OF ENGINEERING shall follow and adhere to the Regulations, guidelines and directions issued by AICTE from time to time and the undertaking / affidavit given by the institution along with the application submitted by the institution on portal.

In case of any differences in content in this Computer generated Extension of Approval Letter, the content/information as approved by the Executive Council / General Council as available on the record of AICTE shall be final and binding.



All India Council for Technical Education
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Strict compliance of Anti-Ragging Regulation:- Approval is subject to strict compliance of provisions made in AICTE Regulation notified vide F. No. 37-3/Legal/AICTE/2009 dated July 1, 2009 for Prevention and Prohibition of Ragging in Technical Institutions. In case Institution fails to take adequate steps to Prevent Ragging or fails to act in accordance with AICTE Regulation or fails to punish perpetrators or incidents of Ragging, it will be liable to take any action as defined under clause 9(4) of the said Regulation.

Dr. Avinash S Pant
Actg Chairman, AICTE

Copy to:

1. **The Regional Officer,**
All India Council for Technical Education
Health Centre Building
Bangalore University Campus
Bangalore - 560 009, Karnataka
2. **The Director Of Technical Education,**
Kerala
3. **The Registrar,**
Mahatma Gandhi University, Kottayam
4. **The Principal / Director,**
MANGALAM COLLEGE OF ENGINEERING
MANGALAM HILLS
VETTIMUKAL .P.O
ETTUMANOOR,
KOTTAYAM,KOTTAYAM,
Kerala,686631
5. **The Secretary / Chairman,**
MANGALAM EDUCATIONAL SOCIETY
MANGALAM EDUCATIONAL SOCIETY
MANGALAM BUILDINGS
S.H MOUNT P.O
KOTTAYAM,
KOTTAYAM,KOTTAYAM,
Kerala,686006
6. **Guard File(AICTE)**



KERALA TECHNOLOGICAL UNIVERSITY

CET Campus, Thiruvananthapuram -695016
Ph:0471 2598122, Fax: 2598522 www.ktu.edu.in Email:university@ktu.edu.in

PROCEEDINGS

Kerala Technological University - Affiliation of Technical Institutions for the Academic Year 2015-2016 – Affiliation of Technical Institutions - MANGALAM COLLEGE OF ENGINEERING , Mangalam Campus KOTTAYAM - Orders Issued.

ACADEMIC SECTION

No: KTU/A/593/2015

Dated, Thiruvananthapuram, 15.05.2015

Read:-

1. Kerala Technological University Ordinance 2014 (11 of 2014, 2 of 2015)
2. G.O(Ms.) No:933/2015/H.Edn dated 11.3.2015 of Higher Edn (J) Dept, Govt of Kerala
3. Ordinance dated 10.4.2015 of KTU.
4. Notification issued by KTU on 25.4.2015, 8.5.2015 and 13.5.2015
5. Application submitted by MANGALAM COLLEGE OF ENGINEERING, Mangalam Campus KOTTAYAM in the e-Governance platform of KTU seeking affiliation for the Academic Year 2015-16.

ORDER

As per the Clause 59 of the Ordinance establishing Kerala Technological University read as 1st above, the Affiliation and recognition of Technical Institutions to Kerala Technological University is mandatory. In accordance with that, the University can affiliate any of the Engineering Colleges or Institutions imparting education in Engineering Technology owned by Government of Kerala or Government Controlled Societies, Private Aided and Private Unaided, self-financing educational agencies, provided they meet the criteria prescribed under the Ordinance.

By the order read as 2nd above, Government of Kerala have accorded sanction to disaffiliate the institutions imparting education in Engineering and Technology in the State of Kerala as stated under the above clause and affiliate them to the Kerala Technological University by invoking the same clause from the Academic year 2015-2016 and all technical institutions in the State will mandatorily affiliate with Kerala Technological University for the conduct of B.Tech and M.Tech courses from the Academic Year 2015-16 onwards.

Vide reference read as 3rd and 4th above, Kerala Technological University has issued Ordinance and notification for affiliating 'Existing and New Technical Institutions' of the state which conduct Under Graduate and Post Graduate programmes in Engineering and Technology for the Academic Year 2015-16.

The Applications submitted by the institution vide reference read as 5th above seeking affiliation of programmes approved by the All India Council for Technical Education (AICTE) for the Academic Year 2015-16 was considered by the University.

The Honourable Vice-Chancellor exercising the powers under Section 15 (6) & 59 has granted provisional affiliation to the MANGALAM COLLEGE OF ENGINEERING, Mangalam Campus KOTTAYAM for conducting programmes in Engineering with the approved intake as below for the Academic Year 2015-16.

Sl.No	Level	Program	Intake
1	UG	CIVIL ENGINEERING	120
2	UG	COMPUTER SCIENCE & ENGINEERING	120
3	UG	ELECTRONICS & COMMUNICATION ENGG	120
4	UG	ELECTRICAL AND ELECTRONICS ENGINEERING	60
5	UG	INFORMATION TECHNOLOGY	60
6	UG	MECHANICAL ENGINEERING	120
7	PG	INDUSTRIAL ENGINEERING AND MANAGEMENT	18
8	PG	COMPUTER SCIENCE AND ENGINEERING	18
9	PG	POWER ELECTRONICS AND POWER SYSTEMS	18
10	PG	VLSI AND EMBEDDED SYSTEMS	18
11	PG	COMMUNICATION ENGINEERING	18
12	PG	STRUCTURAL ENGINEERING AND CONSTRUCTION MANAGEMENT	18
13	PG	NETWORK ENGINEERING	18

The provisional affiliation shall be for the academic year 2015-16/till further orders of the University and the provisional affiliation granted herewith is subject to the following conditions.

- i. Verification of facts submitted by the institution in the e-Gov platform by an Expert Visiting Committee constituted by the University;
- ii. The Institution shall remit the affiliation fee of Rs.350000 by way of online payment through institute portal within one month from the date of this Order;
- iii. The Institution shall observe the Clause 59 (2) of the Ordinance establishing the KTU, the norms and standards prescribed by the AICTE in the Approval Process Handbook 2015-16, and the guidelines by KTU from time to time.

Non -compliance with any of the conditions will result in the withdrawal of the affiliation without any notice.

Sd/-
Dr. PADMAKUMAR G P*
Registrar

To,

1. The Principal, MANGALAM COLLEGE OF ENGINEERING, Mangalam Campus KOTTAYAM
2. The Chairman, Mangalam Educational Society, Mangalam Campus KOTTAYAM
3. PS to Honble Vice Chancellor
4. PS to Honble Pro Vice Chancellor
5. The Secretary, Higher Education Department, Govt Secretariate, Govt of Kerala
6. The Commissioner for Entrance Examinations, Housing Board Jn, Thiruvananthapuram
7. PA to Registrar
8. Academic Section

*** This is a computer system generated letter. Hence there is no need for a physical signature.**

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EXECUTIVE SUMMARY

MANGALAM EDUCATIONAL SOCIETY

Mangalam Educational Society, guided by eminent and enterprising personalities, has been playing vital roles in the promotion of academic sector in the country. It organises various social development programs with a social concern through innovative and effective educational projects. Mangalam group of educational Institutions functions under the management control and supervision of mangalam Educational Society which is governed by its governing board and management council consisting of eminent academicians and experts in Management.

MANGALAM COLLEGE OF ENGINEERING

MANGALAM College of Engineering (MLM) established in the year 2002, stands supreme in the field of technical education with a high level of excellence and quality in education. In keeping with MLM's goal of excellence, the academic program is supported and promoted by highly experienced and dedicated faculty committed to providing the student with knowledge and skills that they need to succeed in the rapidly changing world. Approved by the All India Council for Technical Education (AICTE) and affiliated to the Mahatma Gandhi University and APJ Abdul Kalam Technological University in Kerala, and promoted by the Mangalam Educational Society, Mangalam College of Engineering is functioning with a mission to bring out leaders for a technology – driven environment.

INFRASTRUCTURE

The college has a sprawling campus of 25.03 acres. The total built up area is 19264 sq m. There are two buildings housing all the departments of the colleges while some mechanical and civil Engineering Labs are located in different buildings surrounding these two buildings. The New block is conceived as a green building and utilizes least power for its use.

Library & Research Centre

The campus encourages learning with library housing over 15,000 volumes. Latest E-journals are subscribed by the college for the reference of the students and faculty. Other than the central library the college also provided departmental library with its reading space within each department.

Staff

The college has 162 teaching Faculty members focused on course delivery and its outcome and are supported by 90 supporting staff.

Hostel Accommodation

Modern Hostels for ladies and Gents function in the campus. Both hostels have warden with support staff to deal with all the issues relating to the hostel stay. Some of the rooms within the hostels are also booked for staff members interested in staying within the campus. Those candidates seeking hostel admission are to submit separate applications to the College office.

Mangalam Student Healthcare Centre

Mangalam Campus provides free first aid health service for students and staff in the campus itself. The centre is always manned by an efficient nurse, who deals with emergencies, injuries and illnesses. A qualified doctor is also available two days in a week for consultation. The Student Healthcare Centre is fully equipped to handle most of the medical emergencies, and the graver emergencies are referred to the hospitals in the immediate vicinity that handles all complex medical situations effectively. Wheel Chairs and Ambulance facility is also available in the campus.

Insurance

We consider students as members of this Institution and their welfare has always been our concern. All the Students and their earning parent are insured under United India Assurance.

Canteen

Three well furnished Canteens with a central kitchen function in the campus for the Faculty and Students. One canteen is located at the entrance of the campus and provides fresh food for all visitors of the campus. The second main canteen is located between the two main buildings of the Engineering College and has the largest seating capacity of the three canteens. The third canteen, located near the Ladies hostel, also has the central kitchen attached to it which has its own biogas plant for disposal of perishable bio food waste.

Other than the canteens there are many food kiosks spread throughout the campus providing snacks and fruit drinks for all.

College Bus

A fleet of college buses are plying from areas like Thiruvalla, Mavelikkara, Alappuzha, Chenganassery, Kanjikuzhi, Kottayam, Puthuppally, Manarcadu, Pampady, Meenadom, Mallappally, Karukachal, Cherthala, Kumarakam, Chungam, Erattupetta, Pala, Ponkunnam, Paika, Trippunithura, Kanjiramattom, Vaikom, Thalayolaparambu, Kuruppanthara, Koothattukulam, Moovattupuzha etc. Students avail the bus facility by renewing the travel pass every year.

Co-curricular and Extra-Curricular Activities

The college gives special importance for Co-curricular activities like seminars, project works and technical festivals and for extra-curricular activities like sports, environment club, social activities club, Literacy club, Arts club etc. The college has Amphi-theatre, Digital Theatre, Several halls for conduct of these activities.

RULES, REGULATIONS AND DISCIPLINE

Student and Teachers Handbook

The college provides students and teachers with handbook detailing the rules and regulations of the college. The digital version of the same is provided within the campus website.

Dress Code

All Students are required to put on ID cards and wear proper uniform dresses instructed by the college as part of the college discipline.

Ragging and College Discipline

All students are required to obey the rules and regulations framed by the College authority from time to time. Regarding ragging, if any such incident comes to the notice of the College authority, the concerned students shall be given liberty to explain and if his/her explanation is not found satisfactory, the college authority will expel him/her from the institution as per rules.

SWOT ANALYSIS

STRENGTH

- The institution is situated in the famous town Ettumanoor, 2Km from State Highway 1 & 32 and has connectivity to major cities like Kochi, Kottayam, Muvattupuzha and Pala.
- The institution have good infrastructure facilities including green building and Amphi-theatre.
- The institution has well qualified, young and dynamic faculty members from diverse background.
- Student and faculty exchange programme with foreign universities.
- Campus has an excellent academic and research ambience
- Well equipped central library with digital library and E-journals.
- Startup supports for students with Kerala Startup Mission funding.
- Leading training partners like ICT Academy Kerala for training students and faculties.
- All class room equipped with state-of-art audio visual tools.
- Women friendly campus.
- Schools and day-care facilities for children of staff.

WEAKNESS

- Present generation of students exhibiting a lack of interest towards technical career.
- Fewer number of senior faculty members with PhD.
- University does not provide too much academic flexibility.
- Sponsored research from Industry or external research centres is not available.
- Research output in terms indexed journal publication.
- Placements in core technological companies are not happening.
- Students lack good communication skill owing to a majority of students coming from rural/semi-urban background.

OPPURTUNITIES

- Can facilitate as a Research centre for University in Kottayam region.
- Practising outcome based learning.
- Act as a NPTEL local chapter for kottayam region.
- To obtain NBA accreditation for all departments.
- To become an autonomous institution.
- Can produce enough job opportunities in sister organizations.

THREAT

- Sudden increase of colleges within the state leading to less number of students opting for our courses.
- Lack of student diversity because students are opting for colleges near to home.
- Higher standards of admission qualification, as compared to neighbouring states, lead.
- Students to opt for courses outside the state.

SECTION B: PREPARATION OF SELF-STUDY REPORT

1. Profile of the Affiliated / Constituent College

1. Name and Address of the College:

Name :	MANGALAM COLLEGE OF ENGINEERING	
Address :	College Road, Mangalam Hills, Vettimukal, Ettumanoor, Kottayam	
City :	Pin : 686631	State : Kerala
Website :	http://www.mangalam.ac.in	

2. For Communication:

Designation	Name	Telephone with STD code	Mobile	Fax	Email
Principal	Dr. Mary Thomas	0481 2533722	9497316286	0481-2533700	mary.thomas@mangalam.in
Vice Principal	Prof. Manoj George	0481 2533711	9895169510		manoj.george@mangalam.in
Steering Committee Co-ordinator	Mr. Sreeraj KP		9895449451		sreeraj.kp@mangalam.in

3. Status of the institution

Affiliated College Any other (specify)	✓
Constituent College	
Any other (specify)	

4. Type of Institution:

a. By Gender

i.	For Men	
ii	For Women	
iii.	Coeducation	✓

b. By shift

i)	Regular	✓
ii)	Day	
iii)	Evening	

5.It is a recognized minority institution?

Yes	✓
No	

6. Sources of funding:

Government	
Grant-in-aid	
Self-financing	✓
Any other (bankloan)	✓

7. a. Date of establishment of the college: 2002

b. University to which the college is affiliated /or which governs the college (If it is a constituent college)

(i) Mahatma Gandhi University, Kottayam, Kerala

(ii)APJ Abdul Kalam Technological University, Kerala (KTU)

c. Details of UGC recognition:

Under Section	Date, Month & Year (dd-mm-yyyy)	Remarks(If any)
i. 2 (f)	N/A	NIL
ii. 12 (B)	N/A	NIL

(Enclose the Certificate of recognition u/s 2 (f) and 12 (B) of the UGC Act)

d. Details of recognition/approval by statutory/regulatory bodies other than UGC (AICTE, NCTE, MCI, DCI, PCI, RCI etc.)

Under Section/ clause	Recognition/Approval details Institution/Department	Day, Month and Year (dd-mm-yyyy)	Validity	Remarks
i. AICTE	F.No. South-West/1- 2451354309/2015/EOA	07/04/2015	1	
ii.KTU	KTU/A/593/2015	15/05/2015	1	
iii.MGU	3270(B)/2/15/Ac AVII	01/06/2015	1	
iv. HE	G.O(Ms)No. 145/13/H.Edn.	14/05/2013	1	

8. Does the affiliating university Act provide for conferment of autonomy (as recognized by the UGC), on its affiliated colleges?

Yes ☒ No ☐

If yes, has the College applied for availing the autonomous status?

Yes ☐ No ☒

9. Is the college recognized

a. by UGC as a College with Potential for Excellence (CPE)?

Yes ☐ No ☒

b. for its performance by any other governmental agency?

Yes ☐ No ☒

10. Location of the campus and area in sq.mts:

Location *	Rural
Campus area in sq. mts.	101171 m ²
Built up area in sq. mts.	19264.71 m ²

(* Urban, Semi-urban, Rural, Tribal, Hilly Area, Any others specify)

11. Facilities available on the campus (Tick the available facility and provide numbers or other details at appropriate places) or in case the institute has an agreement with other agencies in using any of the listed facilities provide information on the facilities covered under the agreement.

- Auditorium/seminar complex with infrastructural facilities

- Sports facilities

- * play ground

☒

- * swimming pool

☐

- * gymnasium

☒

- Hostel

- * Boys' hostel

- i. Number of hostels 1

- ii. Number of inmates 182

- * Girls' hostel

- i. Number of hostels 1

- ii. Number of inmates 190

- iii. Facilities (mention available facilities)

Each student is provided with a cot, a table and a chair in their respective rooms. Ragging is strictly prohibited. The hostel is annexed with a kitchen & dining halls with

facilities to provide food at protected and hygienic environment. The mess serves to the taste of all cuisines. Healthy and nutritious food is served. Common room with T.V is also there. Hostel has also facilities for indoor games. Internet and Computer Facilities are also available in the hostel. Security guards for the hostel are on duty round the clock

* Working women's hostel

A few rooms in the girls hostel is reserved for faculty and staff

-Residential facilities for teaching and non-teaching staff (give numbers available — cadre wise)

• Cafeteria —

• Health centre —

First aid, Inpatient, Outpatient, Emergency care facility, Ambulance Health centre staff —
Matha hospital is just 3.3km away from college

Qualified doctor

Full time

✓ Part-time

Qualified Nurse

✓ Full
time

Part-time

• Facilities like banking, post office, book shops

• Transport facilities to cater to the needs of students and staff

• Animal house

• Biological waste disposal

• Generator or other facility for management/regulation of electricity and voltage

• Solid waste management facility

• Waste water management

• Water harvesting

12. Details of programmes offered by the college (Give data for current academic year)

Self Study Report of Mangalam College of Engineering

Sl. No	Programme Level	Name of the Programme/ Course	Duration In semester	Entry Qualification	Medium of instruction	Sanctioned/ approved Student Strength	No. of students admitted
	UG						
1	ECE	B.Tech	8	+2	English	120	51
2	CSE	B.Tech	8	+2	English	120	106
3	EEE	B.Tech	8	+2	English	60	29
4	CE	B.Tech	8	+2	English	120	106
5	ME	B.Tech	8	+2	English	120	127
	PG						
	M.Tech						
1	ECE	Communication Engineering	4	B.Tech	English	18	2
		VLSI & Embedded Systems	4	B.Tech	English	18	1
2	CSE	Computer Science Engineering	4	B.Tech	English	18	3
3	CE	Structural Engineering and Construction	4	B Tech	English	18	15
4	EEE	Power Electronics & Power systems	4	B.Tech	English	18	1
5	ME	Industrial Engineering & Management	4	B.Tech	English	18	1
6	MBA	Master of Business Administration	2 years	Any Degree	English	180	97

13. Does the college offer self-financed Programmes?

Yes ☒ No ☐

If yes, how many?

UG:5, PG:7

14. New programmes introduced in the college during the last five years if any?

Yes	☒	No	☐	Number	5
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15. List the departments: (respond if applicable only and do not list facilities like Library, Physical Education as departments, unless they are also offering academic degree awarding programmes. Similarly, do not list the departments offering common compulsory subjects for all the programmes like English, regional languages etc.)

Faculty/Department	Departments (eg. Physics, Botany, History	UG	PG
Engineering	Department of electronics & communication engineering	☒	☒
Engineering	Department of computer science engineering	☒	☒
Engineering	Department of civil engineering	☒	☒
Engineering	Department of mechanical engineering	☒	☒
Engineering	Department of electrical&electronics engineering	☒	☒
Management	MBA		☒

16. Number of Programmes offered under (Programme means a degree course like BA, BSc, MA, M.Com...)

a. annual system

NIL

b. semester system

12

c. trimester system

NIL

17. Number of Programmes with

- a. Choice Based Credit System
- b. Inter/Multidisciplinary Approach
- c. Any other (specify and provide details)

18. Does the college offer UG and/or PG programmes in Teacher Education?

No

Is the institution opting for assessment and accreditation of Teacher Education Programme separately?

No

19. Does the college offer UG or PG programme in Physical Education?

Yes No

Is the institution opting for assessment and accreditation of Physical Education Programme separately?

Yes No

20. Number of teaching and non-teaching positions in the Institution

Positions	Teaching faculty						Non-teaching staff		Technical staff	
	Professor		Associate Professor		Assistant Professor					
	*M	*F	*M	*F	*M	*F	*M	*F	*M	*F
Sanctioned by the UGC/ University/ State Government Recruited	0	0	0	0	0	0	0	0	0	0
Yet to recruit	0	0	0	0	0	0	0	0	0	0
Sanctioned by the Management/ society or other authorized bodies Recruited	5	1	9	7	49	91	210	91	27	9
Yet to recruit	0	0	0	0	0	0	0	0	0	0

21. Qualifications of the teaching staff:

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent teachers							
D.Sc./D.Litt.							

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Ph.D.	2	1	0	0	0	0	
M.Phil.	0	0	0	0	0	0	
PG	2	1	9	6	48	91	157
Temporaryteachers							
Ph.D.							
M.Phil.							
PG							
Part-timeteachers							
Ph.D.	2						2
M.Phil.		1					1

22. Number of Visiting Faculty /Guest Faculty engaged with the College.

3

23. Furnish the number of the students admitted to the college during the last four academic years.

Categories	2015-2016		2014-2015		2013-2014		2012-2013	
	Male	Female	Male	Female	Male	Female	Male	Female
ECE								
SC	0	0	1	1	1	0	1	1
ST	0	0	0	0	0	0	0	0
OBC	10	6	6	10	14	13	15	50
General	28	6	11	12	26	29	23	49
Others	1	0	1	0	1	2	0	0
CSE								
SC	0	0	0	1	0	0	0	0
ST	0	0	0	0	0	0	0	0
OBC	8	13	9	16	9	9	7	17
General	45	38	26	26	28	40	21	20
Others	1	1	0	1	3	1	0	0
EEE								
SC	2	0	0	1	1	0	0	0
ST	0	0	0	0	1	0	1	0
OBC	7	0	11	3	9	1	12	2
General	16	1	15	5	22	3	21	10
Others	3	0	3	0	2	1	3	0
CE								
SC	1	2	3	1	3	1	1	3

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ST	0	0	1	1	0	0	1	0
OBC	42	19	24	25	20	25	13	14
General	15	20	36	36	33	32	19	16
Others	4	4	0	0	3	3	0	0
ME								
SC	3	0	4	0	3	0	4	0
ST	0	0	0	0	0	0	0	0
OBC	37	0	32	1	32	0	42	0
General	86	2	90	0	91	1	67	2
Others	4	0	5	0	4	0	5	0
MBA								
SC	3	2	2	4	2	1	4	4
ST	1	1	1	2	3	3	2	3
OBC	3	4	5	5	2	4	2	3
General	39	37	50	31	39	30	68	34
Others	0	0	0	0	0	0	0	0

24. Details on students enrollment in the college during the current academic year:

Type of students	UG	PG
Students from the same State where the college is located	421	114
Students from other states of India	-	-
NRI students	-	-
Foreign students	-	-
Total	421	114

25. Dropout rate in UG and PG (average of the last two batches)

UG: 3

PG : 3

26. Unit Cost of Education

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

(a) including the salary component

Rs.69,68.12

(b) excluding the salary component

Rs.31,057.76

27. Does the college offer any programme/s in distance education mode (DEP)?

Yes ☐

No ☒

28. Provide Teacher-student ratio for each of the programme/course offered

Course Name	Teacher-student ratio	Teacher-student admitted ratio
B.Tech	1:15	1:13
M.Tech	1:12	1:4
MBA	1:15	1:13

29. Is the college applying for

Accreditation : Cycle 1 ☒

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

N/A

31. Number of working days during the last academic year.

207

32. Number of teaching days during the last academic year

(Teaching days means days on which lectures were engaged excluding the examination days)

183

33. Date of establishment of Internal Quality Assurance Cell 15/6/2015

34. Details regarding submission of Annual Quality Assurance Reports (AQAR)

N/A

35. Any other relevant data (not covered above) the college would like to include.

(Donot include explanatory/descriptive information)

College

- The new block is designed and constructed using green building concept

Student

- Meritorious students are admitted with scholarship under different scheme.

Faculty

- Many faculties persuing PhD's.
- Faculty diversity

CRITERION I: CURRICULAR ASPECTS

1.1 Curriculum Planning and Implementation

1.1.1 State the vision, mission and objectives of the institution, and describe how these are communicated to the students, teachers, staff and other stakeholders.

Mangalam College of Engineering (MLM) stands supreme in the field of technical education with excellence and quality in education. It was started with a revelation to impart quality education to aspiring youngsters.

Vision

To emerge as a center of excellence in technical education and research, creating employable and committed professionals.

Mission

Inspire the learners to be globally competent engineers through innovative teaching and learning methods and imbibe a sense of social responsibility and creative inquiry in them that leads to higher learning and research.

Institutional objectives

Mangalam College of Engineering is committed in skilling the youth of the state in Engineering Science through rigorous academic work and with a commitment to society. The following objective helps us to realise our dream:

1. Provide cost effective quality education to all sections of society.
2. Equip Engineering and management students with enough knowledge and self belief to bear the challenges of the world.
3. Train Engineering and management students to excel in their field in a wise and creative manner.
4. Encourage the interaction between industry, Research institutes and Academia.
5. Instil the right values in the youth, to serve the nation better

These are communicated to the students, faculty, staff and other stakeholders by

1. Prospectus, college website, college calendar, college magazine, college newsletter, lab records.
2. Displaying it outside the Principal's office, main reception area, corridors, departments, canteen, libraries and labs.
3. Highlighting it during the student and faculty orientation programmes, parent-teacher meetings and other important socio-cultural gatherings.
4. Presenting it at the induction programme for the new students which begins with the vision, mission and objectives of the Institution.

1.1.2 How does the institution develop and deploy action plans for effective implementation of the curriculum? Give details of the process and substantiate through specific example(s).

The institution effectively plans and implements the curriculum provided by MG University & KTU. The following are the process maintained by each department and monitored by the college academic council.

Process for course allocation and course file submission

Process No:	Process detail	Faculty in-charge
1.	The Departmental Academic Committee (DAC) releases the list of courses to be engaged each semester and solicit the response of all faculty members on their choice of course.	HOD
2.	Based on the input from the faculty, the faculty's qualification and area of specialisation the DAC finalises the list of course instructors for theoretical and lab courses. This list is submitted to College Academic Council (CAC) and IQAC. The details of subject allocation and timetable is forwarded to faculties and students.	HOD
3.	Detailed course file is prepared by each course instructor and submitted to DAC	Course Instructor
4.	The DAC reviews each course over and above the following criteria's: • Level of planning	HOD

	• Sensitiveness to different kinds of learners • Filling of gaps of syllabus • Over and above curriculum This review report is forwarded to the IQAC and CAC and feedback on possible changes is taken.	
5.	Based on the feedback of IQAC the course instructor is advised on possible changes and the course file is finalised.	

MG University & KTU revises the syllabus from time to time encompassing the recent trends in engineering and management education. The last time it was revised in 2010. The CAC adopts new teaching learning process for effective implementation of the curriculum.

Process for course delivery and it's assessment

Process No:	Process detail	Faculty in-charge
1.	The course instructor through the student representatives distributes the course material, lesson plan, syllabus, term work evaluation procedures and weightage and question bank of previous university exams. For lab course: The course in- charge, through the student representatives, distributes lab cycles, student Lab manual, syllabus and term work evaluation procedures.	Course instructor Lab in- charge
2.	Academic Progress is ensured through class committee and Course committee. Its evaluated report is forwarded to DQAC and DAC. Necessary course corrections are advised.	Class- in charge
3.	After the first series test a list of students who require special attention is prepared by class-in charge and remedial actions are initiated by DAC. Progress Report of each student is prepared and mailed to parents and the department organises Open Houses.	Class- in charge
4.	End semester feedback is carried out by DQAC and its evaluated report is forwarded to IQAC.	DQAC in charge

	For lab course: End semester feedback is carried out by DQAC and its evaluated report is forwarded to IQAC.	
5.	The course instructor prepares the internal assessment report of each student which is consolidated and displayed in the departmental notice board, for possible corrections, before being finally forwarded to university.	Class-in charge HOD
6.	Based on the final university result and internal assessment carried out previously an appraisal report prepared by DQAC is presented to the IQAC and CAC.	DQAC
7.	Seminars and project works are carried out under the guidance of individual project guides from the project research committee	Project Co-ordinator

AWARDS AND RECOGNITION

- The top student of each batch is provided with extra library cards and top 3 students of each batch are provided with certificate of excellence.
- Salary incentive is given to the best faculty based on the recommendations from IQAC.

1.1.3 What type of support (procedural and practical) do the teachers receive (from the University and / or institution) for effectively translating the curriculum and improving teaching practices?

Procedural support	Practical support
Teacher Orientation programme	Audio- Visual Support
Training on Mentorship aspects	Filing System
Skill enhancement workshop	Library:

	• University Library Access • e-Journal's • M Tutor Programmes • Digital library
Evaluation, corrections and recommendations by IQAC	Internet Facility
KTU Academic audit is conducted every semester	Student information system(Procampuz) http://117.211.161.156/proCampuz_live
	Tutorial rooms, Mentorship rooms, Departmental rooms
	Well equipped labs and software practicals.
	Uninterrupted power supply backed by generators provided during working hours
	Personal cabins and computer facility

1.1.4 Specify the initiatives taken up or contribution made by the institution for effective curriculum delivery and transaction on the Curriculum provided by the affiliating University or other statutory agency.

Initiative taken by institution /Contribution made by institutions

- Teacher Orientation programme
- Semester plan is given in advance
- Mentorship Training aspects
- Skill enhancement workshop
- Evaluation, corrections and
- recommendations by IQAC
- Scholarships for students
- Student and faculty exchange programmes
- Workload monitoring
- Uninterrupted power supply backed by generators provided during working hours
- High speed Internet Facility
- Well equipped Library
- LCD projectors in class rooms

- Regular Class tests
- Solution to assignment tests, series, model and previous university questions
- internal assessment report of each student
- Semester plan, Tutorial ,Open house
- Examination cell
- Bridge courses, remedial classes
- content beyond syllabus

1.1.5 How does the institution network and interact with beneficiaries such as industry, research bodies and the university in effective operationalisation of the curriculum?

UNIVERSITY		
Sl.No:	Curriculum operationalization	Interacting Body
1.	The university informs the institute and its students about the different steps in operationalizing of curriculum through regular notices, letters and website.	Principal/ CAC
2.	The final examination is conducted by interacting with university examination cell. The following are the activities a) Issue of hall tickets for candidates b) Supply of question papers and answer sheets c) Remuneration of examiners d) Supply of letter of appointment to additional and chief Examiners. e) Conduct of centralised evaluation camps.	Exam cell
3.	The institute regularly contributes in forming of syllabus of the university	Subject Experts
INDUSTRY		
1.	The institute takes feedback from various industries for conducting add on courses.	Training & placement cell
2	Since industry is one of the stake holders, the	CAC and IQAC

	institute involves them in the formulation of vision, mission and PEO's.	
3.	The institute conducts industrial visits after interacting with the industries.	Departmental placement committee (DPC)
4.	The institute solicits employer feedback through employer survey.	DPC
5	The institute conducts talks from experts of various industries.	Training & placement cell
RESEARCH BODIES		
1	The institute encourages PG students for publication of journals.	Research & Consultancy cell
2	The institute has a various departmental associations with eminent professional bodies like IETE, CSI, ISTE	Research & Consultancy cell
3	The institute has subscribed to various online journals.	College Library

1.1.6 What are the contributions of the institution and/or its staff members to the development of the curriculum by the University? (number of staff members/departments represented on the Board of Studies ,student feedback, teacher feedback, stakeholder feedback provided, specific suggestions etc.

Sl.no:	Name of the faculty	Department	Contribution
1.	Prof.Asha Panicker	ECE	Chairman, PG , Kottayam cluster (KTU)
2.	Prof.Asha Panicker	ECE	Academic Auditor 2015-16 (KTU)
3.	Mrs.Binu Manohar	ECE	Liaison officer PG, Kottayam cluster (KTU)
4.	Mr.Ajit Joseph	ECE	Formation of syllabus M.G
5.	Mr.Sreeraj K P	ECE	Formation of syllabus M.G
6.	Mrs.Binu Manohar	ECE	Formation of syllabus M.G

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7.	Mr.Vinodh P Vijayan	CSE	Formation of syllabus M.G
8.	Mrs.Deepa Varghese	CE	Formation of syllabus M.G
9.	Mr.Aneesh K S	ME	Formation of syllabus M.G
10.	Mr. Aju Thomas	EEE	Formation of syllabus KTU
11.	Dr.Sibu C Chithran	MBA	Syllabus Revision MBA
12.	Mr. Siby James	MBA	Syllabus Revision MBA

List of faculty members on College Academic Council

Name of the Body	Members
College Academic Council	• Principal • Vice-Principal • HOD, Department of Electronics & Communications • HOD, Department of Electrical & Electronics Engineering • HOD, Department of Computer Science Engineering • HOD, Department of Mechanical Engineering • HOD, Department of Civil Engineering • HOD, Department of Management Studies

College Council	• Chairman • Mangalam Educational Society • Representative of Management • Principal • Vice-Principal • HOD, Department of Electronics & Communications Engineering • HOD, Department of Electrical & Electronics Engineering • HOD, Department of Computer Science Engineering • HOD, Department of Mechanical Engineering • HOD, Department of Civil Engineering • HOD, Department of Management Studies
IQAC	• Principal • Mr. Sreeraj K .P (Accreditation Co-ordinator) • Mr. Ajit Joseph (Department of ECE) • Mr. Vipin Mathew (Department of ME) • Mrs. Neethu Maria John (Department of CSE) • Mrs. Anu Mathew (Department of CE) • Mrs. Susan V Ninan (Department of EEE) • Mr. Siby James (Department Of Management Studies)

The student body of the institution (College Council) is formed every year through elections. The student council represents the institute in university level. The following are the activities/ contributions:

- University level elections
- Feedback to University
- Teacher feedback

Regular teacher feedbacks are obtained from students

1.1.7 Does the institution develop curriculum for any of the courses offered (other than those under the purview of the affiliating university) by it? If ‘yes’, give details on the process (‘Needs Assessment’, design, development and planning) and the courses for which the curriculum has been developed.

Mangalam college of engineering conducts add on courses based on the industrial and research requirements. Every department is free to contact the industries pertinent to their field and assess the need of conducting any particular course. The departmental advisory committee later assigns the design development and planning of the course to a course in charge selected from within the department. The quality assurance cells through regular feedbacks assess the quality of the course. We conduct the following course in the institution.

Course offered	Department	Course-in charge
Aptitude training	Institutional	Mr.Ajit Joseph
English and communication skill	Institutional	Alexander Saju
Advanced EDA Tools Training (PIC, EMBEDDED C & ORCAD)	ECE	Mr.Jinu Issac Kuruvila
Introduction to LaTeX	ECE	Mr.Sreeraj K P
Oracle Certification course	CSE	Ms.Neena Joseph Ms.Sujitha M, Ms.Divya S B, Ms Mitha Rachel Jose
Autocad	CE	Ms.Manjusha PK
Autocad	ME	Mr. Prakash T
Induction Programme for fresh MBA Admissions (1 Month Duration)	MBA	Mr. Siby James
Foundation Course on Finance &	MBA	Dr. Titto Varghese

Accounting		
Foundation Course on Management Science	MBA	Ms. Ashu Prakash
Foundation Course on Economics	MBA	Ms. Sony Stephen
Foundation Course on Legal Environment	MBA	Adv. (Dr.) Abraham Chettissery
Business and Industry Awareness	MBA	Ms. Tinta Baby
Live Case Analysis	MBA	Dr. Sibu C. Chithran

1.1.8 How does institution analyze/ensure that the stated objectives of curriculum are achieved in the course of implementation?

The institution has procedures to analyse and ensure the achievement of curriculum objectives. The following are those

a) Review of the course file

Before the start of every semester each course in charge submits their course file to their DAC for review. The DAC after reviewing provides feedback for improvement.

b) Mid semester feedback from course in charge and students

The DQAC takes feedback from teachers on the extent of syllabus coverage, the number of objectives achieved, the average and standard deviation of the learning calibre of the class and suggestions for changes to be incorporated.

The DQAC similarly takes the feedback from the students to analyse the extent of syllabus coverage, the speed of teaching, the number of objectives achieved and suggestions for changes to be incorporated.

c) Internal valuation

Each course in charge compiles the internal assessment marks and forwards it to the DAC.

d) Faculty feedback

The IQAC collects the end semester feedback and a consolidated report of the same is forwarded to DQAC and individual feedback is sent to each faculty.

e) Course end feedback and Course exit feedback

The DQAC also collects the Course end feedback from all students and course exit feedback from final year students, based on the feedback, the DQAC makes a consolidated report which is forwarded to IQAC. The IQAC discusses shortfalls in planning and suggests improvements.

f) University results

The course in charge maps the university results with the course outcome and evaluates its attainment.

1.2 Academic Flexibility

1.2.1 Specifying the goals and objectives give details of the certificate/diploma/skill development courses etc., offered by the institution.

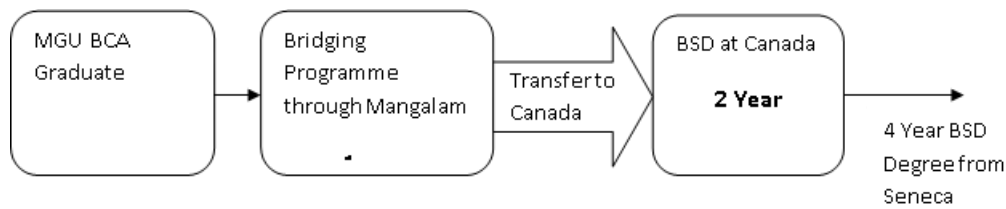
Course	Goals and objective	Course in charge
Aptitude training	• Clear entry level examinations of public/private sector. • Score high in entrance examinations of higher studies	Mr.Ajit Joseph
English communication skill	• Clear GD and interview rounds of public/private sector. • Clear GD and interview rounds of entrance examinations of higher studies	Mr. Alexander Saju
Advanced EDA Tools Training (PIC, EMBEDDED C & ORCAD)	• Learn about PIC controller and its programming using embedded C. • Study circuit design using ORCAD	Mr. Jinu Issac Kuruvila
LaTeX Tutorilals	• Gain knowledge in document preparation system for high-quality typesetting	Mr.Sreeraj K P
Oracle Certification course	• Specialize in areas that are relevant to day-to-day job and career goals. • Enhance competency, dedication	Ms.Neena Joseph

	and motivation that is valued in the highly competitive technology field.	
AutoCAD	• Develop design oriented skills	Mr.Prakash T
SSD(Soft Skills Development)	• Clear GD and interview rounds of public/private sector. • Clear GD and interview rounds of entrance examinations of higher studies	Ms. Malini Krishnakumar
Certificate Programme on MS-Excel	• To Know the fundamentals of Microsoft Excel • To Enable students to know more about data analysis using Excel	Ms. Demy Devassy
AutoCAD (Civil)	• To accure the skills pertinent to the production of properly detailed fprmmatted and dimensioned Civil Engineering drawing.	Ms. Manjusha P K
Lean Six-Sigma Green Belt Certification	• To Know the importance of Manufacturing systems • To know more about the universal benchmark on quality	Mr. Siby James

1.2.2 Does the institution offer programmes that facilitate twinning /dual degree? If‘yes’, give details.

Yes, the institution has signed MOU with Three foreign university to offer various twinning /dual degree programmes. The details of these universities are listed below

1. Seneca College, Canada- Mou for student and faculty exchange and there is a dual come twinning programme. The details are given in the diagram below.



2. James Cook university, Australia- Mou for student, faculty exchange and twinning programme with 2 +2 model.
3. Waiariki, New Zealand] Mou for student, faculty exchange and twinning programme.

1.2.3 Give details on the various institutional provisions with reference to academic flexibility and how it has been helpful to students in terms of skills development, academic mobility, progression to higher studies and improved potential for employability. Issues may cover the following and beyond:

- **Range of Core/Elective options offered by the University and those opted by the college**
- **Choice Based Credit System and range of subject options**
- **Courses offered in modular form**
- **Credit transfer and accumulation facility**
- **Lateral and vertical mobility within and across programmes and courses**
- **Enrichment courses**

Academic flexibility is important to institution to cater students of varied background and skills. The range of flexibility is limited by the University curriculum.

Range of Core/Elective options offered by the University and those opted by the college

Institute offers 5 four year BTech Programmes, 7 two year MTech programmes and 1 MBA. Each programme has mandatory core courses and a set of elective courses to choose on. Institute has no option to offer electives or courses beyond the prescribed curriculum of MG University & KTU.

Electives are chosen by the students after faculty members offer courses from the set of elective courses. Any elective requires a minimum of 20 students to be

conducted. Before the start of semester each department list out the electives offered and their course in-charges. The students are given time to give option to their class in-charge. The final student option list is given to the DAC which takes the final decision on the courses based on the number of students and availability of staff.

Choice Based Credit System and range of subject options

Under KTU every student has to register in all the courses during the first semester. For later semester every student has to register online for courses of their choice. For successful completion of B.Tech Degree every student has to obtain 180/182 credits. $182=180$ academic credits + 2 student activity credit. 2 student activity credits is not counted for CGPA. A total of 15 choice based credit is distributed in fifth to eighth semester. 10 credits are distributed for design project, seminar and project in the fifth, seventh and eighth semester respectively. Thus a total of 25 credits out of 180 (approximately 14%) is choice based credit system.

Accredited departments in institutions, having at least two post graduate programs may offer B. Tech (Honours). It should be noted that students with a CGPA above 8 at the end of the fourth semester and having no credit arrears only are eligible for this option. As only selected institutions may have this provision, students cannot demand this or move later to an institute where this is available. Students have to earn 12 additional credits to get B. Tech (Honours) over and above 180 (182). Further their CGPA at the end of the program should be 8.2 or higher. Those who opted for B. Tech (Honours) but unable to earn the required additional credits in 8 semesters or whose final CGPA is less than 8.2 shall automatically fall back to the B. Tech program. However additional credits thus far earned by them will be given in the grade card but not included for the CGPA.

Courses offered in modular form

- Under MG University all courses for BTech have 5 modules per course and MTech has 4 modules per course.
- Under KTU it is proposed that all courses for BTech have 6 modules per course and MTech has 6 modules per course.

Credit transfer and accumulation facility

MG University provides an option at the end of first year to migrate to other departments by transferring credits of the first year to new course. It also provides

option for lateral entry into third semester for students who have diploma certificate.

KTU may allow students to transfer credits for courses done at other Universities and academic institutions, as per the guide lines given by the Academic Committee and approved by the Board of Governors.

Enrichment courses

- Softskill development programmes
- Technical skill development programme
- Add on courses
- Regular industrial visits
- Entrepreneurship awareness programmes
- Industrial internships/ projects

1.2.4 Does the institution offer self-financed programmes? If 'yes', list the and indicate how they differ from other programmes, with reference to admission, curriculum, fee structure, teacher qualification, salary etc.

Yes, the institution offers only self-financed programmes.

BTech:

1. Civil Engineering
2. Mechanical Engineering
3. Electrical and Electronics Engineering
4. Electronics and Communication Engineering
5. Computer Science and Engineering

MTech:

1. Structural Engineering and Construction management
2. Industrial engineering and management
3. Power Electronics and Power Systems
4. VLSI and embedded systems (ECE)
5. Communication Engineering
6. Computer Science and Engineering
7. Networking Engineering

MBA:

Admission procedure:

Fifty percentages of seats are filled by state government based on the rank secured in all Kerala Entrance Examination. The policies regarding admission to these 50% seats are governed by state government rules.

Remaining 50% seats are filled by the management following state government rules and adopting procedures guaranteeing transparency and fairness in distribution of scholarship to eligible or economically weaker student.

Curriculum and fee structure

The curriculum for students admitted before 2015 is prescribed by M.G University, Kottayam and for students from 2015 admission is prescribed by Kerala Technological University.

The fee structure is as per the agreement reached between the state government and Institution management association.

Qualification of faculty members and salary

All the teachers are qualified and their salary is as per the norms of UGC/AICTE

1.2.5 Does the college provide additional skill oriented programmes, relevant to regional and global employment markets? If 'yes' provide details of such programme and the beneficiaries.

Yes, the college is sensitive in the regional and global employable market trends and conducts additional skill oriented programmes as listed below

Course offered	Level	Beneficiaries
Aptitude training	Third and final year students	Regional as well as global companies
English and communication skill	From first year onwards	Regional as well as global companies and higher educational institutions
Advanced EDA Tools Training (PIC, EMBEDDED C & ORCAD)	Third and final year students	Regional as well as global companies and higher educational institutions

LaTeX Tutorials	final year and PG students	Students, Regional as well as global companies and higher educational institutions
AutoCAD	Third and final year students	Students, Regional companies
Oracle Certification course	Third and final year students	Regional as well as global IT companies
Stock Market Trading	From first year onwards (MBA)	Regional as well as global companies
Consultancy Project with Kerala Police Department	Turnaround strategy for Better Marketing Campaign	All the stakeholders of the Kerala Police Department

1.2.6 Does the University provide for the flexibility of combining the conventional face-to-face and Distance Mode of Education for students to choose the courses/combination of their choice? If ‘yes’, how does the institution take advantage of such provision for the benefit of students?

No, M.G University & KTU does not have any distance mode of education for engineering students.

1.3 Curriculum Enrichment

1.3.1 Describe the efforts made by the institution to supplement the University’s Curriculum to ensure that the academic programmes and Institution’s goals and objectives are integrated?

Academic supplement

The institution instructs the faculty members to study the university curriculum and find out the gaps in it. The gaps are with respect to the institutional goals and objectives. The DAC is intimated in advance by the faculty of the efforts taken by them to fill these gaps and the support required if any.

Co-Curricular supplements

- Different departments organise expert lectures/invited talks for their students

- Different department organise their technical festival every year.
- Different departments offer courses which are required for skill development.

Extra-Curricular supplements

The university conducts youth festival where in the students from different colleges are invited to take part.

The institution conducts regular non-technical cultural events/management fests.

Some of these conducted during 2014-2015 academic year

Lectures/invited talks for the students

Sl.No	Name of Function	Resource Person	Target Audience	Date of Visit
1	Technical Speech in recent Trends in VLSI	Dr.M.K. Radhakrishnan Founder Director of NANOREL	B.Tech Final Year Students, M.Tech Students and Faculty	09/07/2015
2	Interdisciplinary Research Methodology - Fresh Perspective	Ms. Biji C. L, Research Scholar, Dept of Computational Biology & Bioinformatics,	B.Tech Final Year Students, M.Tech Students and Faculty	09/07/2015
3	System Level Design & Analysis of multistandard Sigma-Delta ADC for wireless transceivers	Dr. Babitha Roslind Jose, Assistant Professor, SOE, CUSAT	B.Tech Final Year Students, M.Tech Students and Faculty	10/07/2015
4	Introduction to Semiconductor Device Modeling	Dr. Jobymol Jacob, HOD, Dept. of EEE, College of Engineering	B.Tech Final Year Students, M.Tech Students and Faculty	10/07/2015

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		Cherthala		
5	Research prospects in Medical Image Processing & Optical Communication	Dr. Jayasree V K, HOD, Dept. of ECE, Model Engineering College	B.Tech Final Year Students, M.Tech Students and Faculty	10/07/2015
6	1 day Technical Speech on bio nano technology	Dr. Toru Maekawa, Professor, Toyo University of Japan	M.Tech Students and Faculty	12/08/2014
7	1 day Technical Talk on bio Nano Electronics (5/07/2014)	Dr. Jayan Thomas, Researcher, University of Central Florida, USA	B.Tech Final Year Students, M.Tech Students and Faculty	05/07/2014
8	1day Speech different phases in placement training	Prof. Varkey Philip, Professor, Placement Co-ordinator	B.Tech Final Year Students	19/06/2013
9	1day Technical Speech in Cloud Computing	Dr. Florain Schatz, Christian-Albrechts-University, Germany	M.Tech Students and Faculty	09/08/2012
10	Workshop on what industry demands from civil engineers	Mr. Bijoy Varghese, Leading Structural Consultant & Proprietor of Framez	Students and Faculty	03/01/2014

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		Technologies		
11	Workshop on construction automation	Mr.Bijoy Varghese, Leading Structural Consultant & Properator of Framez Technologies	Students and Faculty	17/01/2014
12	Workshop on building materials	Mr.Bijoy Varghese, Leading Structural Consultant & Properator of Framez Technologies	Students and Faculty	24/01/2014

Technical Fest

Sl.No	Technical Fest	Date Of Events
1	CODEVEDA 2015	11/08/2015 & 12/08/2015
2	REINFORCE 2015	17/1/2015
3	TORQUE 2015	4/07/2014 & 5/07/2014
4	ELEXPLODE 2015	11/08/2015

		& 12/08/2015
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Non-Technical Fest

S.No	Non-Technical Fest	Date Of Events
1.	SAARANG 2015	20/3/2016 & 21/3/2016
2	SAARANG 2014	20/03/2014 & 21/03/2014
3	SAARANG 2013	12/03/2013 & 13/03/2013

1.3.2 What are the efforts made by the institution to enrich and organize the curriculum to enhance the experiences of the students so as to cope with the needs of the dynamic employment market?

The institution believes in providing our students with experiences which would supplement them with employment scenario.

- Industrial visits
- GATE coaching classes
- PSU's
- Social service activities
- Paper presentation/Technical competition
- Technical courses/Add on courses

1.3.3 Enumerate the efforts made by the institution to integrate the cross cutting issue such as Gender, Climate Change, Environmental Education, Human Rights, ICT etc., into the curriculum?

The institution believes in the wholesome development of its students which

requires to also educate and sensitize them on issues such as gender, climate change, environmental education, human rights etc.

The following are programmes which are carried out for these

GENDER

- Women's grievance cell for readdressal of complaints
- All key post are properly distributed between male and female candidates
- All classes have a lady and gent as class in-charge

CLIMATE CHANGE AND ENVIRONMENTAL EDUCATION

- The institution follows the policy of construction with least destruction to environment.
- The institution educates students and visitors of the campus about environment and its impact on climate change through advertisement board spread throughout the campus.

HUMAN RIGHTS

- Anti-ragging cell takes classes informing against ragging
- Women's cell takes initiatives for a safe women campus
- Instructing students to produce skits on social issues as a special part of cultural programmes
- Classes on legal awareness

ICT

- Faculties are encouraged and supported to upload classes in websites.
- Assignments based on online resources
- NPTEL Video lectures
- Feedback based on online resources
- Encourage students to view articles/journals in digital format
- Open source softwares are encouraged

1.3.4 What are the various value-added courses/enrichment programmes offered to ensure holistic development of students?

- **moral and ethical values**
- **employable and life skills**
- **better career options**

- **community orientation**

MORAL AND ETHICAL VALUES

- Prayer hall in the campus
- Morning prayer song is played before classes
- Spiritual talks/ retreat conducted yearly
- There is blood bank set up for addressing emergencies
- Visit to old age homes, orphanages
- Value based message displayed throughout the campus
- Student development scholarship fund initiated by the staff
- Confiande Botique

EMPLOYABLE AND LIFE SKILLS

- Add on courses pertaining to technical skills
- Soft skill training
- Personality development lectures/ talks
- Entrepreneurship developmental programmes

BETTER CAREER OPTIONS

- GATE coaching
- Coaching for PSU's
- Industrial training/Internship
- Invited talks from personalities from different career spectrum

COMMUNITY ORIENTATION

- Compulsory Social Service
- Project Exhibition and technical awareness for local community
- Career orientation for school students.
- ICT and cyber training for school teachers.
- Science workshop for school teachers

1.3.5 Citing a few examples enumerate on the extent of use of the feed back from stakeholders in enriching the curriculum?

The institution understands the feedback process and takes it very seriously for improvement. Based on the feedback from stakeholders the following enrichment were done to curriculum

Enrichment	Recommended by	Implementation
1. GATE Coaching class	Students, Parents and teachers	Each department conducts the classes which are monitored by DAC.
2. Soft skill training	Industry	Based on the feedback from recruiters softskill training was made compulsory
3. Add on Courses	Students, Alumini & staff	The current skills are designed and imparted by each department
4. Social Activities	Management & University	Wider interaction with public around the campus

1.3.6 How does the institution monitor and evaluate the quality of its enrichment programmes?

The various enrichment programme carried by the institution is monitored time to time and evaluated for its impact

Enrichment Program	Monitored by	Evaluated by
Personality enhancement and Quantitative Aptitude	DAC	Placement cell
ELECTROCONNECT & MATHEMATICS	DAC	HOD
PIC, EMBEDDED C & ORCAD	DAC	HOD,ECE
ORACLE WDP for OCA &OCJA	DAC	HOD,CSE
Orientation Programme for	DAC	HOD, First

Fresher's		year
Technical fest	DAC	HOD
Aptitude training	DQAC	Placement cell

1.4 Feedback System

1.4.1 What are the contributions of the institution in the design and development of the curriculum prepared by the University?

The University designs and develops its curriculum. The following are the contributions made by different department of the institution in the design and development of the curriculum

Department	Course	Members appointed	Contribution
ECE	M.Tech in VLSI & Embedded System	Mrs.Binu Manohar	M.Tech KTU Scheme Formation
	M.Tech in Communication Engineering	Mr.Ajith Joseph & Mr.Sreeraj K P	M.Tech KTU Scheme Formation
CSE	B .Tech	Mr.Vinodh P Vijayan	M.Tech KTU Scheme & SyllabusFormation
CE	M.Tech in Structural Engineering&Constructi on Management	Mrs. DeepaVarghese	M.Tech KTU Scheme Formation
EEE	M.Tech in Power Electronics and Power Systems	Mr. Aju Thomas	Formation of Syllabus

ME	M.Tech Industrial Engineering & Management	Mr.Aneesh K S & Mr.Subin George	Course syllabus committee members and Draft Syllabus of 5 modules
MBA	MBA (Regular)	Dr. Siby C Chithran & Mr. Siby James	Modules were given for around 30 Subjects of the MBA Curriculum which was accepted by the university

1.4.2 Is there a formal mechanism to obtain feed back from students and stakeholders on Curriculum? If ‘yes’, how is it communicated to the University and made use internally for curriculum enrichment and introducing changes/new programmes?

There is a formal mechanism to obtain written feedback from students and industry and verbal feedback from other stake holders like parents and alumni. The final recommendations with the feedback that initiated them is finally discussed with university authorities during syllabus discussions, principal meet etc..The following changes were introduced based on feedback base.

Current state after changes	Feedback from	Previous state
Simulation Experiments are also included in labs	Students	No simulation experiments
Included ICT for Course delivery	Students	Minimum use of ICT tools
Introduced Communication skill improvement classes	Parents	No classes for improving communication skills of the students
Introduced Gate coaching	Alumni	No Gate coaching classes

1.4.3 How many new programmes/courses were introduced by the institution during the

last four years? What was the rationale for introducing new courses/programmes?

No:	Year	Detail	Scheme	intake
1	2013	Communication Engineering	M Tech, As per MG/ KTU Scheme	18
2	2012	M.Tech in Computer Science Engineering	As per MG/ KTU Scheme	18
3	2014	Structural Engineering and construction management	M Tech, As per MG/ KTU Scheme	18
4	2012	Power Electronics and Power Systems	M Tech, As per MG/ KTU Scheme	18

CRITERION II: TEACHING - LEARNING AND EVALUATION

2.1 Student Enrollment and Profile

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

The admission cell at Institution carries admission to all courses as per the eligibility criteria and rules and regulations of the Government of Kerala, MG University guide lines and AICTE norms. 50% of the seats were allotted by the Government through an KEAM Entrance test and remaining 50% by the management by forming a Rank list based on PCM marks and personal interview. For M.Tech 50% of the seats are allotted by DTE based on GATE ranklist and B.Tech CGPA. For MBA candidates are asked to furnish their score for C-MAT, K-MAT, MAT, CAT. Eligibility for gaining admission is 50% mark in degree exams. The qualification is relaxed for OBC (47%) and SC/SCT (45%). Shortlisted candidate are admitted based on group discussions and interviews. Publicity is ensured in our admission process through the following means.

Sl. No.	Medium of publicity	Time
1	Newspaper/Magazine advertisements	During Admission season
2	Website	All through the year
3	Controller of Entrance examination website	During Admission season
4	University website	All through the year
5	Brochures and fliers	During Admission season
6	Career guidance workshop (BEACON)	In the month of May
7	Conduct of educational fairs	All through the year
8	Social Media	All through the year
9	Advertisement boards in strategic locations	During Admission season

Transparency in admission process is ensured through a clear process outlined below:

- The Admission Cell receives application from candidates in distinct batches distributed in time.

- b. After the last date of the Batch-I applicants, the Admission Cell schedules immediate dates for counselling and Interview sessions for all applicants up till that date.
- c. After Counselling, based on PCM result and personal interview a merit list for Batch-I is published and immediate admission is done based on this merit list.
- d. If all seats are not filled, a Batch-II list is prepared consisting of applicants who filed after the last date of the batch-I applicants.
- e. The same procedure that is followed for the previous batch is followed for this batch too.
- f. This process is repeated until the government stops the admission to all its seats and the students no longer switch seats to better options.

2.1.2 Explain in detail the criteria adopted and process of admission (Ex. (i) merit (ii) common admission test conducted by state agencies and national agencies (iii) combination of merit and entrance test or merit, entrance test and interview (iv) any other) to various programmes of the Institution.

All state government rules and regulations are followed for all the admission at MCE. The different criteria adopted are listed in the table below.

B-Tech.:

- 1. 50% seats (General Merit) are filled as per the / State Government norms through CAP (Centralized Admission Process) and the rank list is published in the Government website.
- 2. 50 % seats consist of Community and Management Quota which is filled as per the College policy of inclusion and merit based admission. Merit is based on KEAM entrance (State.)

M-Tech.:

- 1. M. Tech admission is based on marks of Qualifying Examinations, GATE score./DTE Rank list and Btech aggregate percentage.

MBA

MBA candidates are asked to furnish their score for C-MAT, K-MAT, MAT, CAT. Eligibility for gaining admission is 50% mark in degree exams. The qualification is relaxed for OBC (47%) and SC/SCT (45%). Shortlisted candidate are admitted based on group discussions and interviews

2.1.3 Give the minimum and maximum percentage of marks for admission at entry level for each of the programmes offered by the college and provide a comparison with other colleges of the affiliating university within the city/district.

Admissions 2015:

UG Programmes

Programmes	Category	Government Seats (50%)		Management seats (50%)	
Computer Science Engineering		First rank	Last Rank	Minimum Marks (XIIth)	Maximum Marks (XIIth)
	General	21111	55728	60	92
	OBC	-	-	70	89
	SC/ST	0	0	0	0
Civil Engineering		First rank	Last Rank	Minimum Marks (XIIth)	Maximum Marks (XIIth)
	General	14705	48180	58	90.8
	OBC	21039	50905	55.6	92.4
	SC/ST	42921	57080	52.16	74
Electrical and Electronics Engineering		First rank	Last Rank	Minimum Marks (XIIth)	Maximum Marks (XIIth)
	General	16066	55113	65	82
	OBC	44647	-	64	71
Electronics and Communication Engineering		First rank	Last Rank	Minimum Marks (XIIth)	Maximum Marks (XIIth)
	General	15436	54171	92	70
	OBC	37945	55018	85	75
Mechanical Engineering		First rank	Last Rank	Minimum Marks (XIIth)	Maximum Marks (XIIth)
	General	8304	51654	61	95

	OBC	33041	57011	71	88

2.1.4 Is there a mechanism in the institution to review the admission process and student profiles annually? If 'yes' what is the outcome of such an effort and how has it contributed to the improvement of the process?

Yes. The college reviews the admission process and Student profiles every year after the admission. The reasons for the same and the outcomes of such an effort are detailed in the table below.

Process reviewed	Targeted data	Outcomes based on analysis
Admission Process	Geographical spread of applicants.	More aggressive campaigning in the weaker response geographical areas.
	How did the candidates know about the college and programmes?	Best mode of publicity is understood and more attention is given to that mode.
	Number of total applicants in each stage of the admission process.	Streamline the whole process to increase the number of students at each stage.
	Number of applicants in each programme.	Understanding the trends of choice of the applicants.
Admitted student Profile	Entrance Rank distribution of the finally admitted students.	Gives us an idea of the academic level of the students admitted each year.
	PCM score of the final year students.	Gives us an idea of the academic level of the

		students admitted each year
	• Loan availed for fees or not.	Helps us to understand the number of financially weaker students.
	• Medium of studies of the applicants. (English or Malayalam)	Prepare the training of the students in a better manner.

2.1.5 Reflecting on the strategies adopted to increase/improve access for following categories of students, enumerate on how the admission policy of the institution and its student profiles demonstrate/reflect the National commitment to diversity and inclusion

The Admission Policy of the institution shares the National and State commitment to equity, inclusion and diversity in all programmes. Some of the policies followed every year for each category is mentioned below:

Admission Policies for SC/ST/OBC students

Access for SC/ST/ OBC students:

- a) As per the Government norms 10 % of the total seats are reserved for students belonging to SC/ST community. Unfilled vacancies, if any, are repeatedly published in newspapers to attract such students
- b) Fee concession as per Kumara Pillai Commission Report (KPCR) of the State Government is provided to OBC students.
- c) Book bank facility is provided for SC/ST students.
- d) Fee reimbursement is given by the state government to the SC/ST students.
- e) SC/ST candidates are eligible for admission, if they have minimum pass marks in the qualifying examination for all UG and PG programmes.
- f) Fees for students belonging to SC/ST category is paid by Government of Kerala, including boarding, lodging and for examinations.

Admission Policies for Women

Kerala has a healthy Male to Female ratio hence no distinction is made between men and women for admission to various courses offered by the college. But women are encouraged to join programmes which have traditionally shown less women applicants.

Policies for the benefit Differently abled

- a) Special equipment and furniture are provided to differently abled students on need basis.
- b) Seats in college buses are reserved for such students upon request.
- c) Special care and counselling are offered.
- d) The college has instituted endowment for differently abled students.
- e) Extended time for examination and provision of scribe and peer escort.

Admissions for Economically Weaker Sections

- a) Endowments and scholarships provided based on merit.
- b) Hostel and mess fee concession.
- c) Tuition Fee waiver for economically challenged.
- d) Extra Book lending Facility.
- e) Reduced rate for Photostats for economically weaker students on special request.
- f) Free books and study materials.

Admissions for Minority Community

Since we are a college serving a Minority community,

- a) 40% of the seats is reserved for students from minority community
- b) They are provided with scholarships and endowments.

Other Access offering Initiatives

Other Initiatives

- a) Free education to students admitted in sports quota.
- b) Financial assistance to deserving students for higher studies.
- c) Students who secure top ranks in the CEE list are provided fee concessions, free food and accommodation, including hostel facility.
- d) Tuition Fee waiver / Government fees to high ranking students.

Year	of	Programmes	Categories(in Percentage)
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Admission		SC /ST	OBC	Women	Differently Abled	Economically Weaker	Minority
2013-2014	B.Tech	3.59	33	51.76	Nil		45.06
	M.Tech		33.3	83.3	Nil	13.43	47.76
	MBA	6	9	54	Nil	4	38
2014-2015	B.Tech	5.51	40.47	46.45	Nil	19	47.61
	M.Tech		33	100	Nil	16.67	33.33
	MBA	4	10	51	Nil	2	44
2015-2016	B.Tech	1	33	23	Nil	35.29	52
	M.Tech	Nil	Nil	100	Nil	Nil	Nil
	M.Tech	0	5.55	5.55	Nil	77.77	16.67
	MBA	5	7	62	Nil	5	49

2.1.6 Provide the following details for various programmes offered by the institution during the last four years and comment on the trends. i.e. reasons for increase / decrease and actions initiated for improvement.

Programmes	Year of Admission	Number of applications	Number of students admitted	Demand Ratio	Reasons
UG					
ECE	2015-2016	52	51	1:1	• Increase of number of newer institutions in the state.
	2014-2015	49	49	1:1	
	2013-2014	88	88	1:1	
	2012-2013	119	119	1:1	
CSE	2014-2015	70	61	1.1:1	• Increase in number of applicants in Mechanical
	2013-2014	106	90	1.2:1	
	2012-2013	75	65	1.2:1	
	2011-2012	130	105	1.2:1	
CE	2015-2016	120	106	1.2:1	

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	2014-2015	147	124	1.1:1	and Civil Engineering Programmes. • Increase in the Arts and Applied scienceprogrammes in the state.
	2013-2014	130	120	1.1:1	
	2012-2013	70	60	1.2:1	
EEE	2015-2016	36	29	1.2:1	
	2014-2015	45	37	1.2:1	
	2013-2014	55	36	1.5:1	
	2012-2013	70	45	1.5:1	
ME	2015-2016	153	120	1.3:1	
	2014-2015	147	132	1.1:1	
	2013-2014	136	132	1:1	
	2012-2013	139	132	1:1	
PG (M.Tech)					
ECE					• Increase of number of institutions offering M.Tech programme. • Delay in result announcement
	2015-2016	1	1	1:1	
	2014-2015	6	6	1:1	
	2013-2014	18	18	1:1	
	2012-2013	18	18	1:1	
CSE					
	2014-2015	20	13	1.5:1	
	2013-2014	45	18	2.5:1	
	2012-2013	40	17	2.4:1	
	2015-2016	15	4	3.8:1	
CE					
	2014-15	10	7	1.4:1	
	2015-16	18	14	1.3:1	
EEE					
	2015-2016	3	1	3:1	
	2014-2015	10	7	1.4:1	
	2013-2014	25	17	1.4:1	
	2012-2013	42	18	2.3:1	
ME					
	2015-2016	3	1	3:1	
	2014-2015	6	3	2:1	

	2013-2014	25	13	2:1	
	2012-2013	42	18	2.3:1	
MBA					
MBA	2012-2013	163	120	1.4:1	
	2013-2014	126	80	1.6:1	
	2014-2015	140	97	1.4:1	
	2015-2016	138	95	1.5:1	

2.2 Catering to Student Diversity

2.2.1 How does the institution cater to the needs of differently-abled students and ensure adherence to government policies in this regard?

The College follows State Government Rules for admission to the differently-abled students. Additionally we have following policies for differently –abled students:

- a) Special equipment and furniture are provided to differently abled students on need basis.
- b) Seats in college buses are reserved for such students upon request.
- c) Special care and counselling are offered.
- d) The college has instituted endowment for differently abled students.
- e) Lift facility is available.
- f) Wheel chair facility.
- g) Relaxation in fees and eligibility criteria is provided for differently- abled students in the college.
- h) Reduction of fee on request.
- i) Special room during the examination time.
- j) Barrier free campus for differently able students.

2.2.2 Does the institution assess the students' needs in terms of knowledge and skills before the commencement of the programme? If 'yes', give details on the process.

Yes. For an effective conduct of the course it is imperative to understand the analytical, logical and creative skill of every student. The Institute encourages diversity by recognizing it as a necessity for fostering mutual respect and creative freedom. The

following are the assessment done by the college:

For UG programme:

Analytical, logical and creative skill Test

Tests the analytical, logical and creative quotient of each student.

Test of English Usage

Tests the students on their skill of usage of English as a medium of communication, orally and written.

Test of Knowledge Gaps

This test conducts a comprehensive exam on the three subjects, Physics, chemistry and Maths. Based on these courses a remedial class is given to students who have substantial gaps in their basic science knowledge. A final test reveals the success of the remedial classes.

The scores of these tests are recorded in the student information sheet which can be accessed by and faculty engaging different courses during the students four year programme.

2.2.3 What are the strategies adopted by the institution to bridge the knowledge gap of the enrolled students (Bridge/Remedial/ Add-on/Enrichment Courses, etc.) to enable them to cope with the programme of their choice?

Since the college admits students from diverse backgrounds different departments conducts an assessment of the students in each programme before the commencement of the third semester. Mentorship and Remedial classes for weak students are conducted in the first week of classes.

Bridge courses are conducted for lateral entry students.

A motivational and career counseling session is also organized in each department to plan their career through the different aspects of the programme.

A one day program for UG & PG students and parents sensitising them on the University and Institutional process is conducted. The students and parents are provided with full information on the following:

- a) Content of the course.
- b) Study needs.
- c) Credit based system.
- d) Examination pattern.
- e) Internal assessment system.
- f) Placement training.
- g) Discipline code of the college.
- h) Anti-ragging policies of the institution.
- i) Introduction to the facilities in the college campus.
- j) Importance of Parent-Teacher meetings and interactions.
- k) Stress on importance of community living.

A final feedback from the parents and teachers is also taken to further enrich the programme next year. Regular feedback is taken from the students by the course in-charges to evolve their course conduct process.

2.2.4 How does the college sensitize its staff and students on issues such as gender, inclusion, environment etc.?

The college recognise equal right of both gender of staff or student. There is no gender biasness in case of any admission or recruitment process. The college believes in providing equal opportunities to both male and female staff and students. Responsibilities are divided equally among them.

A women's empowerment cell is functioning in the college. They address the issues related to women staff and students. Extensive programmes are charted throughout the year for gender sensitization. The cell informs all the students about the Vishakha guidelines as a part of their professional development. This cell also deals with guidance and counselling of women students.

Celebration of Major festivals in the campus imbibes a sense of inclusive attitude in the students and staff of the school.

In line with Supreme Court directions the measures taken by the University and college to prevent ragging in Campus is particularly highlighted during the orientation program.

The College organizes frequent talks on wide ranging issues like Climate Change, Biodiversity, Energy conservation, and Environment.

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

The institution always tries to cater to the needs of advanced learners. They are personally recommended to industry or research centres for training and internships. learners are encouraged to additional projects which will be send for various competitions, exhibitions etc..The library is well equipped with reference textbooks to augment the learning tools for advanced learners. Advanced learners who display an aptitude for research and advanced technology are introduced to topics beyond syllabus by attending conferences and workshops.They are encouraged to appear for GATE examinations and take up higher studies/Research.

2.2.6 How does the institute collect, analyze and use the data and information on the academic performance (through the programme duration) of the students at risk of drop out (students from the disadvantaged sections of society, physicallychallenged, slow learners, economically weaker sections etc. who may discontinue their studies if some sort of support is not provided)?

The student information management system of the institute (Procampuz) contains all the information, data related to student attendance,internal evaluation, University results and other demographic data.

The institution regularly collects the following data about the students

1. Daily attendance, consolidated weekly attendance and monthly attendance report to HOD.
2. Performance of each student in assignment test, series test and model exam.
3. Submission of assignments.
4. Involvement in extra curricular and co-curricular activities
5. Feedback from subject teachers.

These data give a fair picture of students involvement and diligence in completion of curriculum. These data can clearly give the information of students in the risk of drop out. Once the list of students is prepared the HOD, class teacher, the student and his /her mentor discuss the issue and one of the following is advised based on the initial

findings.

The following are the methods advised

1. Academic support

The student may be asked to attend remedial classes, extra tutorial sections or special home assignments. These are generally advised to slow learners or students who belong to academically weaker background

2. Counseling session

These are advised to students who require a psychological support. They are referred to college counselor who may call the parents also for joint session. If a teacher is found to be too harsh to students he/ she will be advised for counseling session.

3. Financial support

Many a times, drop out results due to economic constraints. This may happen because of

1. Discontinuance of loan due to various reasons.
2. Sudden death of earning member of family
3. Sudden financial breakdown of the family

Based on the nature of the problem financial support or career guidance may be provided by the college through Mangalam educational society

2.3 Teaching-Learning Process

2.3.1 How does the college plan and organize the teaching, learning and evaluation schedules? (Academic calendar, teaching plan, evaluation blue print, etc.)

Every year or every semester follows an academic calendar which is prepared by the CAC. The calendar details each and every important occasion and exams which help the teachers, students and parents to properly plan their activities according to this academic calendar. Since all the departments in the college function according to this calendar every work is synchronized.

Every faculty is supposed to plan and come up with a documented course plan which is verified by the DAC. The faculty members produce a course plan and tutorial plan which has objectives which align to the institutional objectives. The course and tutorial plan are distributed to the students in advance. This includes details of topic to

be taken, the teaching aids that would be used and the duration or number of hours required to complete each module.

Evaluation:

At the end of each semester/ year every department convenes a meeting to review the activities undertaken and the critical analysis of the same is carried out to identify the gaps. Based on these findings and suggestions the minutes of the meeting are prepared and a copy of the same is forwarded to IQAC. The IQAC may choose to give valuable suggestions to the DAC. The department also gets the feedback from the students which is also forwarded to the IQAC.

Student evaluation

The performance of each student is evaluated in various categories like theoretical subjects, laboratories, seminars and projects are done based on the instructions issued from DAC & DQAC. As the internal evaluation scheme is prescribed by the affiliating University the academic freedom for changing internal evaluation method is minimum.

The outcome of each course is also evaluated from the final result. Other than this the department also conducts regular remedial and enrichment courses, bridge courses, training for placement etc

2.3.2 How does IQAC contribute to improve the teaching –learning process?

IQAC helps in the evaluation of various processes and their outcomes to ensure that they achieve the required bench mark. The various processes carried out by IQAC to improve the teaching learning process as a whole are

1. Evaluation of course plan
2. Feedback process
3. Evaluation of the achievement of institutional objectives.
4. Planning and execution of staff quality improvement programme.
5. Periodical review of the documentation process.

2.3.3 How is learning made more student-centric? Give details on the support structures and systems available for teachers to develop skills like interactive learning, Collaborative learning and independent learning among the students?

The very purpose of teaching learning processes to become more student centric. All the system in teaching learning process are directed towards a student centric approach. The college provides many infrastructural and intellectual supports to

teachers to develop teaching learning systems which are more and more student centric. Some of the recent additions to teaching learning process which were done with aim of being more student centric are as follows.

1. Development of lecture videos for the labs
2. Sharing of information to students through common platforms like “My Haiku”.
3. Recruiting good students from PG for collaborative learning.
4. Study rooms for students for learning in disturbance free environment.

The college tries to put an environment which supports interactive learning where in each student can privately discuss with teachers in special environment which aids the teaching learning process. To support the independent learner that is present in each and every student more internet hours are included in the curriculum. More internet browsing opportunities and infrastructure is provided to students. Access to journals and research material is made available to students for independent learning. Many a group activities are included in curriculum to improve collaborative learning process. This is done with a view for being more students centric. The different infrastructural facilities available for these are listed as

1. 24x7 internet access, Wi-Fi connectivity.
2. Tutorial rooms and lecture halls with audio-visual aids
3. Special rooms for teachers to develop video lectures.
4. Conference room, digital theatre and seminar halls for conducting group activities.
5. Availability of online journals and books in library

2.3.4 How does the institution nurture critical thinking, creativity and scientific temper among the students to transform them into life-long learners and innovators?

Any education is incomplete without the student gaining qualities like critical thinking, creative solutions and scientific temper. The institution realizes that such qualities are needed in students to be highly placed in the society. Several strategies are already present in teaching learning process which aid for nurturing the critical thinking, creative solutions and scientific temper among the students. Some of these are listed below:

1. Each course in- charge tries to incorporate group discussions and seminar within the classroom to encourage and enrich students critical thinking. The laboratory courses also consist of topics which focuss on social welfare and discussed upon with the help of group discussions, seminars etc. which help in nurturing the critical thinking of the student.

2. The creativity is most seen in activities of students relating to laboratory courses , mini project and main project .The students are encouraged to come up with original ideas in these avenues and are rewarded for ideas which are innovative and creatively arrived at. Multiple solutions to problems to be more creative. The students are encouraged to conduct exhibitions and cultural fest which can cater to the creativity manifestation of each and every student. The students are also exposed to national level competitions to evaluate their creative levels by showcasing their projects and seminars.
3. The students are encouraged to regularly update their knowledge by going through technical journals and magazines present in the library. Regular discussions are carried out on recent scientific break throughs which nurtures a kind of scientific temper among the students. The students are also encouraged to publish their scientific findings in journals or conferences.

2.3.5 What are the technologies and facilities available and used by the faculty for effective teaching? Eg: Virtual laboratories, e-learning - resources from National Programme on Technology Enhanced Learning (NPTEL) and National Mission on Education through Information and Communication Technology (NME-ICT), open educational resources, mobile education, etc.

The institution believes that the technology can enhance the teaching learning process. Based on this the following are the different technologies and facilities available and used by faculty for effective teaching.

- All classrooms have modern multi-media teaching aids like LCD projectors and WIFI internet.
- NPTEL and MIT videos are made available to students for enhanced learning.
- Availability of E-journals for research work.
- Networked computer labs containing state of the art simulation software's.
- Digital student management system.
- Training on ICT and virtual Lab.
- Training on NME-ICT by NITTR, Chennai.

2.3.6 How are the students and faculty exposed to advanced level of knowledge and skills (blended learning, expert , seminars, workshops etc.)?

Exposure of students and faculty to advance level of knowledge and skill is required to give them a global perspective. For this the institution encourages the departments to conduct regular workshops, special lectures, expert talks and skill-based

courses. The faculty members are required to attend the FDP programmes in subjects of their choice. The college encourages and organizes national level fest to help the student and faculties to understand the national trends

2.3.7 Detail (process and the number of students \benefitted) on the academic, personal and psycho-social support and guidance services (professional counseling/mentoring/academic advise) provided to students?

Department	No: of students			
	Academic counselling	Personal counselling	psycho-social support and	Career guidance
ECE	20	30	2	80
CSE	27	20	4	104
EEE	24	12	-	40
CE	20	15	-	40
ME	23	10	2	45
MBA	26	100	7	15

2.3.8 Provide details of innovative teaching approaches/methods adopted by the faculty during the last four years? What are the efforts made by the institution to encourage the faulty to adopt new and innovative approaches and the impact of such innovative practices on student learning?

Department	Innovative teaching approaches adopted	Batch of students
ECE	• Providing Video lectures to Students • Using analogy for explaining new concepts • By reversing the role of student to that of a teacher • Introducing Practical Design Experience in Classrooms for HDL classes • Using of software tools • Using learning management systems like “My Haiku”. By question-and-answer method, drawing students into active participation in teaching and	PG VLSI & ES Students PG Communication Engineering Students

	learning processes	
CSE	• 10-15min Question and answer session at beginning of each hour • Remedy for weak students • Open book Test • Black Board Teaching • Power Point Presentation • Student Motivation • Encourage and train students to participate in GATE exams . • Google Drive for sharing learning materials. • Google Forms for student feedback	2014-2015 2013-2014 2012-2013
CE	• Power Point Presentations • Video lectures to Students • Preparation of Models various structures, • Conducting Exhibition to explore student skills, • Conducting Technical Quiz. • Student Motivation	Btech 2014-2015 2013-2014 2012-2013
EEE	• Simulations using MATLAB and Conducting Technical Quiz. • Power Point Presentations	2012-2014 M.Tech Batch 2012-2016 B.Tech Batch
MBA	1. Interactive learning 2. Classes are supported by LCD presentation and Audio-Visual Aids 3. Case Study approach 4. Bridge Courses 5. Industry-institute interface 6. Outbound training	200 MBA students in two batches (100 Each)

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2.3.9 How are library resources used to augment the teaching- learning process?

Mangalam College of Engineering believes in developing a good library and maintaining it for the good of the students. Each student is given 3 library cards to issue three different books per semester. If they want to get more books they will have to replace the book they are already having. The library consists of three sections. Other than the Central Library each department consists of departmental library.

1. The borrowing section
2. The reference section
3. The online journal section.

Some of the very good practices followed in college library are as follows.

1. The college provides information about the recent books purchased in the library for the benefit of students and faculty.
2. The catalogues of different publishers are made available in the library for purchasing new books with the help of students and faculty.
3. The faculty encourage students to borrow multiple books and try to solve different kinds of problem in them.
4. The college library provides book to different departmental libraries so that students may not have to travel all the way to library to borrow books. These books can be referred for quick references.

Some of the features of the library which is used as resource for teaching learning process are listed below.

1. Computer resources centre which facilitate the access of E-journals.
2. The college library has a spacious reading room.(252m²)
3. The library has got a collection 26586 volumes consisting of 5634 titles in different domains of science and technology
4. Extended library hours for convenient of students.
5. Library hours are allocated to UG and PG students in their regular timetable.
6. Library referencing is mandatory for student reference in their projects, assignments and seminars.

2.3.10 Does the institution face any challenges in completing the curriculum within the planned time frame and calendar? If 'yes', elaborate on the challenges encountered and the institutional approaches to overcome these.

Due to several reasons beyond the control of the Institute we face the situation wherein the stipulated time for completion of the curriculum within the semester turns out to be a challenge. Some of these reasons are:

1. Frequent hartals declared in the state affect the number of working days.
2. The M.G University does not account to many activities to be incorporated in the curriculum that are otherwise being suggested by good technical institution /higher authority.
3. Due to seasonal activities like heavy rains the state declares holidays for states and colleges because of which the number of working days is reduced.
4. Because of these reasons the institution face problem in completing the curriculum within the time frame planned.

The college overcomes these challenges by following methods:

1. The teachers are encouraged to conduct extra classes during extra hours for students.
2. Teachers are encouraged to use LMS to share lectures, videos so that the students may find that the curriculum is completed on time. With these practices the college is able to complete the curriculum within time.

2.3.11 How does the institute monitor and evaluate the quality of teaching learning?

The teaching learning process and its evaluation that is followed in Mangalam College of Engineering is described below in steps:

1. At the start of every semester subjects are chosen by faculty members and decided finally by DAC for each and every semester.
2. A course plan is prepared by individual faculty members which is later checked by the DAC.
3. The detailed course plan is forwarded to the DQAC for their recommendations.
4. The course plan is presented to the students and the assessment scheme is discussed in the class.
5. The course plan is adhere to by the faculty members and the DAC monitors its progress through the mid-term feedbacks.
6. The IQAC through finally conducts the final feedback at the end of every

semester and the feedback is given to the teachers for further improvement.

For monitoring of these process the following activities are carried out:

1. The class teacher, DAC and DQAC ensure that the course plan is according to the calendar prepared.
2. The IQAC organises feedbacks for the the academic audit.
3. The learning outcomes achieved is assessed through internal evaluation and the results are discussed in the meetings of the department.
4. Adequate training is provided to every teacher to deal with the problems arising in the course finished.

2.4 Teacher Quality

2.4.1 Provide the following details and elaborate on the strategies adopted by the college in planning and management (recruitment and retention) of its human resource (qualified and competent teachers) to meet the changing requirements of the curriculum

The college follows the following strategies for induction and retention of qualified and competent teachers.

Induction:

Recruitment policy

- Vacancies whenever arise are filled by first publishing an advertisement in leading daily newspapers and college websites.
- The recruitments is carried out as per the norms of the state and central government and other regulatory agencies.
- The candidate is shortlisted based on the marks scored and the experience until now
- Preference is given to candidates having GATE qualification.
- The candidate is interviewed by a panel consisting of principal, HOD and senior faculty from the corresponding department.
- Appointments are done purely based on the vacancy available for a particular stream and purely based on merit.
- The salary package is based on the norms laid down by of the state and central government and other regulatory agencies.

Induction policy:

- The candidate who is selected by the interview board is interviewed finally by the

director board and given the instructions on the aim and vision of the college.

- The newly inducted faculty is given a thorough understanding of the HR policies followed by the institution.
- The newly inducted faculty are given an induction training to make them understand the policies and norms that are followed in the college.

Retention

Retention strategies

- The salary scale of the faculty is based on the basics laid down by the 6th pay commission and some of the suggestions of the state government.
- The institution provides a friendly and supportive environment for every faculty which is free of bias.
- Every faculty is provided equal opportunity for rising up in the administrative ranks as well as for pursuing research of their interest.
- All the faculties are encouraged to opt for higher studies while they are working in the college.
- Vehicle facilities are provided for HOD's and principals for ease of movement.
- Accommodation purpose is provided for unmarried men and women in the boys and girls hostel within the campus.

Recruitment of highly educated faculty members

The policy adopted:

- The college is always in search for competent highly qualified faculty with good research and industrial experience to augment the departments.
- The college believes in being in network with good eminent academicians to search for these kind of faculties.
- These competent highly qualified faculties are recruited irrespective of vacancies that are generated in the college.
- They are provided with enough facilities and good salary packages and are given opportunity to train the junior faculties of each department.
- They are encouraged to change the character of the department based on the recent requirement of the curriculum put forward by the university.

Highest	Professor	Associate Professor	Assistant Professor	Total
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qualification	Male	Female	Male	Female	Male	Female	
Permanent teachers							
D.Sc./D.Litt.							
Ph.D.	2	1	0	0	0	0	
M.Phil.	0	0	0	0	0	0	
PG	2	1	9	6	48	91	157
Temporary teachers							
Ph.D.							
M.Phil.							
PG							
Part-time teachers							
Ph.D.	2						2
M.Phil.		1					1

2.4.2 How does the institution cope with the growing demand/ scarcity of qualified senior faculty to teach new programmes/ modern areas (emerging areas) of study being introduced (Biotechnology, IT, Bioinformatics etc.)? Provide details on the efforts made by the institution in this direction and the outcome during the last three years.

The following are the strategies taken by the institution to cope with the growing demand of qualified senior faculty in new programmes being introduced in the university:

1. The institution is always on the lookout for faculty members who are trained in the recent topics or emerging areas prescribed by the university. These faculties are taken even though there is a special requirement in the college.
2. Whenever new courses are introduced by the faculty university used to conduct FDP/Workshops at Central/Zonal level in which senior faculties are nominated based on their expertise.
3. All the faculties are encouraged to divert into areas that are new in their respective field.
4. Special lectures are organised by eminent scientist and academicians in the recent emerging areas.
5. The institution documents the recent research conducted by the college in a conference preceding which details the recent advances in various fields of engineering.

2.4.3 Providing details on staff development programmes during the last four years elaborate on the strategies adopted by the institution in enhancing the teacher

quality.

The detailsof nomination to staff development programmes are as follows:

Academic Staff Development Programmes	Number of faculty nominated
Refresher courses	16
HRD programmes	11
Orientation programmes	34
Staff training conducted by the university	73
Staff training conducted by other institutions	18
Summer/winterschools,workshops,etc.	8

Various Faculty Training programmes organized by the institution to empower and enable the use of various tools and technology for improved teaching-learning are listed below

Year	Name of the Event	Organizing Body	Dates	Remarks
2016	Concepts coaching	MLMCE & ICT	4 th Janto 6 th Jan	Conducted by Computer Science Department
2015	Use of NMEICT & other E-Learning Resources for classroom teaching	NITTR	1 st June to 6 th June	Conducted by Computer Science Department
2015	A one day workshop on 'Network Simulation with NS2'	MLMCE	2 nd Feb	Conducted by Computer Science Department
2015	Familiarizing with IEEE Xplore, conferences, transactions, Presentations	MLMCE	15 th March	Conducted by Computer Science Department
2015	A Work shop on MS-Excel	MBA Department	26 th October	Conducted by MBA
2015	A Seminar on Environmental Protection	BPCL-Cochin Refinery	11 th April	Conducted as part of the Encon Club, MBA
2015	2 day FDP on "Innovative Research ideas in multidisciplinary areas"	MLMCE	9 th & 10 th July	Conducted by ECE Department
2015	Technical upgradation and skill development	MLMCE	27 th to 29 th May	Conducted by ECE Department

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	programme for laboratory instructors			
2015	Graphical System Design in Engineering Applications	MLMCE	15 th & 16 th December	Conducted by ECE Department
2014	Workshop on LaTeX	MLMCE	5 th Oct	Conducted by Computer Science Department
2014	A Workshop on Stock market trading	Geojit & MBA department	26 th November	Conducted by MBA
2014	One day seminar on Derivative Trading	MBA department	12 th August	Conducted by MBA
2014	Talk: How to publish a research paper	MLMCE	26 th March	Conducted by Computer Science Department
2013	Faculty development Program on 'information theory and coding'	MLMCE	7 th October	Conducted by ECE Department
2013	FDP-Lecture Series	MLMCE	19 th to 21 November	Conducted by ECE Department
2013	FDP at IIM-K	IIM-K	12-16 th April	Attended by two teaching staff

Percentage of faculty *invited as resource persons in Workshops/Seminars/conferences organized by external professional agencies:

DEPARTMENT	PERCENTAGE
ECE	10
CSE	5
CE	5
MBA	30

*participated in external Workshops / Seminars / Conferences recognized by national/ international professional bodies

DEPARTMENT	PERCENTAGE
ECE	43.33

CSE	61.53
CE	58
EEE	16.67
ME	48
MBA	80

2.4.4 What policies/ systems are in place to recharge teachers?

The institution has many policies in place to recharge teachers

- Frequent study leaves are availed by faculty to pursue higher studies. Based on the current staff requirement teachers are given permission for going on study leave.
- Faculties are encouraged to interact and find avenues for research and academic publications.
- Teachers with a flare for arts and cultural programmes are encouraged to form student groups for interaction in similar field.
- Some faculty members avail leave for pursuing industrial career for a short duration of time.
- Startups among faculty members are encouraged through incubation within college premises.

2.4.5 Give the number of faculty who received awards / recognition at the state, national and international level for excellence in teaching during the last four years. Enunciate how the institutional culture and environment contributed to such performance/achievement of the faculty.

The HOD, Department of ECE, Prof. Asha Panicker has been recognized as an academic auditor for APJ Abdul Kalam Kerala Technological University (KTU).

2.4.6 Has the institution introduced evaluation of teachers by the students and external Peers? If yes, how is the evaluation used for improving the quality of the teaching-learning process?

Mangalam College of Engineering has a feedback system for faculty teaching various subjects in various departments. The feedback is taken and stored digital and can be later utilized by department for analysis. Other than the final feedback the department also receives an interim feedback by conducting class committee and course

committee which try to asses speed of curriculum delivery, understandability of the subject, clarity of presentation of teacher, and the sincerity of teacher. remedial action are initiated by DAC.

The main feedback which is collected at the end of the semester is conveyed to the faculty through the principal. The feedback data and self-appraisal form filled up by every faculty is used for evaluation purpose.

This evaluation is done by the faculty appraisal committee which consists of the Chairman,Principal and HOD's.

2.5 Evaluation Process and Reforms

2.5.1How does the institution ensure that the stakeholders of the institution especially students and faculty are aware of the evaluation processes?

The institute mainly evaluates the students on their performance in academic as well as co-curricular area and the faculties in teaching and administrative task area. The information about the evaluative process of the student and teachers are made available to the stake holders through various modes of dissemination as listed below:

1. Website of the college
2. Handbook
3. Induction programme of the students and teachers is used to disseminate this information.
4. The parents are given the information about this evaluation during PTA meeting.
5. The external stake holder, alumni is informs about these evaluation processes during the alumni meet or any other chairman's address.
6. The result of student evaluation is intimated to the parents, students, industry when they come for placements.

2.5.2 What are the major evaluation reforms of the university that the institution has adopted and what are the reforms initiated by the institution on its own?

Until 2015 the college used to be under M.G University ,Kottayam,Kerela. M.G Uniiversity frequently adopted new evaluation reforms which were communicated to the college through principal. Some of the recent evaluation reforms of M.G Uniiversity are listed below:

1. External examiners are allocated to visit different college during the

examination time.

2. M.G. University now follows a grading system for evaluation purpose.
3. M.G. University now divided some of the zones for M.Tech for curriculum based on geographical location.

From 2015 onwards all the colleges in Kerala come under Kerala Technological University (KTU) . Under the newly formed KTU major evaluation reforms have been suggested. Some of which are listed below.

1. The evaluation of the students will be first conducted by their own subject teachers.
2. The university will conduct an academic audit with senior faculties of college in and around a particular institution.
3. The lab evaluation is completely going to be an internal evaluation.
4. KTU monitors the attendance of every student time to time.
5. KTU has a detailed break up plan for all the internal marks to be given to the students after evaluation.

Other than these major reforms that has been suggested by KTU there are several others that are being initiated by Mangalam college of Engineering. Some of which are listed below:

Evaluation of staff

- The HOD interacts with students in random within the semester to get their feedback and propose changes.
- A self-appraisal report is prepared by each faculty detailing the activities conducted in that particular semester.
- This Detailed self-appraisal report is forwarded to the HOD who gathers it and passes it to the Vice-principal.
- Every faculty is required to maintain and update the course file throughout the curriculum which can be evaluated anytime by the HOD.
- The staff is also evaluated on the amount of administrative works carried out throughout the year.
- The HOD's evaluation about every faculty is reported to chairman every year.

Evaluation of the students

- The class teacher prepares progress cards and mails it to the parents and invites them for PTA.

- The class teacher maintains class attendance register, leave record of students, extra curricular activities in addition to his /her academic progress.
- Every student is evaluated on their language and communicative skills.
- Every student is made to undergo through a placement test to evaluate their chances of getting a job.

2.5.3 How does the institution ensure effective implementation of the evaluation reforms of the university and those initiated by the institution on its own?

The institution ensure effective implementation of the evaluation reforms of the university and those initiated by the institution on its own by following certain policies and by forming certain administrative groups. The major activities of these administrative group and their policies are written below:

1. Exam cell

The exam cell is interested with the task of conducting all the internal and external examinations. It prepares detailed plan and allocate works to each and every faculty and passes on the information of the dates to the students. It also collects the question paper from each faculty of each course. The exam cell is also responsible for safe keeping of answer books and university answer sheets.

The principal is the chief controller of the exam.

2. IQAC

The IQAC has been formed in the institution with the sole purpose of evaluating students and faculty for regular quality improvement of the institution. The quality cell consists of senior members from each and every department. The feedback system is completely taken care by IQAC and its recommendation is final.

3. TRAINING AND PLACEMENT CELL

The training and placement cell regularly updates the departments about the recent trends and changes taking place in the field of placement. It also evaluates the eligibility of the candidate to appear in placement drive. The placement cell receives feedback from the industry on the quality of students which is later passed on to the HOD's of the corresponding departments as well as the IQAC.

4. DAC

The DAC headed by Head of the departments ensure the implementation of the curriculum by each course faculty. The HOD's is also responsible for taking intermediate feedbacks and suggest corrective actions to the faculty members.

The HOD is responsible for collecting the self-appraisal report and giving a final report of the faculty to the chairman.

2.5.4 Provide details on the formative and summative assessment approaches adopted to measure student achievement. Cite a few examples which have positively impacted the system.

The following are the the formative assessment approaches adopted to ensure student continuous progress:

1. The Institute follows a process of continuous assessment where in a student has a oppurtunity to look at his progress.
2. Weekly and monthly attendance is displayed to the students and their parents to make up for any of the absent days.
3. Regular feedbacks are provided by the teacher especially during parent teachers meeting to improve the performance of the students.
4. The projects and seminars are evaluated inparts so as to give anopportunity to the students to continuosoly improve their performance.
5. The lab works is continuously monitored and marks are awarded for each and every completion of the experiments which gives an idea to the students on the kind of the work and result that he/ she is going to get.

The following are the summative assessment approaches adopted to measure student achievements:

1. The internal mark of each and every students is calculated.
2. Summative assessment will be through university examination at the end of every semester.

2.5.5 Detail on the significant improvements made in ensuring rigor and transparency in the internal assessment during the last four years and weightages assigned for the overall development of students (weightage for behavioral aspects, independent learning, communication skills etc.

All the internal marks awarded to the students are based strictly on the guidelines given by the University for evaluating internal performance of the students. The university gives a clear guidelines on the weightage for attendance, internal exams, assignment, seminar, viva voice etc.. which are adhere to. After each student has been awarded the internal marks the total internal marks of every student is kept displayed on the notice board for at least a period of one week for the students any clerical error or

miscalculation during the assessment of the report. Special attention is given to creativity and independent learning of the students in projects and seminars. During evaluation of seminars special attention is given to communication skill acquired by the student. The students may be intimated about any negative marking that will be incorporated during the internal evaluation of the students due to any of the behavioral indiscrepancies. Below is the table that shows the directions given by the university on the weightage to be given to each and every section on internal evaluation.

Year	Attendance	internal exams	Assignment	Seminar	project	viva voice
First and second semsetr	20%	60%	20%	NA	NA	NA
Third semester	20%	60%	20%	NA	NA	NA
Fourth semester	20%	60%	20%	NA	NA	NA
Fifth semester	20%	60%	20%	NA	NA	NA
Sixth semester	20%	60%	20%	NA	NA	NA
Seventh Semster	20%	60%	20%	50 mark	50 mark	NA
Eigth Semster	20%	60%	20%	NA	100mark	50mark

2.5.6 What are the graduate attributes specified by the college/ affiliating university? How does the college ensure the attainment of these by the students?

The following are the graduate attributes of MLMCE

1. Basic knowledge of maths and science for engineers
2. Problem analysis and advising solutions
3. Abstraction and modelling
4. Skill to learn new engineering tools.
5. Self management.
6. Concern for environment and sustainable solutions
7. Communication and coordination
8. Ethical behaviour
9. Professional practice within the global context
10. Eager for life-long learning

These graduate attributes are attained by

- Workshops, seminars, skill developmental programmes
- Interaction with industry
- Activities of clubs and associations
- Social outreach programmes and campus community services
- Active college union participation
- Sports and games
- Appearing for national level examinations like GATE,CAT etc..
- Placement activities
- Mini and main project activities.

2.5.7 What are the mechanisms for redressal of grievances with reference to evaluation both at the college and University level?

Evaluation of students is done in two parts. One is the internal evaluation and other is the external evaluation. The internal evaluation is further divided into components based on attendance, assignments, internal exams etc. The external evaluation is based on the performance of a single exam conducted out of 100 marks. All the grievances related to internal marks are addressed by college or department while the grievance's related to external evaluation is addressed by the university.

Grievance redressal mechanism for internal evaluation

All the evaluation process for internal evaluation is transparent and available to students at any time. There is a monthly report of attendance submitted to the department and then displayed in the departmental notice board . Other than this the weekly attendance report is available with the class teacher and can be viewed by any student at any time. Two internal examinations are conducted for each subject in each semester for each student. The evaluated answer sheet is given back to students for any grievance readdressal. The marks attained in these examinations are intimated to the parents via the letter from the department. The mark for assignment is also included in the final assessment and the final internal mark obtained by each student is displayed in the notice board before being sent to the university as a final list. The students have the opportunity for any grievance redressal within one week to respond.

Grievance redressal mechanism for external evaluation

The university has set norm for Grievance redressal. After the university publishes the results there is a time frame within which student can apply for revaluation in the university. Whole process is completely done by the university itself. The college is not involved in any of the grievances redressal of the university. The

grievances are readdressed before the commencement of the examination next time.

2.6. Student performance and Learning Outcomes

2.6.1 Does the college have clearly stated learning outcomes? If 'yes' give details on how the students and staff are made aware of these?

The college has outlined clear vision and mission which is displayed throughout the campus for all the stake holders. The college plans to achieve the mission through the programme educational objectives or PEO'S. The PEO'S in turn are achieved through the programme outcomes or PO'S which are finally achieved with the help of course outcomes which is charted by each and every course coordinator. Each of the content of the course outcome CO,PO,PEO,MISSION is clearly displayed in each appropriate portion for the students and the teachers to view. The course outcome of each course is evaluated by the DQAC before being promulgated among the students. The PO itself targets to achieve the graduate attributes. The following are the methods through which the students and staff are made aware of these learning outcomes.

1. These learning outcome components are displayed in the official website of college, displayed in department and college corridors, displayed in the course file of each of the course.
2. Each of the course coordinator makes the students aware of his course outcome and how it will be charted to the PO'S and PEO'S to finally the mission for achieving the graduate attribute.
3. The course evaluation of course coordinator itself is carried out on points mentioned in the learning outcomes.

2.6.2 Enumerate on how the institution monitors and communicates the progress and performance of students through the duration of the course/ programme? Provide an analysis of the students results/achievements (Programme/course wise for last four years) and explain the differences if any and patterns of achievement across the programmes /courses offered.

The institute has laid out plan on monitoring and communicating the progress and communication of the students throughout the duration of the course. Each student performance is evaluated through 2 different evaluation methods

1. Internal evaluation method
2. External evaluation method

The internal evaluation is measured with the help of internal exams assignments and attendance whereas external evaluation is done through a single final examination

out of 100 marks. Each department documents continually the progress of students by the various results in the internal and external evaluation process. These progress report and the performance appraisal of each student is communicated to their parent through the PTA'S/Open house conducted by each department for each semester for each class. Other than these the result is also made available to the students via the college software management system. If the performance of the student is going below a certain limits the parents might be called in for a detailed talk with the students and student mentor.

End Semester Results Are Given Below

COURSE	2011-2012	2012-2013	2013-2014	2014-2015
UG				
ECE	57.5	70	71.2	80.53
CSE	89.2	75	97	68.85
CE	N/A	N/A	78	58.73
EEE	62.69	63.63	84.02	93.02
ME	44.93	52	62.69	50.75
MBA	77	81	80	79

2.6.3 How are the teaching, learning and assessment strategies of the institution structured to facilitate the achievement of the intended learning outcomes?

The college has a well structured system to facilitate the achievement of intended learning outcomes. The different stages of these structures according to teaching learning and assessment strategies are defined below.

Stage 1: Teaching strategies

Subject is allocated to each faculty member by choice and they are instructed to prepare course file relating graduate aptitude to their course outcomes which is in turn related to the PO'S and PEO'S of the institution. These course file is forwarded to the DQAC for assessment of its quality and pointing out any points in it. Each course file is expected to give details of resource available for teaching and learning.

Stage 2: Learning strategies

Each course coordinator is allocated correct lecturer hours and tutorial hours based on the credit of the course. Any extra class required is to be intimated to the HOD and called in during Saturdays. Remedial classes are engaged by the same course coordinator or by different teaching faculty based on the requirements of the weak students. Ample opportunity is provided to the students to improve their performance.

Stage3: Assessment strategies.

The evaluation and feedback of each course is done by the evaluation procedures done by the DQAC. The feedback of each course coordinator is also conducted and passed on to the IQAC. The internal assessment of the student is carried out and displayed in a transparent manner. Intermediate progress report and performance appraisal of the students is intimated to the parents and they are called at PTA meetings for corrective measures.

2.6.4 What are the measures/initiatives taken up by the institution to enhance the social and economic relevance (student placements, entrepreneurship, innovation and research aptitude developed among students etc.) of the courses offered?

The institution has taken various steps to enhance the social and economic relevance of the courses offered. These are mainly

- The college has a training and placement cell which regularly interacts with industry and guides each department to offer specific training in the different fields of relevance
- The students projects are focused towards social benefits
- The students of the college are sent for regular industrial visits.
- Students are given training on entrepreneurship oppurtunites.
- Students are given special lectures by industrial stalverts.
- Students are encouraged to take up projects of good research quality finally leading to publications.
- PG students are encouraged to publish their research output under the guidance of faculty.

2.6.5 How does the institution collect and analyze data on student performance and learning outcomes and use it for planning and overcoming barriers of learning?

The institution collects the following data on student performance

- Regular class tests marks
- Series test marks
- Attendance report
- Assignment submission report
- End semester examination results

Other than this the institution also collects the following

- Student feedback report
- Parents feedback

Based on the study of the above documents the following actions were taken

- Remedial classes for students weak in certain subject
- Counselling and mentorship to students with poor performance
- Retest are advised for some students
- Students are encouraged to form study groups.
- Changes in timetable were incorporated to give more time for student teacher interaction

2.6.6 How does the institution monitor and ensure the achievement of learning outcomes?

The IQAC monitors the achievement of learning outcomes through DQAC. The following are the strategies used

1. Preparation of course plan for each course by the course in charge. The course plan contains the learning outcomes targeted and how the students would be evaluated based on it.
2. The DQAC monitors the teaching learning process by collecting regular feedback from students and advising corrective action based on them
3. The department head ensures the timely delivery of course plan and conduct of internal test and assignments.

The institution has the academic council meeting during the result publication to assess the achievement of learning outcomes.

2.6.7 Does the institution and individual teachers use assessment/ evaluation outcomes as an indicator for evaluating student performance, achievement of learning

objectives and planning? If 'yes' provide details on the process and cite a few examples. Any other relevant information regarding Teaching-Learning and Evaluation which the college would like to include.

The institution and individual teachers are updated on the current status of achievement of learning objectives by the report from IQAC. Each teacher is given precise corrective measures during mid semester to re-plan based on student feedback. Some of the changes incorporated by individual teachers through this process are

- Encourage students to form peer groups to have combined studies.
- Provide questions from base level to higher level for students with slow understanding.
- The practical record works were minimised to provide more time for study.
- Encourage students to refer different textbooks on same subjects.
- Brought in a change in attitude of teachers towards the students.
- Advanced learning through ICT

CRITERION III: RESEARCH, CONSULTANCY AND EXTENSION

3.1 Promotion of Research

3.1.1 Does the institution has recognized research center/s of the affiliating University or any other agency/organization?

Yes, the institution has been recognized recently as a research centre of APJ Abdul Kalam Technological centre.(KTU).

3.1.2 Does the Institution have a research committee to monitor and address the issues of research? If so, what is its composition? Mention a few recommendations made by the committee for implementation and their impact.

Yes, the institution does have a research committee, MANGALAM RESEARCH COMMITTEE (MARCO)

Research Coordinator

1. Fr. Bennet Kuriakose

Representative from each Department

Name of Research	Department	Name
Communication Engineering	ECE	Mr.Ajit Joseph
Signal Processing	ECE	Mr.Sreeraj K P
VLSI	ECE	Mr. Reneesh Zacharia
Embedded System	ECE	Mr.Jinu Isaac Kuruvilla
Operating System, Compiler & Architecture Research Group	CSE	Vinodh P Vijayan
Data-structure, Database, Data mining , Big data & Algorithm Research	CSE	Neethu Maria John
Web, Cloud, Networks & Graphics Research	CSE	Nimmymol M
Fluid Mechanics	CE	Reshma Kassim

Structural Engineering	CE	Fr. Bennet Kuriakose
Concrete cube testing	CE	Sipli Abraham
Power Electronics	EEE	Susan V Ninan
Power System	EEE	Rehumath Beeby K A
Industrial Engineering	ME	Aneesh K S
Material Science	ME	Rajeev K Mohan
Thermal Engineering	ME	Vipin Raj
Machine design	ME	Abu Thomas Cherian
Industrial Engineering	ME	Subin George Mathews
Marketing	MBA	Dr Sibu C Chithran
Marketing	MBA	Mr Siby James

Activities

- Encourage staff and students to engage in research
- Search for opportunities for collaborated research with other institutes
- Form the policy for research and consultancy
- Cater to the social needs of the society by research
- Incentives and rewards for quality publications
- Organise Research promoting activities like FDP's, workshops, conferences etc..

3.1.3 What are the measures taken by the institution to facilitate smooth progress and implementation of research schemes/ projects?

The institution facilitates smooth progress and implements action of research projects by

- Giving autonomy to the principal investigator
- Making available resources for research
- Providing duty leaves and concession in work load to conduct research activities
- Clerical help for applying for projects in different funding agencies
- High speed internet connectivity
- Dedicated research lab
- Monetary help for paper presentation

- The HOD's compile the student thesis and Faculty publication in departmental library for further reference.
- Making available authentication free E-journal access throughout the campus.

3.1.4 What are the efforts made by the institution in developing scientific temper and research culture and aptitude among students?

The research wing of Mangalam, MARCO takes initiatives in installing a research culture among students by the following methods,

- Introducing poster presentation for first year students.
- Introducing micro-projects at second year stage.
- Displaying challenging research problems for students to involve them in consultancy activities
- Periodically conducting seminars and talks related to research activities by internal and external experts.
- Encouraging research paper publication in indexed journals and international conferences with quality proceedings.
- Planning to introduce research journal of MARCO

3.1.5 Give details of the faculty involvement in active research (Guiding student research, leading Research Projects, engaged in individual/collaborative research activity, etc.

All the faculties involved in Research activities associate with M.Tech student in their final projects. Some of the publications as Research outcomes are listed below.

Research projects	Students	Guides	Paper presented
Embedded Transition Inversion Coding With Low Switching Activity for Serial Links	Ajit Nair C	Prof,Asha Panicker, Gopakumar M.G	International Journal of Recent Scientific Research(IJRSR)
Low power energy efficient CMOS Full adders for fast arithmetic applications	Ms.Nisha Hashim	Ms.Binu Manohar	IEEE SSCS sponsored conference on solid state circuits
Enhanced detection of double adjacent Errors in hamming codes through Selective bit placement	Ms.Lintu K Babu	Ms.Hima Sara Jacob	JETIR
Fast Multiplication Based on Different Compressors	Ms.Shalu George	Mr.Jinu Isaac Kuruvilla	International Journal of Innovative Research in Electrical, Electronics,

			Instrumentation & Control Engineering, IJREEICE
VHDL implementation of ECC processor over GF (2^{163})	Ms.Shemina Karim	Mr.Reneesh Zacharia	IJIRAE
Energy efficient routing protocol for cluster based WSN with non-uniform Node distribution	Dhanoop K Dhanapal	Mr.Ajit Joseph	International Journal Of Scientific & Technology Research” in 2015.
A Novel approach for the design and implementation of FPGA based high speed digital modulators using digital clock manager	Sneha Mariam Sunny	Mr.Reneesh Zacharia	IEEE SSCS Sponsored Conference on Solid State Circuits, in 2015
Design and implementation of fpga based high speed digital modulators using cordic algorithm	Divya Jose	Ms.Binu Manohar	IJEDR 2014, in 2014.
Implementation of spongnet variants using fpga	Neethu Sebastian	Ms.Anjali V	IJIRAE, in 2014.
An FPGA based image denoising architecture for the removal of impulse noise with histogram equalization	Jayalakshmi S Nair	Mr.Bibin Binu Simon	IJIRAE, in 2014.
Low complexity welch power spectral density computation	Akhilesh Krishnan	Ms.Jency Andrews	International Journal of Science, Research, Engineering & Technology(IJSRET)
An Optimized Design Of The Fused Add-Multiply Operator Using Compressor	Anila M	Ms.Binu Manohar	International Journal Of Advances in Engineering Science and Technology (IAEST)
Modified MAC based fir filter using carry select adders	Anna Johnson	Ms.Binu Manohar	International Journal of Engineering Science and Innovative Technology (IJESIT)
A fused floating point three term adder	Neena Aniee John	Ms.Binu Manohar	International Journal of Innovative Science, Engineering & Technology(IJISSET)
Design and analysis of fast adder circuits in various logics using CNTFET	Nisha P Hashim	Ms.Binu Manohar	International Journal Of Advances in Engineering Science and

			Technology (IJAEST)
NOC with smart arbiter	Arathy B Nair	Mr.Sreeraj K.P	International Journal of Innovative Science, Engineering & Technology(IJISSET)
Compact implementation of secure cryptographic SHA-3 algorithm	Christy Ann Luke	Mr.Sreeraj K.P	International Journal of Recent Scientific Research(IJRSR)
Theoretical modelling of elliptic curve scalar multiplier on LUT based FPGA s for area and speed	Jayalekshmi K R	Ms.Hima Sara Jacob	International Journal of Innovative Science, Engineering & Technology(IJISSET), International Journal of Advanced Computer Technology(IJACT)
ETCAM :AN SRAM BASED TCAM STRUCTURE	Jenifer Anna Jose	Ms.Jency Andrews	International Journal of Engineering science and research technology(IJESRT)
FPGA implementation of feature extraction based on histopathological image and subsequent classification by SVM	Sandra S Dhar	Mr.Sreeraj K.P	International Journal of Innovative Science, Engineering & Technology(IJISSET), International Journal of Recent Scientific Research(IJRSR)
ARM based smart energy metering with digital anti-stealing techniques	Tojo M Thomas	Mr.Jinu Isaac Kuruvilla,Mr .Gopakumar M.G	International Advanced Research Journal in Science, Engineering and Technology(IARJSET)
Coherent signal's DOA estimation and its relation ship with SNR and number of samples	Ashamol K.P	Mr.Ajit Joseph	International Journal of Science and Research
Energy Efficient Routing Protocol for Cluster Based WSN with Non Uniform Node Distribution	Dhanoop K Dhanpal	Mr.Ajit Joseph	International Journal of Scientific and Engineering Research
3. An energy efficient unequal cluster based routing protocol for WSN with non-uniform node distribution	Dhanoop K Dhanpal	Mr.Ajit Joseph	International Journal of Scientific and Technology Research

Performance Analysis of Dispersion Compensation Using FBG and DCF in WDM Systems	Gopika P	Ms. Sunu Ann Thomas	International Journal of Advanced Research in Computer and Communication Engineering
Channel estimation methods for mimo ofdm underwater acoustic communication systems	Greeshma P Kumar	Mr.Ajit Joseph	International Journal of Software and Hardware Research in Engineering
LTE Advanced: Next Generation Wireless Broadband Technology"- Further study on LTE Uplink	Micky Maria Boban	Prof.Asha Panicker	International Journal of Advanced Research in Computer and Communication Engineering
Interference Alignment Inspired Algorithms For The MIMO Interference Channel	Nimmy Mathew	Mr.Ajit Joseph	International Journal of Advanced Research in Computer and Communication Engineering
Energy efficient nearest active node selection mechanism in target tracking WSN applications.	Sethulekshmi P Manmadan	Ms.Lakshmy Sasidharan Nair	International Conference on Computer Communication and Informatics 2015
Performance analysis of inter-satellite optical wireless link using multiple TX/RX and CO-OFDM Techniques	Sona G Dev	Ms. Sunu Ann Thomas	International Journal of Scientific and Engineering Research
Channel assignment for performance optimization in multi-radio WMNs.	Sreejith R	Mr.Sreeraj K.P	International Journal of Science and Research
Optimization of cooperative spectrum sensing to minimize the total error rate in cognitive radio networks	Sruthy V	Mr.Sreeraj K.P	International Journal of Advanced Research in Computer and Communication Engineering
Analytical Estimation Of Path Duration In Vehicular Ad Hoc Networks Using BMFR PROTOCOL	Subinakhan S.S	Mr.Ajit Joseph	International Journal of Advanced Research in Computer and Communication Engineering

Classification of Mutated Cancer Genome Using Machine Learning Approaches	Anit V Mathew	Tinu Thomas	Classification of Mutated Cancer Genome Using Machine Learning Approaches", International Journal of Advanced Research in Computer and Communication Engineering (IJARCCE), Vol. 3, Issue 8, August 2014.
Self Adaptive Harmony Search Algorithm For Optimizing ECG Signal	Asha J Gomez	Mitha Rachel Jose	Self Adaptive Harmony Search Algorithm For Optimizing ECG Signal", (IJCSIT) International Journal of Computer Science and Information Technologies, 5781-5784, Vol. 5 (4) , 2014.
An Optimal Caching Mechanism to Re-duce Content Provisioning Cost in Social Wireless Networks	Anu Mohan	Vineetha V Nair	"An Optimal Caching Mechanism to Re-duce Content Provisioning Cost in Social Wireless Networks", (IJJC) IFRSA's International Journal of Computing, 651-654, Vol. 4 (3) , 2014.
A Trust based Report Payment Scheme for Multihop Wireless Networks	Anu Susan Chandy	Mitha Rachel Jose	"A Trust based Report Payment Scheme for Multihop Wireless Networks", (IJARCSSE) International Journal of Advanced Research in Computer Science and Software Engineering, 2277-128X, Vol. 4 (7) , 2014
An Improved Approach for MANET Security using Cluster Based Certificate Revocation	Gayathri Mohan	RenjanaRam achandran	An Improved Approach for MANET Security using Cluster Based Certificate Revocation", (IJCSIT) International Journal of Computer

			Science and Information Technologies, 5781-5784, Vol. 5 (4) , 2014
Improving QoS in Spontaneous Ad hoc Network	GayathriPradeep	Anna PrathibaShobak	"Improving QoS in Spontaneous Ad hoc Networks", (IJCSIT) International Journal of Computer Science and Information Technologies, 5705-5707, Vol. 5 (4) ,2014
Segmentation of Skin Lesions from Digital Images using Texture Distinctiveness with Neural Network	JishaMariyam John	NeethuMariya John,	Segmentation of Skin Lesions from Digital Images using Texture Distinctiveness with Neural Network", International Journal of Advanced Research in Computer and Communication Engineering (IJARCCE) Aug-14
Detection and Prevention of flooding attack using a hybrid approach	Lakshmi R Nair	Vinodh P Vijayan,	"Detection and Prevention of flooding attack using a hybrid approach", International Journal Of Computer Applications(IJCA), ISSN 2250-1797, AUGUST 2014
Discovering and Profiling Overlapping Communities in Location Based Social Networksusing Feature Description	Manju Joseph	Seena George	"Discovering and Profiling Overlapping Communities in Location Based Social Networksusing Feature Description", (IJARCSSE) International Journal of Advanced Research in Computer Science and Software Engineering, Vol. 4(7), July 2014.
An Expandable and Secure Key Predistribution Scheme for Wireless Sensor Networks	Merin C. Moncey	Merlin Mary James	"An Expandable and Secure Key Predistribution Scheme

			for Wireless Sensor Networks", International Scientific Journal on Science Engineering and Technology ,ISJSET Volume 17, issue 7, August 2014.
Proof-Based Intrusion Detection System in MANETS	Nimmy.S	Sreenimol K.R	"Proof-Based Intrusion Detection System in MANETS", (IJCSIT) International Journal of Computer Science and Information Technologies, 5724-5725, Vol. 5 (4) , 2014
Client-Server Assignment for Better Traffic Route in Internet Distributed Systems	Nirmal Zachariah	Syamamol T	"Client-Server Assignment for Better Traffic Route in Internet Distributed Systems", International Journal of Engineering Research and Technology (ISSN: 2278 - 0181), Volume. 3, Issue. 07, July 2014.
Client-Server Assignment for Better Traffic Route in Internet Distributed Systems	Nirmal Zachariah		Client-Server Assignment for Better Traffic Route in Internet Distributed Systems", International conference on Recent Trends in Engineering, Technology and management (ICRTETm - 2014) (ISBN: 978-81-908980-8-9) Issue. 05, July 2014
Comparative Study Between Sparse Representation Classification and Classical Classifiers on Cervical Cancer Cell Images	Simi Susan Samuel	Subha Sreekumar,	"Comparative Study Between Sparse Representation Classification and Classical Classifiers on Cervical Cancer Cell Images", International Journal of Advanced Research in Computer and Communication Engineering (IJARCCE), August 2014.
Optimizing the Virtual Machine MigratiCloud Computing Systems by using	Vishnu S Sekhar	Neena Joseph,	"Optimizing the Virtual Machine MigratiCloud Computing Systems by

Future Prediction Algorithm			using Future Prediction Algorithm" In IJERT, Volume. 3, Issue.08, August 2014
Stealthy P2P Botnet Detection Based On Automated Threshold Computing Using Genetic Algorithm	Vishnu S Sekhar		Stealthy P2P Botnet Detection Based On Automated Threshold Computing Using Genetic Algorithm" In IJCSIT, Volume. 5, 2014, 6910-6813
Misdirection Attack in WSN Due to Selfish Nodes; Detection and Suppression using Longer Path Protocol	Juby Joseph	Vinodh P Vijayan	Misdirection Attack in WSN Due to Selfish Nodes; Detection and Suppression using Longer Path Protocol" International Journal of Advanced Research in Computer Science and Software Engineering, Volume 4, Issue 7, July 2014, pp. 825-829, ISSN: 2277 128X
Average current-based conduction losses model of switched capacitor converters	Pooja Omanakuttan	Chikku Abraham	Average current based conduction losses calculation of switched capacitor converters in different switching frequencies, IFERP -2015 Optimization of switched capacitor converters using average current based conduction losses calculation method, ITAR-2015
Charge pump driven high step-up converter for renewable energy harvesting	Chinchu Elasa Issac	Susan V Ninan	A New Transformer –Less high gain interleaved converter with ripple free input current , IFERP-2015 Hardware implementation of a transformer –less high gain DC –DC converter with ripple free input current , ITAR -2015
A transformer-less high-gain boost converter with input current ripple cancellation at a selectable duty cycle	Preetha G	Chikku Abraham	Charge Pump Driven High Step Up Converter for Renewable Energy Harvesting,

			ICETREE(2014)- Elsevier
Power quality improvement in distribution systems using dynamic voltage restorer	Divya A		ICCES' 14
Control of self supported dynamic voltage restorers for balanced and non linear loads	Keerthi Kurian	Preethy Sebastian	Grid connected RES and stability solutions:state-of-the-art-review,IFERP-2015 Need of inertia element and synchronization schemes for grid connected inverters in Indian power system,ITAR-2015
High frequency llc resonant inverter for induction heating with asymmetrical voltage cancellation method	Kukku Joseph	Benny K K	High Frequency LLC Resonant Inverter for Induction Heating With Asymmetrical Control/International conference Hardware Implementation of LLC Resonant Inverter for Induction Heating With Asymmetrical Voltage Cancellation method./National conference
Voltage gain enhancement for a step-up converter constructed by ky and buck-boost converters	Sreedevi B		Voltage gain enhancement by coupled inductor,IFERP-2015 Hardware implementation of voltage gain enhancement by KY and buck-boost converter,ITAR-2015
Control of the grid interfacing inverter to reduce harmonics in distributed generation systems	Anumol C G	Reema Manavalan	Power quality improvement of Fuel cell and Wind farm based DG System/International Conference Control of the Grid Interfacing Inverter to reduce harmonics in DG Systems/National Conference Reduction of Harmonics in fuel cell based DG

			system/National Conference
Development of an fpga-based spwm generator for high switching frequency dc/ac inverters	Gopika B S		Implementation of an FPGA based brushless DC motor based on sinusoidal PWM control,IFERP-2015 FPGA based three phase sinusoidal pwm for inverter applications,ITAR-2015
Photovoltaic Micro-inverter in Grid and Islanded Mode with Restructured Control Adopting Second Order current algorithm	Jasnah Hakkim	Liya Alias	Peak current mode control of a symmetrical half bridge push pull converter for a grid connected photovoltaic system with P&O MPPT/ National Conference on Technological Trends Peak current mode control of a symmetrical half bridge push pull converter topology for photovoltaic array with P & O MPPT/ ICCCES
Parallel operation of inverters in a standalone system with dump power control	Neethu Annie James		Parallel operation of inverter in a stand-alone hybrid system with dump power control/ National Conference on Technological Trends
Synchronous reference frame based control method for upqc under unbalanced and distorted load conditions	Athulya V L	Liya Alias Jeneesh Scaria Rehumath Beeby K A	Comparison of UPQC working with Normal and Modified Phase Locked Loop,ICETET-2015 Synchronous Reference Frame Based UPQC with modified Phase Locked Loop,IJESC-2015 Unified Power Quality Conditioner with Normal and Modified Phase Locked Loop, ICCAECI-2015
Two stage buck boost converter with isolation as a	Lekshmi Sasidharan		A Two Stage Buck Boost Converter with Isolation

high power factor supply for power led lamps			as a High Power Factor Supply for Power-LED Lamps/ International Journal OF Advanced Research in Electrical, Electronics and Instrumentation Engineering
Power quality improvement in distribution systems using dynamic voltage restorer	Divya A		ICCES'14
A high step-down transformerless single-stage single-switch ac/dc converter	Shilpa Rajan	Jeneesh Scaria	A New Transformerless single switch high step down AC-DC converter, ICETET-2015 A New high step down single stage single switch AC-DC converter ,ICATET-2015
New efficient bridgeless cuk rectifier for pfc applications	Akhila Nair	Dhanya S Eugene Peter	“One cycle Control for PFC Applications using Bridgeless CUK Rectifier”, IFERP'15 Power Factor Correction using Bridgeless CUK Converter using OCC, ITAR'15
Bridgeless sepic converter with ripple free input current for lighting applications	Alphoneia Thomas		Power factor correction of Bridgeless SEPIC Converter with ripple free input current/ ICCES'14 Analysis and design of Bridgeless Sepic Converter with ripple free in put current/ NCFIT'14
Quasi z source inverter based photovoltaic generation system with maximum power point tracking control using anfis	Basil E R	Dhanya S	P and O MPPT tracking control for QZSI based photovoltaic generation system, IFERT-2015 QZSI based photovoltaic generation system for

			motor applications,ITAR=2015
A voltage controlled dststcom for power quality improvement	Nangha Rajan J	Amalu Philip Priya S P	Deadbeat predictive controller for power quality improvement,IJESE-2015 Performance of DSTATCOM using SRF theory and Deadbeat predictive controller,IFERP-2015 Performance of DSTATCOM using Deadbeat predictive controller and PIR controller,ICCES-2015
Reactive power compensation and optimization strategy for grid-interactive cascaded photovoltaic systems	Vidya P Nair		Reactive power compensation of grid connected photovoltaic system with new multilevel inverter,IFERP-2015 Grid connected photovoltaic system with MPPT using new multi level inverter having reduced number of switches,ICEECS-2015
Improved battery less photovoltaic water pumping system with a high efficiency modified converter	Shirin Rahim	Aju Thomas	ICCES'14
A genetic pid controlled restructured hyro-thermal system with energy storage devices	Athira elizabeth alex	Priya S P	Optimization and Simulation of AGC in Restructured Power system with CES and PID controllers/National Optimization and Simulation of AGC in Restructured Power system with SMES and PID controllers using ITSE

			Technique/International
Standalone operation of pmsg based wind turbine generating systems with energy manangement by hybrid energy storage	Anju v mohan	Aju Thomas Phejil K Paul	Optimum management of energy by wind or battery hybrid system,IJESE-2015 Power quality improvement by wind/battery/solar system,IFERP-2015 Active and Reactive power compensation by wind/battery/solar,ICEEC S-2015
Current compensation using modified seven level multilevel inverter and fast acting dc-link voltage controller based dstatcom	Nasreen m iqbal		Current compensation using modified seven level multilevel inverter and fast acting dc link voltage controller based DSTATCOM/ International conference on computing, communication and Energy systems,2014 Current compensation using seven level multilevel inverter based DSTATCOM/15th national conference on technological trends,2014
A fully integrated three -level isolated single- stage pfc converter	Anju susanna jacob		Single stage boost power factor correction converter with fuzzy logic control,IFERP-2015 Hardware implementation of a single stage boost power factor correction converter,ITAR-2015

Design and analysis of Roll cage of an atv	Amal Tom	Abu Thomas Cherian	Published in ijera journal
Analysis of brake system of an atv	Amal Tom		Published in ijsrd journal
Cycle time and idle time reduction in an engine assembly line	Amith J Prakash	Aneesh K S	Published in International journal of Science engineering & Technology
Improving Production efficiency by modifying employee scheduling system at an palm oil industry	Subin B Markose	Subin George Mathew	Published in International journal of Science Technology & engineering
Redesign of Existing Layout Of Tiller Manufacturing Industry to Reduce Material Handling cost	Dileep Pandalai	Subin George Mathew	Published in International journal of Science Technology & engineering
Cost oriented FMEA in a Mattress industry	MERIL BABY	Subin George Mathew	Published in International journal of emerging Technology and Science
.Improving financial performance of supply chain in a spice industry	SEBASTIAN GEORGE	Subin George Mathew	Published in International journal of Science engineering & Technology

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Raw material inventory management in cattle feed industry	JYAS P A	Rajeev K Mohan	Published in International journal of Science Technology and Engineering

Research projects with Collaborations are listed below.

Research projects	Students	Guides	Paper presented	Collaboration if any
Retail Feasibility Analysis	S ₃ MBA Students	Dr Sibu C Chithran & Mr Siby James	Send reports to concerned authorities	Kerala Police Department, Kottayam
Punching System & Employee Performance	Ms. Vidya K Viswanath	Dr Sibu C Chithran	Awaiting publication	Walltechnology LLC, Dubai
FSSAI Standard on Branded Food Products	Mr. Jijith T.S		Awaiting publication	KKR Group of Companies, Idukki
All India Customer Service Study of SBT	S ₄ MBA Students		Send reports to concerned authorities	University of Kerala & State Bank of Travancore, Thiruvananthapuram
Impact of Celebrity Endorsement	Mr. Jobish George		Awaiting publication	Supreme Food Industries, Ernakulam
Crude Oil Price Fluctuations	Ms. Priya Chacko	Dr. Titto Varghese	Awaiting publication	Hedge Equities, Ernakulam
Performance Appraisal with CAMELS Model	Ms. Vandana Sasikumar		Awaiting publication	Ranni Service Co-operative Bank, Ranni

Sustainable traffic improvement for ettumanoor junction	1.Geethulal 2.Nithin k joseph 3.Divya lakshmi gopinadh	Susan Mathew	1. “Srishti 2015- Technical Project exhibition ” Saintgits College of Engineering 2. “Advaita2015- Technical Project exhibition” Vijnan College of Engineering	National transportation planning and research centre (natpac)
Design of Pedestrian Crossing Bridge at Baker Junction, kottayam	1.Mr Amith M M 2.Mr Rosh Reji	Aparna Ben	1. Astra 2015- Technical fest St josephs College of Engineering	Structural Consultancy

3.1.6 Give details of workshops/ training programmes/ sensitization programmes conducted/organized by the institution with focus on capacity building in terms of research and imbibing research culture among the staff and students.

The following programs were conducted as a part of capacity building in research and imbibing research culture

Programs	Department	Topic	Date
Technical speech	ECE	Cloud Computing	09/08/2012
Speech	ECE	Different phases in placement training	19/05/2013

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Technical Speech	ECE	Bionano technology	05/07/2014
Technical Talk	ECE	BioNano Electronics	12/08/2014
FDP	ECE	Innovative Research ideas in multidisciplinary areas	09/07/2015 & 10/07/2015
WORKSHOP	ECE	ORCAD,PSPICE,MICROCONROLLERS	
Instructional Technologies for NETGEN	CSE	e-learning	01/06/2015 to 05/06/2015
Training on ASP.NET	CSE	Programming	12/01/2015 to 16/01/2015
Latest Trends in web development and manual testing of websites	CSE	Recent trends in web development	06/09/2013 to 10/09/2013
Project Exhibition	EEE	Emerging trends in Electrical Engineering	9 /2/ 2015
Add on course on Auto Cad	ME	Auto desk inventor and related softwares	6/9/2012
Add on course on Auto Cad	CE	Auto desk inventor and related softwares	
Project Presentation	Management Studies	Data Analysis for Management Research	12/08/ 2013

3.1.7 Provide details of prioritized research areas and the expertise available with the institution.

The following are the research areas of priority for different departments.

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Broad research area	Faculty in-charge	No. of papers presented
Signal Processing	Mr.Sreeraj K P	2
Communication	Mr.Ajit Joseph	8
VLSI	Mr.Reneesh Zacharia	7
Embedded System	Mr.Jinu Isaac Kuruvilla	5
Operating System, Compiler & Architecture Research Group(OCA)	Jissy Liz Jose	11
Data-structure, Database, Data mining , Big data & Algorithm Research Group(D ² DBA	Sreenimol K R	8
Web, Cloud, Networks & Graphics Research Group (WCNG	Nimmymol Manuel	6
Power Electronics	Susan V Ninan	3
Power Systems	Rehumath Beeby K A	3
Machine Design	Abu Thomas Cherian	2
Industrial Engineering	Subin George Mathews	2
Machine Design	Ajith Kurian Baby	3
Thermal Engineering	Rinu Thomas	5
Industrial Engineering	Aneesh K S	1
General Management	Dr Siby C Chithran	3
Consumer Behavior	Dr Siby C Chithran	5
Product Management	Dr Siby C Chithran	3

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Advertising Management	Dr Siby C Chithran	1
Service Marketing	Dr Siby C Chithran	2
Retail Business Management	Mr Siby James	2
Event Management	Dr Siby C Chithran	1
Financial Management	Dr. Titto Varghese	4
Financial Statement Analysis	Dr. Titto Varghese	2
Tax Management	Dr. Titto Varghese	1
Working Capital Management	Dr. Titto Varghese	3
Cost Management	Ms. Ann Jose & Ms. Sony Stephen	1
Security Analysis	Dr. Titto Varghese	1
Bank Management	Dr. Titto Varghese	1
Human Resource Management	Dr Siby C Chithran	2

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Human Resource Development	Dr Sibbu C Chithran	1
Training & Development	Dr Sibbu C Chithran	1
Employee Engagement	Ms. Tinta Baby & Ms. Ann Jose	1
Organizational Behavior	Dr Sibbu C Chithran	6
Production & Operations Management	Dr Sibbu C Chithran	2
Management Information System	Dr Sibbu C Chithran	2
Strategic Management	Dr Sibbu C Chithran	1

3.1.8. Enumerate the efforts of the institution in attracting researchers of eminence to visit the campus and interact with teachers and students?

The institution believes in building leaders in area of research, because of which it regularly conducts visits of researchers of eminence. The following are the details.

Visited person	Area	Topic	Date
ECE			
Dr.M.K Radakrishnan	Solid State devices	Semiconductor devices	09/07/2015
Ms.Biji C L	Biology and Bioinformatics	Interdisciplinary research methodology- Fresh perspective	09/07/2015
Dr.M V Rajesh	Signal Processing	Introduction to research possibilities in DSP	09/07/2015

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Dr.Babitha Roslind Jose	Electronics	System level design and analysis of multistandard sigma delta ADC for wireless transceivers	10/07/2015
Dr.Jobymol Jacob	Semiconductor device modeling	Introduction to semiconductor device modeling	10/07/2015
Dr.Jayasree V K	Image Processing & Optical communication	Research prospects in Medical image processing and optical communication	10/07/2015
Dr. Toru Maekawa	BioNano Electronics	BioNano Electronics	12/08/2014
Dr. Jayan Thomas	Bionano technology	Bionano technology	05/07/2014
Dr. Florain Schatz	Cloud Computing	Cloud Computing	09/08/2012
CSE			
Dr. G Janardhanan Dr. Shanmughaneedhi	Instructional Technologies for NETGEN	NMEICT and other e-learning resources for class room	1/06/2015
CE			
Bijoy Varghese	I industry demands	Workshop “What industry demands from civil engineer”	03/01/2014
Bijoy Varghese	Construction automation	Workshop “Construction automation”	17/01/2014
Bijoy Varghese	Building Materials	Workshop “Building Materials”	24/01/2014
MBA			

Dr. Anandakuttan B Unnithan	Research Proposal Development	Proposal Formulation	29 /6/2012
Dr. Mathi Becker Fenn	Organizational Behavior	Resilience Management	
Dr. Arun Abraham Elias	Systems Thinking	Systems Thinking Concept & Applications in Management Research	
Mr. Kalyanaraman	Research Methodology	SPSS Workshop	7/3/2014

3.1.9 What percentage of the faculty has utilized Sabbatical Leave for research activities? How has the provision contributed to improve the quality of research and imbibe research culture on the campus?

The table below shows the percentage of faculty who has taken leave for pursuing their PHDs under part time/full time.

Department	% of faculty availed leave for PHD
ECE	9.375
CSE	4
ME	4.11
MBA	30

3.1.10 Provide details of the initiatives taken up by the institution in creating awareness/advocating/transfer of relative findings of research of the institution and elsewhere to students and community .

Research findings have to be shared for improvement in the research. The institution believes in the transfer of knowledge of current research activities. The following methods are used by the institution for the same.

- Enhancement of lab courses

Research activities are always forward to produce lab experiments or add on courses which will enable the institution to imbibe the research culture in faculty and students.

- Faculty as resource persons

The faculties are encouraged to be resource persons for conferences/ workshops/ seminars of other institutions. They are provided adequate duty leaves. The following is the list of faculties who were resource persons.

Faculty	Department	Topic of seminar	Date
Dr. Siby C Chithran	Berchman's Institute of Management Studies, S.B. College, Changanasserry	Chaired Human Resource Conference – Conclave 2013	28 th November 2013
Prof. Asha Panicker & Mr. Sreeraj K.P	University of Kariavattom	Signal Processing	December 2012
Mr. Vinodh P. Vijayan	Guttik Technologies	Challenges in developing LMS	10 th September 2015

3.2 Resource Mobilization for Research

3.2.1 What percentage of the total budget is earmarked for research?

1% of total expenditure is spent on research. In the year 2014-2015 1% of total expenditure was spent for enhancing research facilities.

Year	Budget allocated	Budget utilized
2015	Rs. 3 Lakh	FDP & Seminars
2014	Rs. 1 Lakh	FDP & Seminars
2013	Rs 75000	Research Methodology Workshops

3.2.2 Is there a provision in the institution to provide seed money to the faculty for research? If so, specify the amount disbursed and the percentage of the faculty that has availed the facility in the last four years?

Yes, there is provision to provide seed money to the faculty for research. Upon request research facility is provided to faculty. An amount of rupees 3 lakh is given to

the project incubation cell by the management. But any faculty willing to pursue research in any field is encouraged to set up a lab, which benefits the students by having add-on courses.

3.2.3 What are the financial provisions made available to support student research projects by students?

College IEDC invites application from students to avail funding for research projects. After approving the proposal, 50% of total project expense is funded by IEDC with a condition that the working model of project will be submitted to IEDC at end.

The KTU also supports research activities by providing a fund of Rs.10000 for good projects.

Two note worthy projects which got lot of local attention due to the social cause behind them were:

1. Name of Project: My Police App.

Student members: Vishal K M, Lijo Joseph, Shins M Thomas and Charles K Baby

Awarded By: App released by Home minister of Kerala.

2. Name of project: Electric line man safety.

Student members: Jidhin John, Jithin Jose, Jerin J Xavier, Mohammed diab Khan.

Project Guide: Jinu Issac Kuruvilla.

Recognition: Special prize Kerala State council for Science, Technology and Environment (KSCSTE) and KTU.

3.2.4 How does the various departments/units/staff of the institute interact in undertaking inter-disciplinary research? Cite examples of successful endeavors and challenges faced in organizing interdisciplinary research.

MARCO promote interdisciplinary research by organizing various shops, conferences etc.

- Interdisciplinary researches are promoted in the interdisciplinary level by providing opportunity to interdisciplinary student projects. For example computer science students and electronics department students jointly did a project on “internet of things” which basically do a remote home appliance control from a browser

3.2.5 How does the institution ensure optimal use of various equipment and research facilities of the institution by its staff and students?

Every year MARCO collects the usage data of different research facilities made available by the institution, from each department. This is published in its website and the departments are encouraged to support these projects that will lead to the optimal use of research facilities.

The other research facility are optionally used by following the below mentioned policies.

- Extended lab hours and their availability during Saturdays are ensured.
- Reprographic facilities are offered to students and staff at concessional rates.
- Students are encouraged to use new equipments and tools and plan projects based on them.
- Lab based courses and workshops
- Common research lab facilities
- Inter department lab courses
- In house student projects
- The institution share its computing facility for conducting various prestigious online examination like GATE, ASAP etc..in association with TCS,NSEiT etc..

3.2.6 Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facility? If 'yes' give details.

Yes, the institution has received external funding yet. The Mangalam charitable trust has donated 10 lakh for the establishment of research lab.

Year	Purchase made for	Budget allocated for year	Budget utilized for the year
2012-2013	Ansysis Academic Research HF-1 (HFSS 1 – User)	5Lakhs	5.15Lakhs
	Purchased 17 Computers and licenced softwares for establishing the - Research Lab	6.5 Lakhs	6 Lakhs

2013-2014	IBM SEED Program- IBM Rational Rose Architect Software Purchase	2.75 Lakhs	2.7 Lakhs
2015-2016	Purchase of 18 Computers and lab consumables for establishing the CSE- Research Lab	6.5 Lakhs	6.2Lakhs
	Computer for M. Tech research lab	12 Lakhs	10.82 Lakhs

3.2.7 Enumerate the support provided to the faculty in securing research funds from various funding agencies, industry and other organizations. Provide details of ongoing and completed projects and grants received during the last four years.

MARCO provides annual workshops giving details of various funding agencies and their research funds. The travel expenses for project proposal are paid by the management. Special incentives are given to faculty who propose projects for funding. The load of the faculty is reduced by conducting project proposals.

3.3 Research Facilities

3.3.1 What are the research facilities available to the students and research scholars within the campus?

The following table shows the research facility available to students and faculty within the campus.

Infrastructural facilities & Equipments	1.Internet connectivity with high bandwidth and Wi-fi access across the campus. 2.Common research lab and departmental research lab 3..Well equipped computer centre 4.Well equipped library
Library and software	1.E- journals and E- books 2.Good collection of journals and periodicals 3.Facility to lend books 4.Network resource centre 5.ANSYS, IBM Rational Rose 6. MATLAB , Auto CAD

Training	Topics & Tools 1.LaTeX, 2.Wireless Sensor Networks 3.Big Data Processing 4.AutoCad 5.MATLAB PSCAD,PSIM software 6. EDA tools 7.NPTEL local chapter 8.Online Training 9. How search a research topic?
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List of E-Journals

Sl. No	Title	E-Contents	Access
1.	IEEE ASPP Online	145 E- Journals + Back file access since 2000	http://www.ieee.org http://ieeexplore.ieee.org/xplore
2.	Wiley Civil Engineering Collection	Civil Engineering (18 Titles)	http://www.wileyonlinelibrary.com http://onlinelibrary.wiley.com
3.	Wiley Computer Science	Computer Science + Data Systems + Telecommunication and related discipline collection	http://www.wileyonlinelibrary.com http://onlinelibrary.wiley.com
4.	Springer Mechanical Engineering Collection	Mechanical Engineering (46 Titles, back files from 1997-2011)	http://www.springerlink.com
5.	Mc Graw-Hill's Access Engineering	Electronics + Electrical etc	http://2.accessengineeringlibrary.com
6	J-Gate Engineering & Technology	Engineering & Technology	http:// www.jgate.in

			or http://www.j-gate.informindia.co.in
7	Science Direct (Elsevier)	Engineering + Computer Science (275 Journals, Back file access from 2000 onwards)	http://www.sciencedirect.com
8	J-Gate Social & Management Sciences	Management	http:// www.jgate.in or http://www.j-gate.informindia.co.in
9	Emerald Management First Database	Management (1200 Journals)	http://www.emeraldinsight.com
10	ASTM Digital Library	Digital Library over 1700 E-Book and over 13000 Journals	http://enterprise.astm.org

3.3.2 What are the institutional strategies for planning, upgrading and creating infrastructural facilities to meet the needs of researchers especially in the new and emerging areas of research?

The following are the institutional strategies for planning, upgrading and creating infrastructural facilities.

Planning

The institute realizes the importance of providing time and resources to students and faculty for conducting research. The following are steps taken in this direction

- Guidance and help to apply for internal funding
- Encouraging faculty to convert active research into add on laboratory courses
- Setting up of research committees to monitor progress of research in each department.
- Monetary help for presenting paper in journals/ conferences.

Up gradation

The institute understands the rapid changes in the field of research and upgrades equipment steadily every year and face out equipments /software's which are no longer in current use.

Creating infrastructural facility

The institution believes that research can happen when students focused for research are engaging in them. The institute regularly creates new infrastructural facilities to meet the need of researchers. The following is the list of up gradation and creation of infrastructure for research in academic year 2014-2015

Department	Upgradation	Creation
ECE	Advanced Communication Lab	A lab with 36 systems with net connectivity
	Project Lab	A lab with 36 systems
	PG Lab	A lab with 36 systems with net connectivity
EEE	Electrical CAD/Simulation Lab	A lab with 35 systems
	PG Lab	A lab with 18systems
CSE	PG Lab	A lab with 36 systems
	Incubation and Research Lab	A lab with 18 systems
	Seminar Hall	An ICT enabled hall with 41 seats
	Computer HardwareWorkshop and Microprocessor Lab	A lab with Hardware parts of computer and 8 microprocessor training kit.
CE	PG Lab	A lab with 18 systems
	UG Lab	A lab with 60 systems

3.3.3 Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facilities?

Recently institute received a grant of rupees 2 lakhs from IEDC and Kerela start up mission which will be invested for start up research.

3.3.4 What are the research facilities made available to the students and research scholars outside the campus / other research laboratories?

Many faculty members have applied and are continuing their PhD at various university/institute. The table below shows the list of faculty and the institute visited for research activities,

Research Scholar	University/ Institute	Research facility
Dr. Siby C. Chithran	Bharathiar University, Coimbatore	Researchers' Room, Library, Internet and related infrastructure
Dr. Siby C. Chithran	Bharathidasan University, Tiruchirappalli	Researchers' Room, Library, Internet and related infrastructure

3.3.5 Provide details on the library/ information resource center or any other facilities available specifically for the researchers?

List of E-Journals

Sl.No	Title	E-Contents	Access
1.	IEEE ASPP Online	145 E- Journals + Back file access since 2000	http://www.ieee.org http://ieeexplore.ieee.org/xplore
2.	Wiley Civil Engineering Collection	Civil Engineering (18 Titles)	http://www.wileyonlinelibrary.com http://onlinelibrary.wiley.com
3.	Wiley Computer Science	Computer Science + Data Systems + Telecommunication and related discipline collection	http://www.wileyonlinelibrary.com http://onlinelibrary.wiley.com
4.	Springer Mechanical Engineering	Mechanical Engineering (46 Titles, back files)	

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	Collection	from 1997-2011)	http://www.springerlink.com
5.	Mc Graw-Hill's Access Engineering	Electronics + Electrical etc	http://2.accessengineeringlibrary.com
6	J-Gate Engineering & Technology	Engineering & Technology	http:// www.jgate.in or http://www.j-gate.informindia.co.in
7	Science Direct (Elsevier)	Engineering + Computer Science (275 Journals, Back file access from 2000 onwards)	http://www.sciencedirect.com
8	J-Gate Social & Management Sciences	Management	http:// www.jgate.in or http://www.j-gate.informindia.co.in
9	Emeralad Management First Database	Management (1200 Journals)	http://www.emeraldinsight.com
10	ASTM Digital Library	Digital Library over 1700 E-Book and over 13000 Journals	http://enterprise.astm.org

The following are the details on library/information resource centre available specifically for the researchers.

Resource Centre	Members that can be simultaneously accessed
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EBSCO	60
EMERALD	60
IEEE Access	18

3.3.6 What are the collaborative research facilities developed/ created by the research institutes in the college. For ex. Laboratories, library, instruments, computers, new technology etc.

The following are the collaboration made with institute for furthering research activities

Institute with collaboration	Date of MOU	Collaborating in
James Cook University, Austrailia	09/08/2013	MLMCE

3.4 Research Publications and Awards

3.4.1 Highlight the major research achievements of the staff and students.

The following are the achievements of staff and students in various categories

Patents filled	Research for product improve	Research students or survey
Punching System & Employee Performance	Ms. Vidya K Viswanath	Dr Sibu C Chithran
FSSAI Standard on Branded Food Products	Mr. Jijith T.S	Dr Sibu C Chithran
Impact of Celebrity Endorsement	Mr. Jobish George	Dr Sibu C Chithran

3.4.2 Does the Institute publish or partner in publication of research journal(s)? If ‘yes’, indicate the composition of the editorial board, publication policies and whether such publication is listed in any international database?

No

3.4.3 Give details of publications by the faculty and students:

Sl.no	Faculty/students name	No of papers published National /International journals	No of papers published/ presented in conference	Total	No of papers listed in international databases
1	Mr. Anu Philip Mathew	2		2	2
2	Ms. Binu Manohar	5	1	6	6
3	Mrs.Sunu Ann Thomas	2	1	3	3
4	Mr. Gopakumar M. G.	2		2	2
5	Mr.Jinu Isacc Kuruvilla	5	0	5	
6	Mrs. Resma Chandran	3	2	5	5
7	Mr. Reneesh C. Zachariah	7			7
8	Ms. Jency Andrews	2	1	3	3
9	Mr. Rakesh S.	4			4
10	Ms. Simi P. Thomas	5	1	6	6
11	Mr.Kevin Varghese	1		1	
12	Ms. Hima Sara Jacob	12	4	16	16
13	Neethan Elizabeth Ebrahim	2		2	2
14	Ms. Ankitha Chandran	1	1	1	1
15	Ms. Lakshmy Sasidharan Nair	1	1	1	1

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16	Krishnapriya CV		1	1	1
17	Aswathy K Sarma	7	3	10	10
18	Remya Elizabeth Philip	5	5	10	10
19	Vinodh P Vijayan	2/10	4/8	12	10
21	Neethu Maria John	1/1	1/1	2	1
22	Sreenimol K.R	0/3	3/0	3	3
23	Nimmymol Manuel	0/1	1/0	1	1
24	Neena Joseph	$\frac{1}{2}$	1/1	3	2
25	Anna Prathibha Shobhak	1/1	1/0	1	1
26	Divya S B	2/1	3/0	3	1
27	Elsa Tom	1/0	0/1	1	0
28	Vineetha V Nair	0/2	2/0	2	2
29	Sujitha M	0/2	2/0	2	2
30	Neema George	0/1	1/0	1	1
31	Mitha Rachel Jose	1/3	3/1	4	3
32	Simy Mary Kurian	1/1	2/2	2	1
33	Syamamol T	0/2	2/0	2	2
34	Neethu Tom	0/2	1/1	2	2
35	Subha Sreekumar	0/2	2/0	2	2

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36	Renjana Ramachandran	0/2	2/0	2	2
37	Gayathri R Krishna	0/1	1/0	1	1
38	Jissy Liz Jose	0/2	0/2	2	2
39	Merlin Mary James	0/2	2/0	2	2
40	Rose V Pattani	0/1	1/0		1
41	Seena Teresa George	0/1	1/0	1	1
42	Vishnu S Sekhar	1/1	2/1	2	1
43	Neena Shaji	0/1	1/0	1	1
44	Jeny George	0/1	1/0	1	1
45	ReshmaKassim	1	2	3	1
46	Siply Abraham	Nil	1	1	
47	Fr. BennetKuriakose	7	2	9	7
48	Geethu Thomas	0	1	1	
49	Femi Jose	Nil	1	1	1
50	Susan Mathew	Nil	1	1	
52	Revathy N	2	2	4	
53	Reshmi A S	2	2	4	2
54	Reni Kuruvilla				
55	Smruthymol Joseph	1	3	4	2

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56	Salini Theresa	1	3	4	1
57	Sruthi Krishnan	1	4	5	1
58	Pooja S Ajay	1	1	2	1
59	Deepa Varghese	Nil	1	1	
60	Aparna ben	1	Nil	1	1
61	Anitha Philip	Nil	1	1	
62	Nissy Susan Mani	Nil	2	2	
63	AkhilLal	1	1	2	1
64	Alice Johny	1	Nil	1	1
65	Surya Sasidharan		1		
66	Susan V Ninan	1	1	1	
67	Preethi Sebastian	2	1	3	
68	Benny K K	0	3	3	
69	Reema Manavalan	1	3	4	
70	Liya Alias	0	5	5	
71	Jeneesh Scaria	0	2	2	
72	Rehumath Beeby K A	0	1	1	
73	Dhanya S	0	2	2	
74	Eugene Peter	0	3	3	

75	Amalu Philip	0	2	2	
76	Priya S P	0	2	2	
77	Aju Thomas	0	5	5	
78	Phejil K Paul	0	2	2	
79	Sreedwevi P R	0	2	2	
80	Sammon Korah	1	1	2	
81	Abu Thomas Cherian	3	0	3	
82	Ajith Kurian Baby	1	2	3	
83	Rinu Thomas	0	5	5	
84	Subin George Mathew	4	1	5	

3.4.4 Provide details (if any) of

***research awards received by the faculty**

***recognition received by the faculty from reputed professional bodies and**

agencies, nationally and internationally

***incentives given to faculty for receiving state, national and international recognitions for research contributions.**

AWARDS:

Paper presented by Vinodh P Vijayan, HOD, Department of Computer Science in the international conference ICECCS 2015 at NIT Kurushetra, is published in Elsevier proceedia and it is further selected for Special issue of Pertanika Jornal of Science & Technology (SCOPUS INDEX)

3.5 Consultancy

3.5.1 Give details of the systems and strategies for establishing institute-industry interface?

1. Visiting Technopark, Infopark Etc
2. Interaction with Business Start up villages
3. Establishment of an Entrepreneurship Development Cell

3.5.2 What is the stated policy of the institution to promote consultancy? How is the available expertise advocated and publicized?

Institute does consultancy in all areas of its expertise. The consultancy policy of the institution allows the faculty to retain 50% of the revenue generated from the consultancy services. The available expertise is publicized through college websites and newsletters.

3.5.3 How does the institution encourage the staff to utilize their expertise and available facilities for consultancy services?

Institution encourage the staff to utilize their expertise and available facilities for consultancy services by the following ways:

- Consultancy works are added while scheduling work load for faculties.
- Faculties doing consultancy are given recognition in faculty promotions and subject allocations.

3.5.4 List the broad areas and major consultancy services provided by the institution and the revenue generated during the last four years.

Sl no	Name of activity	Income(Rs)
1	Compressive strength of concrete	10000
2	Specific gravity of Aggregate	600
3	Concrete mix design	60000
4	Tension test on steel	2200
5	Aggregate Test	540
6	Shape test	540
Total		73880

3.5.5 What is the policy of the institution in sharing the income generated through consultancy (staff involved: Institution) and its use for institutional development?

HOD	10%
Management	50%
Staff	25%

Lab staff	15%
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3.6 Extension Activities and Institutional Social Responsibility(ISR)

3.6.1 How does the institution promote institution-neighbourhood- community network and student engagement, contributing to good citizenship, service orientation and holistic development of students?

The institution believes in social commitments and responsibilities to our neighbor's and community. The following were the steps taken by the management to promote these.

- The institute conducts project exhibitions and science fairs for students /parents of neighboring schools and community.
- Participation of members of institution in social activities and gatherings in community
- Visits neighboring schools and lectures on the importance of science and technology orientation towards technical education.
- Visit to old age homes/mentally challenged schools by students and faculties compulsorily every year.
- The commitment towards society and producing leaders with social responsibility is embedded in the mission and vision of the institute.
- Rewarding neighboring schools which have produced excellent results in the twelfth standard
- Organization of blood donation camp etc...

Mangalam Educational &Charitable Society

Mangalam college of engineering understands the importance of institution neighbourhood community network for the overall development of the student as a good citizen with an orientation towards service to society. The following are the initiatives and contribution to student development.

Sl no:	Clubs/ activities	Summary details of activities	Contribution to overall student development.
1	Nature club	The club members visit spot natures in and around	Sensitive towards nature

		campus and hold informal discussions of preserving nature	
2	Oldage home visit	Student groups visit nearby oldage homes and interact with its members	Sensitized to the needs of old people
3	Orphanage visit	Student groups visit nearby orphanages and conduct fun activities	Organizing skills
4	Visit to school of differently abled/mentally challenged.	Student groups visit nearby schools of mentally challenged ,interact with its members and organize fun activities	Sensitized to the needs of mentally challenged

3.6.2 What is the Institutional mechanism to track students' involvement in various social movements / activities which promote citizenship roles?

The institution recognizes and monitors the students involvement in various social movements as it fosters qualities for developing a responsible citizen. The following are the mechanisms to track the student involvement.

1. Student mentor's are advised to take the views and react openly to reactions and suggestions forwarded by them on various current issues.
2. The departments are advised to promote a culture of freedom of speech and ensure adequate forums and discussions to share the student's views on various social issues.
3. The students are encouraged to interact in a responsible manner using social media tools.

3.6.3 How does the institution solicit stakeholder perception on the overall performance and quality of the institution?

The IQAC receives feedback from various stake holders on the holistic targets and their achievements by the institute. It also collects feed back in a face-to-face mode with the help of following activities

1. PTA meetings
2. Industry institute interaction

3. Industrial talks by external members during various programs
4. Local community programs
5. Placement feedbacks

3.6.4 How does the institution plan and organize its extension and outreach programmes?

The institution has provided freedom to various departments to plan and organize its extension and outreach programs. The table below shows the major extensional and outreach programs and their impact in the holistic developments of students

- Project Exhibition
- Women Empowerment Programme
- E-SMART Programme for Women
- ICT & CYBER Awareness
- Earthquake preparedness presentations
- ISRO& Space Science exhibition
- Orphanage visit
- Oldage home visit

3.6.5 How does the institution promote the participation of students and faculty in extension activities including participation in NSS, NCC, YRC and other National/ International agencies?

The institution realizes the importance of student involvement in the extension activities like NSS. Every academic year experiences a flurry of activities under NSS. All the students and faculty members are encouraged to join NSS, clubs and associations of the college. All the students are made compulsory members of their departmental association. The students and faculties are encouraged to conduct activities under these extension programmes which are popular among students for the following reasons.

1. Planning and organizing events under various clubs and association
2. Awards are given to best social worker,best projects,innovative practices.
3. Financial support to students for conducting these activities.
4. Duty leave are granted to students participating in these activities.

3.6.6 Give details on social surveys, research or extension work (if any) undertaken by the college to ensure social justice and empower students from under-

privileged and vulnerable sections of society?

The college believes that social justice can be ensured only through multi-level social engagements. We believe that positive changes can happen only through youth of the country and since we have a good student community we encourage any one from the Mangalam family to conduct such extension works. Some of which are

1. Computer literacy for school students.
2. Popularizing science and technology among school students.
3. Encouraging students to conduct surveys and projects for social good.
4. Spotting brilliant students from under privileged sections of society and provide education in least possible cost.

3.6.7 Reflecting on objectives and expected outcomes of the extension activities organized by the institution, comment on how they complement students' academic learning experience and specify the values and skills inculcated.

The following are the extensional works

1. Computer literacy for school students.

Invitations are sent to nearby schools for workshop on basic Microsoft office, tools. The registering students are given 2 days workshop during regular hours.

How the student benefit:

The students understand the impact of technology in the society and the benefits that it can give if school children are trained for basic computer literacy. The students also are able to realize the gap between technically sound community and common man without any computer skills. This improve their presentation and communication skills.

2. Popularizing science and technology among school students.

Every department sends faculty members to schools within or outside the district to give a presentation and encourage students to take up engineering as a career option. Interested students are regularly counseled by each department.

How the student benefit:

The students get an opportunity to interact with a non technical community and introspect the values gained by pursuing a technical course.

3. Encouraging students to conduct surveys and projects for social good.

The college follows a policy that every year students should come up with projects that are good for society a list of some of these are given below.

Sl no	Department	Activity	Period
1	ECE	Electric Line Man Safety	2015 Selected for KTU TechFest Got Grand from KSCSTE(Kerala State Council for Science Technology & Environment)
2	ECE	Guiding Blind people with Haptic feedback	2014 Got First Prize in the Project Exhibition held in Albertian College of Engineering
3	ECE	Dump Aid Telephone System with gesture to Voice Conversion	2014 Got Second Prize in the AICTE IPS SPONSERED ProjectExhibition held in Saint Gits College Of Engg
4	CSE	1.Advanced Vehicle Tracking System on Google Earth 2.Nymble:Blocking misbehaving users in anonymizing networks 3.Footprint:	2014-2015

		Detecting sybil attacks in urban vehicular networks	
5	Civil Engineering	Sustainable traffic improvement for ettumanoor junction	2014-2015
6	Civil Engineering	Design of Storm water drainage system in Ettumanoor using GIS tools	2014-2015
7	EEE	A GPS based traffic light Pre-emption Control System for Emergency Vehicles	2014-2015
8	MBA	Social Awareness Campaign (Students Volunteered to make general public aware about social evils like Drug Abuse, Smoking, Sexual Abuse of kids etc	May-June 2015
9	MBA	Finishing School Programme (Final Year MBA students underwent one month finishing school program with 'Insightjobguru' training team	2015

How the student benefit:

The students get to know first hand the problems faced by the society and come to a realization that engineering solutions are best for solving many social issues. This knowledge is otherwise very rarely incorporated in the university curriculum.

- Spotting brilliant students from under privileged sections of society and provide education in least possible cost.

There are number of students who are studying with scholarship distributed for good students from under privileged and vulnerable sections of the society.

How the student benefit:

The students get a feeling that excellence seldom goes unrewarded.

3.6.8 How does the institution ensure the involvement of the community in its reach out activities and contribute to the community development? Detail on the initiatives of the institution that encourage community participation in its activities?

Mangalam College of Engineering comes under Mangalam educational society which has a principle objective of promoting the mission for imparting education to Indian youth with an aim of literate Kerala. Along with educational activities, Mangalam Educational Society renders many charitable as well as social services towards uplifting the weaker sections in the society and imparting technical education to the young generation. Mangalam Educational Society has taken initiative to implement many projects aiming at doing welfare activities for the society, especially for the downtrodden

The Society also raised public voice against drugs and consumption of intoxicants with the involvement of young people. Furthermore, community meetings are organized in village areas in order to create civic consciousness among the people for the national solidarity and to promote art, literature and sports.

3.6.9 Give details on the constructive relationships forged (if any) with other institutions of the locality for working on various outreach and extension activities.

The following are the details

1. The college actively involves with other institutions for promoting placement activities for students
2. The college gives its support and work in the activities under smart Kottayam initiative put forward by Kottayam Collector.
3. The college provides infrastructure facilities at subsidized cost for programmes under ASAP conducted by state and central government.
4. The college in association with ISRO conducted exhibitions on space technology for common public.
5. The college has continually participated in various programmes initiated by local print/broadcasting media for example BEAKON conducted every year.
6. The college has regularly interacted with rotary club to involve in social activities like blood donation camps etc..

3.6.10 Give details of awards received by the institution for extension activities and/contributions to the social/community development during the last four years.

NIL



The Mangalam group organised an ISRO's exhibition and made it available to public and students of various schools





These are some snapshots of ‘Science Fair’ conducted in Mangalam College of Engineering.





The students of MLMCE visited M.G.M ABHAYA BHAVAN, PAMPADY as apart of social service. The students were actively involved in cleaning the premises, cooking and serving food to the inmates.



The students of Mangalam College of Engineering visited the Navajeevan Trust , Arpookara and they selflessly served the old, needy and sick people.



The students of MLMCE visited Bethany Ashram, Mandiram and did 5 days of social service .

3.7 Collaboration

3.7.1 How does the institution collaborate and interact with research laboratories, institutes and industry for research activities. Cite examples and benefits accrued of the initiatives - collaborative research, staff exchange, sharing facilities and

equipment, research scholarships etc.

The college understands the importance of collaboration within the sphere of research activities for its growth in a globalised world. The students are regularly sent to various institutes/ organisations for project work. Some of them are listed below

Sl no:	Department	Institution where students have been sent for project activities BTech/ Mtech
1.	ECE	Mtech <u>2011</u> Jitha Rajan (Isro) Design Of A Magnetic Levitation Control System - Magnetic Suspension Reaction Wheel <u>2012</u> Sibi Manoj (Cedac) B Tech 2014
2.	Civil Engineering	1. National transportation planning and research centre (natpac) 2. Centre for Environment and Development
3.	CSE	Inhouse B.tech and M.tech Projects
4.	ME	1. Hindustan Aeronautic Limited 2. Fertilisers and chemicals Travancore Limited 3. Autokast Limited Cherthala
5.	MBA	The department signed and MOU with ExMI, Sweden to have student exchange programmes . Another Agreement is in the anvil with Cardiff Metropolitan University, UK to have faculty exchange programmes

3.7.2 Provide details on the MoUs/collaborative arrangements (if any) with

institutions of national importance/other universities/ industries/Corporate (Corporate entities) etc. and how they have contributed to the development of the institution.

Sl No:	Name Of Organisation
1	Waiariki Institute of Technology, New Zealand
2	James Cook University, Australia
3	Seneca College, Canada
4	ICT Academy
5	TCS-ion
6	NSEiT

3.7.3 Give details (if any) on the industry-institution-community interactions that have contributed to the establishment / creation/up-gradation of academic facilities, student and staff support, infrastructure facilities of the institution viz. laboratories / library/ new technology /placement services etc.

The college has recognised itself as a stake holder in the prime ministers skill India programme and has associated with various agency in developing and providing infrastructure facility for skill India programme. The following are the details.

1. Provided laboratory for a course on Ac and refrigeration course under ASAP India.
2. Discussing on provision of computer lab with 25 systems for Skill India programme

3.7.4 Highlighting the names of eminent scientists/participants who contributed.

The following Dignitaries have visited the campus for various Talks:

1. Dr. Jayan Thomas, Associate Prof., Nano Science Technology Center, CREOL and College of Engineering., USA
Talk on Nano Technology
2. Dr. M K Radha Krishnan, Scientist, Accademician and Technical Consultant, Founder, Director and chief technical Consultant of NANOREL Technical Consultant.
3. Dr. V P N Nampoothiri, Emeritus Proffessor, International School of

Photonics, CUSAT.

4. Dr. V. Shanmuga Neethi (Coordinator) & Dr. G. Janardhanan (Co – Coordinator), National Institute of Technical Teachers Training and Research (NITTTR), Minister of HRD, Govt. of India.
5. Mr. Santhosh Kurup, CEO, ICT Academy, Trivandrum
6. Harvey Starkman, Professor, Seneca College, Canada visited the campus for a workshop on the topic Five Major Errors and How to Prevent Them

3.7.5 How many of the linkages/collaborations have actually resulted in formal MoUs and agreements? List out the activities and beneficiaries and cite examples (if any) of the established linkages.

Sl No:	Name Of Organisation
1	Waiariki Institute of Technology, New Zealand
2	James Cook University, Australia
3	Seneca College, Canada
4	ICT Academy
5	TCS-ion
6	NSEiT

Nature of interaction

Waiariki Institute of Technology, New Zealand (from 07/03/2015)

- Establishing articulation agreements between Mangalam and Waiariki programmes of study to support progression of Mangalam students to Waiariki.
- Delivery of Waiariki programmes in partnership at Mangalam through, for example, 1+2, or 2+1 programmes, split Masters delivery and joint teaching.
- **Beneficiaries :** Mangalam students and faculties

James Cook University, Australia (09/08/2013)- faculty and student exchange, twining programme.

- **Beneficiaries :** Mangalam students and faculties

Seneca College, Canada (from 05/09/2014)- Faculty and student exchange, twining programme and dual degree programme. Course mapping is done for MG university BCA to BSD programme of Seneca.

- **Beneficiaries** : Mangalam students and faculties, MG university BCA graduates.

ICT academy, Kerala(from July 2015): Training the faculties, training and placement support for students.

- **Beneficiaries** : Mangalam students and faculties

TCSiON(2012): Technical and infrastructural support for conducting various online examinations.

- **Beneficiaries** : Mangalam students, faculties and public

NSEiT(2015): Technical and infrastructural support for conducting various online examinations

- **Beneficiaries** : Mangalam students and faculties and public.

3.7.6 Detail on the systemic efforts of the institution in planning, establishing and implementing the initiatives of the linkages/ collaborations.

Any other relevant information regarding Research, Consultancy and Extension which the college would like to include.

The institute believes that collaboration and linkages are vital to the growth of institution in front of a globalized world. The college frequently searches avenues and encourages others to form collaboration with it in various fronts. The policy that the college has is to encourage departments to form alliances for better research opportunities.

The faculties are encouraged to scout for new collaborations with industries and organization. Identification of corporate bodies is also done by alumni and students.

CRITERION IV: INFRASTRUCTURE AND LEARNING RESOURCES

4.1. Physical Facilities

4.1.1 What is the policy of the Institution for creation and enhancement of infrastructure that facilitate effective teaching and learning?



The College has an effective policy in place in order to create and enhance the infrastructure that facilitates effective teaching and learning. This policy consists of ensuring maximum and optimum utilization of the space and infrastructure so that the end user gets the best out of the available. The institution interacts frequently with parents, teachers, Alumni and students for creation and enhancement of its infrastructure. Further, to keep pace with the scientific and technological advancements, parallel expansion of infrastructure in the form of laboratories, library and other learning resources such as computers, e-resources and Wi-Fi facility were available. Necessary budget is allocated for creation, enhancement and upgradation of infrastructure.

Various departments and administrative sections are housed in the Main Block. The MBA and first year block function in a separate block. The college has spacious class rooms, digital theatre, Amphi-theatre, laboratories, conference hall, tutorial rooms and sports facilities. The college has adequate infrastructure for effective functioning of all its academic programmes. The regular class hours are 9 am to 4.10

p.m. and the class rooms are allotted according to the general time table and care is taken to ensure that the class room facilities are utilized to the maximum. Computer labs and libraries remain opened from 9.00 am. to 6.00 p.m. to cater to the needs of the institutional members. Classrooms and digital theatre are used to conduct value added course, certificate course, remedial classes, training and practice for various cultural events after class hours.

The Infrastructure facilities are utilised optimally, Playground and sports facilities are accessible to the students and neighbouring community on prior request depending on their availability. Students utilize these facilities even after class hours. Children from the neighbouring village are allowed to use the playground. The college was also a centre for conducting the TCS, NSEiT online Examination Centre. Infrastructure facilities are provided for conduct of GATE,CMC,JIPGMER IBPS, JEE, RBI and for other competitive exams.

4.1.2 Detail the facilities available for

a) Curricular and co-curricular activities – classrooms, technology enabled learning spaces, seminar halls, tutorial spaces, laboratories, botanical garden, Animal house, specialized facilities and equipment for teaching, learning and research etc.

The college is placed in a serene lush green campus. It is located at Vettimukal hills, Ettumanoor, Kottayam District. The total extent of land available is 25.03 acres. The college has a built-up area of over 19264.71m².

Infrastructure facilities for curricular and co-curricular activities

S No	Name of the facility	Number of rooms	Area in sq.m
1	Class rooms	49	3626.45
2	Tutorial rooms	9	637.26
3	Drawing Halls	1	135
4	All laboratories	22	3795.96

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5	Seminar halls	5	524.91
6	Conference rooms	1	56.44
7	Digital Theatre	1	154
8	Computer centre	2	160
9	Library and reading rooms	1	400
TOTAL		93	9508.48

Classrooms:



The College has sufficient number of well-furnished, well-ventilated, spacious classrooms for conducting classes.

- All Class Rooms are spacious so that proper ventilation, lighting is provided with good acoustics.
- All Classrooms will have variable light control within the room and in specific zones i.e. fixtures with multiple tubes with individual switching

- All departments have sufficient classrooms at their premises so that the students can have easier access.
- Each department is provided with tutorial classrooms.
- A tack board is installed in each classroom to post announcements and other class-related items.

Technology enabled learning rooms:

Each room has sufficient seating capacity and all departments are provided with adequate number of LCD projectors, Black/White boards, Wi-Fi and LAN enabled internet connectivity, public addressing system etc.

Seminar Halls:



- Each department in the college has separate seminar hall to conduct conferences, workshops and symposia for students and faculty.
- Furnishing with large tables and chairs.
- Seating capacity is 20-50
- Equipped with LCD projector ,LCD Screen, White board and Wi-Fi



Laboratories:

All departments have necessary laboratories. All laboratories are well equipped, and well maintained not only for carrying out curriculum-oriented practical but also to carry out experiments beyond curriculum.



Specialized facilities and equipment for teaching, learning and research:

- The college provides the facilities for improving communication skills through English communication skills lab.
- Excluding central library each department has separate department library with good collection of references
- The college has provided a wide span of IEEE access for both faculties and students.
- Reference books for all the subjects are available in the central library as well as department library for self learning.



b) Extra –curricular activities – sports, outdoor and indoor games, gymnasium, auditorium, NSS, NCC, cultural activities, Public speaking, communication skills development, yoga, health and hygiene etc

Sports:

The Mangalam College of engineering has state of the art sports facilities in the following area:

- Fitness Center
- Basketball Court
- Volleyball Court
- Table Tennis
- Football Field
- Indoor Shuttle badminton courts

- Cricket Nets



Our Basketball team won the St. Joseph's (PACE-2015) Basketball trophy at Pala on 10th February 2015 at St. Joseph's College of Engineering, Choondachery.

- The College encourages and provides facilities for students to participate in both outdoor and indoor games .For example the college has completely waived the fees for the following students

Sl No	Name	Year of Admission	Brach	Year
01	Vined Mathew	2014	EEE	2
02	Vipin babu	2014	EEE	2
03	Evin Xavier K J	2014	EEE	2
04	Nobin Jose Baby	2014	CSE	2
05	Ravith S Nair	2015	ME	1
06	Nithin S Kumar	2015	ME	1
07	Ninthin S Kumar	2015	CSE	1
08	Sanjay J	2013	CSE	3
09	Brinto Vijayan M	2013	CSE	3
10	Jithin Francis	2012	IT	4
11	Arjun Appu	2012	IT	4

12	Rahul V R	2012	IT	4
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- A full time Physical Trainer trains the student to accomplish their aim in the fields of interest.



- **Cultural Activities:**

The College conducted Sarang(Cultural fest) in every year to encourage the students to participate in various cultural and literary activities and make the students excel in their fields of interest. Miss. Renjini K C of CSE Dept won first prize for Chakyarkooth in 2014 at University Level.

- **Public speaking communication skills development:**

A well developed language lab facility is used for public speaking communication skill development. Students are trained by simulating various situations using language lab software. Students can hear to various speeches, communication types and this allow then to do practice on it. The facilitator can monitor the students practice and the development in each practice sessions.

- In class room teaching, students are given special training on Grammar and Phonetics. Training on writing emails, reports and Short essays are also given. Exams are conducted to verify the comprehension level of each student on each level. Also, group discussions, debates, power point presentations are conducted periodically to improve student's caliber on communication skills.



4.1.3 How does the institution plan and ensure that the available infrastructure is in line with its academic growth and is optimally utilized? Give specific examples of the facilities developed/augmented and the amount spent during the last four years (Enclose the Master Plan of the Institution / campus and indicate the existing physical infrastructure and the future planned expansions if any)

The Institute develops the infrastructure as per the norms of AICTE, University, State government and KTU. The experts from university and KTU are regularly visits the Institute every year. This enables the Institute to ensure the infrastructure adequacy and optimum use for academic growth. As per the academic requirements and co curricular activities the institute makes the arrangements and assigns fund for developing the infrastructure to meet the same. Amount spent for various facilitates developed for the last 4 years (in rupees) is given below.

Sl No	Description	2014-15 (Rupees)	2013-14 (Rupees)	2012-13 (Rupees)	2011-12 (Rupees)
1	Infrastructure land / buildings	39657074	28144265	18014005	3996136
2	Laboratory equipment	441597	2398543	5056414	588873
3	Library books and	17,77,815	10,20,037	21,05,735	25,59,838

	Journals				
4	Furniture	4000607	5549993	1635680	3856744
5	Vehicle	5291935	4567084	5457304	2372093
6	Computers	400000	3540000	5160000	209213
7	Electrical Equipments	2162281	2701538	1262610	195165

4.1.4 How does the institution ensure that the infrastructure facilities meet the requirements of students with physical disabilities?

The college provides a supporting environment for all the students with disabilities. The Main block has a well furnished sick room for boys and girls and first aid facilities. All departments have medicine boxes to meet the emergency situations. An ambulance and a stretcher are also organized for the students. All buildings have ramps for wheel chair access. Wheel chairs are provided by the college. Lift facilities are available at the new block.





4.1.5 Give details on the residential facility and various provisions available within them:

The college is having two hostels one for boys that can accommodate boys and the other for girls with a capacity. Both the hostels have facilities such as common rooms

with TV and magazines, sports and games facility, internet and Wi-Fi facility etc. The hostel capacity and other details are given below.

Sl No	Description	Boys	Girls
1	Location	College premises	College premises
2	Area in sq.m	2330	1941
3	Internet /wi-fi facility	Available	Available
4	Capacity for accommodation	210	190



4.1.5 What are the provisions made available to students and staff in terms of health care on the campus and off the campus?



Mangalam Campus provides free first aid health service for students and staff on the campus itself. The centre is headed by a qualified Doctor and a nurse who's services is valuable for all students and staff in the campus. The Student Healthcare Centre is fully equipped to handle most of the medical emergencies, and the graver emergencies are referred to the hospitals in the immediate vicinity that handles all complex medical situations effectively. Ambulance facility is also available in the campus.

The physical and mental well-being of the student and staff are given prime importance. Various measures are undertaken to ensure their care and welfare.

- Tie-up with nearby hospital for 24/7 medical support and care
- First aid amenities are available in each block
- Retiring room facilities
- Medical insurance scheme for Students
- 24/7 Ambulance facility is available in the campus

4.1.7 Give details of the Common Facilities available on the campus—spaces for special units like IQAC, Grievance Redressal unit, Women's Cell, Counselling and Career Guidance, Placement Unit, Health Centre, Canteen, recreational spaces for staff and students, safe drinking water facility, auditorium, etc.

Counseling and Career guidance:

- The college has an active Placement cell situated in the campus
- Conduct career guidance program to students by experts in every year
- Appointed a placement faculty to train the students in weekly wise.
- The college appoints a clinical Psychologist Dr.Jins Mathew to provide the psychological support service for the students to improve their academics and to develop a healthy personality.
- The service is not limited to students but to the teaching as well as non teaching staff in the institute.

Health care:



- Mangalam Campus provides free first aid health service for students and staff on the campus itself.
- The centre is headed by a qualified Doctor and a nurse who's services is valuable for all students and staff in the campus.
- The Student Healthcare Centre is fully equipped to handle most of the medical emergencies, and the graver emergencies are referred to the hospitals in the immediate vicinity that handles all complex medical situations effectively.
- Ambulance facility is also available in the campus.

Canteen:

- The college has two hygienic food courts in the campus with necessary arrangements for cooking and serving food to students and faculties.
- Canteens also provided with modern kitchen.



Auditorium:

An auditorium which is fully furnished and centrally air-conditioned with a seating capacity of 140 is available in the institute.



Drinking Water:

- Purified drinking water facility is installed in different floors of the buildings and laboratories.
- The college ensures the continuous water supply to these sources.

- Main pump house electrical consumer no 11603 three phase line 10 HP submersible water pump 2800 rpm from well to main water tank at campus near back side of ATM counter of capacity 1.5 Lakhs Liters
- Tanks with various capacity are present at administrative block, MBA block, Ladies hostel and Gents hostels.
- During summer seasons college employs its own water tanker for uninterrupted water supply

Power supply:

Major power sources is KSEB with 3 phase connection and transformer with 400 KVA. The College maintains 380 KVA and 63 KVA diesel generator for power back up and there is a 80 KVA uninterrupted power supply facility.



Women's Cell:

The college has established a Women's Cell in the College Campus for the Women Faculty, Staff and Girl Students, to enhance understanding of issues related to women and to make the college campus a safe place for them. It also provides a platform for women to share their experiences and views regarding their status in the society and to suggest ways to improve and empower themselves.

Present Members of Women Cell :

Coordinator : Ms.Reshma Kassim (CE)

Members : Ms. Susan V Ninan (EE)

Ms.SipliAbraham(CE)

Ms. Mini Abraham (BS)

Ms. Jyothisree K R (EC)

Ms. Neethu Maria John (CS)

Communication:

At present, the institute has 30 external telephone lines, and an expandable EPABX which connects all departments and a fax.



Transport:

- The College provides 15 buses for comfortable and safe transport of students and staff.
- Two heavy vehicles for college purpose goods transportation
- One ambulance for medical purpose
- Five vehicles for other purpose

Placement Unit :



- Mangalam understands the importance of Placements and hence it has given prime importance not only to train the students but to maintain state of the art facilities for Placement Drives. This provides a very professional and futuristic approach for both student and Visiting companies. Placement Team is headed by Mr. Sebastian Joseph, He is an Executive Committee Member of All Kerala Placement Officers Consortium (CTIPS). Specialized in teacher empowerment, soft skills, communication skill, finishing skills, personality development and career training. Ms. Neena Susan Shaji, Asst. Placement Coordinator, assists Mr. Sebastian Joseph in daily activities of the placement cell and in coordinating all the campus drives that are conducted for the students in the college.

4.2 Library as a Learning Resource

4.2.1 Does the library have an Advisory Committee? Specify the composition of such a Committee. What significant initiatives have been implemented by the committee to render the library, student/user friendly?

The college library has a Library Committee comprising of following members:

Head of the committee: Prof. Manoj George (Vice Principal)

Committee Members:

Asst Prof: Sunu Ann Thomas (Electronics department)

Asst Prof: Preethy Sebastian (Electrical & Electronics department)

Asst Prof: Tisa Sebastian (Civil Department)

Assoc. Prof: Sreenimol K R (Computer Science department)

Asst Prof: Benphil C Mathew (Mechanical department)



The Central Library functioning here as an information disseminating centre catering to the needs of students and staff community has a major role in paving the way for better academic excellence. The Central library has an area of 2708 sq.ft (251.69 sq.m) specialized collections of Books, Journals and Non - book materials are available in Basic Sciences, Engineering and Technology, applied science and Humanities. The library has got a collection 26586 volumes consisting of 5634 titles in different domains of science and technology. Central library has access to e-resources of ASCE journals, ASME journals, IEEE journals and NPTEL video courses in the different fields of Education.

Some of the important initiatives undertaken by the committee to make the library more students friendly are as follows:

Library Automation

The Soul Software is used for Library Automation. Soul Software which is an integrated multi-user management system that supports all in-house operations of the library. Bibliographic records of books available in the library can be accessed through the SOUL OPAC.

Library Automation Facilities

1. Barcode based circulation system

2. Reservation of documents which are issued

Bar-coding system

1. All the books are bar coded in the library & barcode laser scanners are used in the circulation counter for book transaction.
2. Period of Loan for a book will be 14days for B.Tech and M.Tech students and 1 month for staff.
3. Period of loan can be renewed twice after the 1st the period of loan
4. The request of renewal should be recieved in the library on or before the due date of return. Renewal will not be granted if the book is under reservation.

Total area of the library (in Sq. Mts.)	400 sq.m
Total seating capacity	200
Working hours: 9.00 am – 6.00 pm	
Layout of the library (individual reading carrels, lounge area for browsing and relaxed reading, IT zone for accessing e-resources) available	
Reading space	200
Reference section	Yes
Book racks	76 shelf, open rack -7
Others	

The Library has

1. Circulation Counter
2. Reference Books
3. Reprographic Section
4. Current Periodicals and Newspapers
5. Digital Library (E-Resources)

4.2.3 How does the library ensure purchase and use of current titles, print and ejournals and other reading materials? Specify the amount spent on procuring new books, journals and e-resources during the last four years.

Purchase of books and journals are based on the following criteria:

- a) Books which are frequently issued or books which are in high demand
- b) Books which are referred by the teachers
- c) Newer editions of the existing books
- d) Books pertaining to emerging areas of academic concern
- e) Journals in related fields
- f) Journals for greater grasp over the curriculum and also beyond into the arena of current scientific research

Year	New Books (Amount in Rupees)	Print & Online Journals in Rs	E-RESOURCES
2010-11	707,040.53	-	-
2011-12	221,053.71	1,06,000	Mc Graw hill, Springer, Wiley, J-gate, ASTM Digital Library
2012-13	627,377.19	1,95,626 & 697,113	“
2013-14	158,455.46	1,92,236 & 736,225	ASCE, ASME,IEEE, J-Gate
2014-15	519900	1257915	ASCE, ASME,IEEE, J-Gate

4.2.4 Provide details on the ICT and other tools deployed to provide maximum access to the library collection?

OPAC	Yes
Electronic Resource Management package for e-journals	Yes
Library Website	Yes (Along with the College Website)
Library automation	Yes
Total number of computers for public access	10
Total numbers of printers for public access	Yes
Internet band width/ speed:	10Mbps
Institutional Repository	Yes
Content management system for e-learning	Yes
Resource sharing networks/consortia (like Inflibnet)	NIL

4.2.5 Provide details on the following items:

Average number of walk-ins:	175 per day
Average number of books issued/returned:	270
Ratio of library books to students enrolled:	1:30
Average number of books added during last three years:	8629
Average number of login to e-resources:	60
Average number of e-resources downloaded/printed:	40
Details of “weeding out” of books and other materials:	NOT YET DONE

4.2.6 Give details of the specialized services provided by the library

Manuscripts	: NO
Reference	: YES
Reprography	: YES
ILL (Inter Library Loan Service)	: NO
Information deployment and notification (Information Deployment and Notification)	: YES
Download	: YES
Printing	: YES
Reading list/ Bibliography compilation	: YES
In-house/remote access to e-resources	: YES
User Orientation and awareness	: YES
Assistance in searching Databases	: YES
INFLIBNET/IUC facilities	: NO

4.2.7 Enumerate on the support provided by the Library staff to the students and Teachers of the college.

- The library staffs ensure orderliness in the library and effective issue-return process.
- The library catalogue is entirely computerized. Any new book which is purchased is immediately given a proper accession number and included in the computerized catalogue by the library staff.
- Any delay or renewals regarding the receipt of journals are immediately taken into account in the library.
- The library staff highlights the recent arrivals in the notice board.
- Issues related to malfunctioning of the library computers are brought to the notice of the concerned authorities.

- The library staffs are well versed regarding the collection of books in the library and often guide and suggest the students in selecting the correct book for a topic of concern.
- Maintenance of records and proper upkeep of the books are meticulously done by the library.
- Proper fumigation of the books is done once in a year under the supervision of the library staff.

4.2.8 What are the special facilities offered by the library to the visually/physically challenged persons? Give detail

The library staff helps in issuing of books/other materials within the campus. Providing online information on the availability of resources.

4.2.9 Does the library get the feedback from its users? If yes, how is it analyzed and used for improving the library services. (What strategies are deployed by the Library to collect feedback from users? How is the feedback analyzed and used for further improvement of the library services?)

The Library takes regular feedback from its users (verbally and informally). The matter is discussed in Library Committee meetings routinely and strategies for improvement are worked out accordingly.

4.3 IT Infrastructure

4.3.1. Give details on the computing facility available (hardware and software) at the Institution.

The institute provides hi-tech computer laboratories equipped with modern teaching aids to meet all the demands of teaching –learning processes. All computing labs consist of latest configuration computers with original software and Networking peripherals. The computing facility available on the college is as given below.



The complete details of the 886 systems available in the college with configuration

Sl No	DESCRIPTION	TOTAL
1	DESKTOP -DELL Intel Core i3/ 2GB RAM/250 GB HDD/DVD ROM/18.5"LCD	210
2	DESKTOP -LENOVO Intel Core i3/ 4GB RAM/500 GB HDD/18.5"LCD	200
3	DESKTOP -LENOVO Intel Core i3/ 4GB RAM/500 GB HDD/18.5"LCD	100
4	DESKTOP -LENOVO Intel Core i3/ 4GB RAM/500 GB HDD/18.5"LCD	100
5	DESKTOP -DELL Intel Core i3/ 4GB RAM/500 GB HDD/DVDRW/18.5"LCD	80
6	DESKTOP -DELL Intel Core i3/ 4GB RAM/500 GB HDD/18.5"LCD	100
7	DESKTOP -Assembled Intel Core 2 Duo/ 2GB RAM/320 GB HDD/15.6""LCD	36
8	DESKTOP -Assembled Intel Celeron/ 1GB RAM/40 GB HDD/15" CRT	60
9	SERVER DELL POWER EDGE 2900/QUIAD CORE XEON/ 2GB/146GB X2/19.5"LCD	1
10	FIREWALL FORTINET 311B	1

11	NETWORK SWITCH 24 PORT 10/100/1000 MBPS	40
12	PRINTERS CANON LASERJET	55
13	PRINTERS HP LASERJET	2
14	PRINTERS DOT MATRIX	8
15	PRINTERS CANON LASERJET ALL IN ONE	7
16	SCANNER CANON	2

1. Computer Student Ratio:

- UG (1:3)
- PG (1:2)

2. Stand-alone facility:

Yes- Central computing facility

3. LAN Details:

- All the Computers in the Campus are networked using CAT-5 / CAT-6 Cable
- Building-to-Building OFC Backbone

4. Wi-Fi Facility with Details:

- Campus is fully enabled with Wi-Fi (IEEE 802.11/b/g/n with around 12 access points)

5. Internet Service Provider with bandwidth details:

No. of Connections: 2

(a) Service Provider Name: BSNL

(b) Service Provider Name: Asianet

Total Bandwidth available: 10 Mbps

6. Licensed Software available in different departments:

SI No	Department	Details of Software
1	CE	Primavera
		STAAD
		Ansys Academic Teaching Mechanical
		ETABS
		AUTOCAD
		Microsoft Open Value Subscription
2	CSE & IT	Turbo C++ Suite
		Oracle 10g
		BORLAND JBUILDER X DEVELOPER
		ADOBE CREATIVE SUITE PREMIUM EDITION
		MARCOMEDIA STUDIO MX
		IBM RATIONAL SEED PROGRAM
3	ECE	Microsoft Open Value Subscription
		Mentor Graphics & Xilinx
		Ansys Academic Research HF
		MATLAB
4	EEE	Microsoft Open Value Subscription
		MATLAB
		PSCAD
		AUTOCAD ELECTRICAL
		ETAP
5	ME	Microsoft Open Value Subscription
		Solid Works
		AutoCad
		IBM SPSS
		Solid Edge
6	Central Library	Microsoft Open Value Subscription
7	Communication	SOUL 2.0
8	General Purpose	ETNL
		Windows OS
		RedHat Linux
		Ubantu
		Office package
		Kasper Sky Anti-Virus

7. No. of systems in Central Computing facility:

- 120 Computers

8. No. of Nodes / Computers with internet facility:

- 886 Nos.

4.3.2 Detail on the computer and internet facility made available to the faculty and students on the campus and off-campus?

Internet service is available for both faculty and students in the campus

- 120 systems are provided with internet facility in the central computing centre
- All the departmental computing centers are provided with internet facility
- 10 systems are provided with internet facility in the central library
- Internet service is provided to both girls and boys hostels
- The College provides internet facility to staff members at each departments for updating their knowledge with latest and advanced technologies.
- Internet Lab is available from 4.00 PM to 6.00 PM everyday for students other than academic hours.
- The Principal's Office, Administrative Office, Examination Section, Training and Placement Cell and all HOD's cabins are provided with internet facility
- Wi – Fi connectivity is available in and around the campus

4.3.3 What are the institutional plans and strategies for deploying and upgrading the IT Infrastructure and associated facilities?

- Provide computer and internet facility to every faculty member.
- Increase the internet band width
- New purchase for additional Servers, Switches and UPS.
- Computers are regularly upgraded /replaced.

4.3.4 Provide details on the provision made in the annual budget for procurement, upgradation, deployment and maintenance of the computers and their accessories in the institution (Yearwise for last four years)

Annual budget for procurement, up gradation, deployment and maintenance of the computers and their accessories

Sl No	Description	2015-16	2014-15	2013-14	2012-13	2011-12	2010-11
1	Hiring of Internet/ up gradation/ Maintenance (in Rupees)	9837900	400000	3540000	5160000	209213	5539199

4.3.5 How does the institution facilitate extensive use of ICT resources including development and use of computer-aided teaching/ learning materials by its staff and students?

- Power point presentation for lectures
- Multimedia class room with LCD projector
- Institutional repository
- E-learning support for students.
- Online and offline video lecture.
- Google drive for storing learning material
- Storage space in central file server for each student.
- Use of Google forms for online feedback and applications etc.
- Online submission of assignments
- Group mail for academic discussion and placement updates
- Whatsapp groups
- Face book pages, College Websites.
- Access to E-journals

INTERNET FACILITIES

- Fibre optic link.
- Campus Wifi
- Internet and intranet facility for all departments
- 24 × 7 internet facility
- Internet through BSNL– 10 Mbps
- Exclusive email facility - <userid>@mangalam.in
- The website is <http://www.mangalam.ac.in> which is updated regularly for college related information.

4.3.6 Elaborate giving suitable examples on how the learning activities and technologies deployed (access to on-line teaching - learning resources, independent learning, ICT enabled classrooms/learning spaces etc.) by the institution place the student at the centre of teaching-learning process and render the role of a facilitator for the teacher.

- The institution has ICT class rooms with LCD projectors and internet access
- The students can access IEEE papers in the library.
- The air-conditioned seminar halls with PCs and projector systems support mass presentation.

4.3.7 Does the Institution avail of the National Knowledge Network connectivity directly or through the affiliating university? If so, what are the services availed of?

NO

4.4 Maintenance of Campus Facilities

4.4.1 How does the institution ensure optimal allocation and utilization of the available financial resources for maintenance and upkeep of the following facilities (substantiate your statements by providing details of budget allocated during last four years)?



The college properly executes the allocation and utilization of funds. The needs of each department is collected and reviewed. Basing on the review the budget is allocated for various purposes.

The details of funds utilized in the last four years are given below.

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Head	Year	Amount allocated in Rupees	Amount utilized in Rupees
Building	2010-11	4,025,000.00	3,120,283.39
	2011-12	4,580,000.00	3,996,136.00
	2012-13	16,000,000.00	18,014,005.45
	2013-14	25,000,000.00	28,144,265.45
	2014-15	37,500,000.00	39,657,074.00
Lab Equipment	2010-11	120,000.00	99,748.00
	2011-12	700,000.00	588,873.00
	2012-13	4,500,000.00	5,056,414.00
	2013-14	2,450,000.00	2,398,543.00
	2014-15	500,000.00	441,597.00
Office Equipments	2010-11	675,000.00	561,976.00
	2011-12	1,400,000.00	1,125,857.00
	2012-13	800,000.00	806,005.00
	2013-14	500,000.00	429,283.00
	2014-15	200,000.00	171,980.00
Electrical Equipments	2010-11	6,200,000.00	5,918,685.00
	2011-12	220,000.00	195,165.00
	2012-13	1,350,000.00	1,262,610.00
	2013-14	2,800,000.00	2,701,538.00
	2014-15	2,000,000.00	2,162,281.00
Computers	2010-11	5,072,000.00	5539199.00
	2011-12	120,000.00	209213.00
	2012-13	7,540,000.00	5160000.00
	2013-14	1,550,000.00	3540000.00
	2014-15	4,030,000.00	400000.00
Vehicles	2010-11	6,500,000.00	6,733,893.00
	2011-12	2,540,000.00	2,372,093.00
	2012-13	5,500,000.00	5,457,304.00

	2013-14	4,500,000.00	4,567,084.00
	2014-15	5,400,000.00	5,291,935.00

4.4.2 What are the institutional mechanisms for maintenance and upkeep of the infrastructure, facilities and equipment of the college?

Periodic preventive maintenance of Computational equipments includes the following tasks to minimize the failure rate

- The infrastructure is maintained by a team of skilled personnel which includes carpenters, electrician, mason, construction workers, plumber, and painters. This team is generally available on the premises or they are readily available on call. The phone numbers are available in the office with the office assistant who receives the complaints, and coordinates the maintenance work.
- Check the electrical supply outlets including earth test
- Ensure the presence of Updated Antivirus
- Observe the event log for any errors with Applications / operating System
- Observe the hardware components to ensure there is no degradation in any parts

4.4.3 How and with what frequency does the institute take up calibration and other precision measures for the equipment/ instruments?

Calibration and precision measures for the equipment's/instruments are done almost on a daily basis. Staff members are assigned duties to assist the lab assistants in ensuring that the instruments are maintained properly and calibrated on a daily basis.

4.4.4 What are the major steps taken for location, upkeep and maintenance of sensitive equipment (voltage fluctuations, constant supply of water etc.)?

- The 380 KVA generators is available in the institute to ensure uninterrupted power supply.
- The institute has own transformer of 400KVA to provide constant power supply.
- The college has circuit breakers like MCB and ELCB for proper maintenance of Overloading and short circuit.
- The institute has lightning arrestor to protect equipments from lightning.

- The college has efficient lab staffs for maintaining computer labs and computing facilities.
- Separate server room in computing facilities
- Periodic preventive maintenance of Computational equipments includes the following tasks to minimize the failure rate
 - Check the electrical supply outlets including earth test
 - Ensure the presence of Updated Antivirus
 - Observe the event log for any errors with Applications / operating System
 - Observe the hardware components to ensure there is no degradation in any parts
- Continuous water supply is ensured through various resources available in the college and water cooler is installed at various locations in the campus.

CRITERION V: STUDENT SUPPORT AND PROGRESSION

5.1 Student Mentoring and Support

5.1.1 Does the institution publish its updated prospectus/handbook annually? If 'yes', what is the information provided to students through these documents and how does the institution ensure its commitment and accountability?

Yes. The college publishes its updated prospectus every year which contains information regarding courses offered, rules and regulations and other useful information. The college also publishes handbook which contains details about syllabus, credits and schedules of each semester. For the management of the handbook, an Editorial Board is formed comprising of teachers from each department. The editor is a senior member of the college. He/she is assisted by good and motivated students of the higher classes. The college also follows the handbook provided by the University for all the Activities. The prospectus and handbook is downloadable from the college website.

5.1.2 Specify the type, number and amount of institutional scholarships / freeships given to the students during the last four years and whether the financial aid was available and disbursed on time?

Sources of Scholarship	2014-2015		2013-2014		2012-2013		2011-2012	
	No. of Student	Average Amount	No. of Students	Average Amount	No. of Students	Average Amount	No. of Students	Amount
MCM(MERIT-CUM-MEANS) SCHOLARSHIP	94	20000	84	20000	55	20000	27	26722

5.1.3.What percentage of students receives financial assistance from state government, central government and other national agencies?

ACADEMIC YEAR	PERCENTAGE (NUMBER) OF STUDENTS RECEIVING FINANCIAL ASSISTANCE					
	COLLEGE	UNIVERSITY	GOVERNMENT (B.TECH)		OTHER AGENCIES	
					BTECH	MTECH
			SC/ST	OEC		

2015-2016	11.42 (198)	NIL	1.66 (7)	1.66 (7)	Nil	Nil
2014-2015	11.85 (196)	NIL	2.19 (9)	2.67 (11)	Nil	Nil
2014-2013	9.25 (153)	NIL	2.19 (10)	2.41 (11)	Nil	Nil
2013-2012	6.75 (107)	NIL	1.79 (8)	2.69 (12)	Nil	4.22 (3)

5.1.4 What are the specific support services/facilities available for students from SC/ST, OBC and economically weaker sections?

1. Financial support such as scholarships
2. Free laptops are made available to the SC/ST students through grant received from state government
3. Book Bank scheme

This is a Semester – based scheme in which books are issued free of cost to all SC/ST students. A student has to apply in the prescribed form, available in the library. Students will get one set of Text Books at the beginning of the semester. The book-Bank books are issued in addition to the regular library books. Students will deposit all issued books within five day after exam (Schedule will be also given to students before final exam). Defaulters will be required to deposit fine of Rs 5 per book per day. Fine will not be exempted

5.1.5 Describe the efforts made by the institution to facilitate entrepreneurial skills, among the students and the impact of the efforts.

1. Innovation and Entrepreneurship Development Cell (IEDC)

The Innovation and Entrepreneurship Development Centre (IEDC) aims to create entrepreneurial culture in our institutions and to promote techno-entrepreneurship for wealth creation and employment. The mission of the IEDC is to "develop institutional mechanism to create entrepreneurial culture in academic institutions to foster growth of innovation and entrepreneurship amongst the faculty and students ".

Objectives of the IEDC:

1. Broadcast information related to start-ups.
2. Develop start up culture in the institution

3. Promote Entrepreneurship through student projects.
4. To disseminate technical knowhow for enterprise developed.
5. To support students academically, emotionally, financially (partially) for their start-ups.

Functions of IEDC:

1. To organize Entrepreneurship Awareness Camps and Entrepreneurship Development Programs.
2. Top student projects every year are partly funded if the project is taken up for incubation within the IEDC.
3. To guide and assist prospective entrepreneurs on their start-ups
4. To organize interaction between Entrepreneurs and their start ups

The startup boot camp is meant to promote entrepreneurship skills in the students. The students can meet the concern angel investors with their innovative ideas or new products which are profitable and have good market potential. The boot camp will assist them to develop their ideas into a final product and also gives support in legal matters. Financial assistance is also provided for best ideas by the IEDC.

Students presented their ideas in the workshop held on 11-2-2016. The best idea was awarded a prize money of Rs. 3000/-

5.1.6 Enumerate the policies and strategies of the institution which promote participation of students in extracurricular and co- curricular activities such as sports, games, Quiz competitions, debate and discussions, cultural activities etc.

Arts, Sports and Technical events are coordinated by arts club, sports club and technical committee respectively. Each committee consists of representatives from each department and is led by a senior faculty.

Arts club activities:-

Cultural fest (Saarang), Onam celebrations, Christmas celebration, teacher's day celebration, Publishing College magazine etc are coordinated and conducted by the Arts committee

Sports club:-

Various sports and games activities are conducted by the sports club. The College provides a well-equipped gymnasium, an International basketball court, football ground

and a Badminton court for the students. Annual sports meet is conducted every year. Winners and outstanding performing students are motivated to participate in university sports meet by representing the college. College provides training, food packages, sports equipment and free transportation facilities for participating in university and other meets. A full time physical trainer is appointed by the college and all the sports activities are coordinated by him. The basketball team of the college has secured prizes in many universities and inter-university level basketball championships.

Technical committee:

Inter department technical fest (PRAGYAAN), is conducted by the college every year. Workshops, Seminars, conferences and other programs are organized. Each department has their own students association which organizes various technical events like project exhibition.

Various departments in association with their students association conducts technical fests in the college every year.

SI No.	Department	Association	Program name
1	Civil Engineering	MASS	REINFORCE
2	Computer Science and Engineering	MAC	CODE VEDA
3	Electrical and Electronics Engineering	ELECTRA	ELEXPLODE
4	Electronics and Communication Engineering	SMRITHIHETHU	ELECTROVAGANZA
5	Mechanical Engineering	METALS	TORQUE

5.1.7 Enumerating on the support and guidance provided to the students in preparing for the competitive exams, give details on the number of students appeared and qualified in various competitive exams such as UGC-CSIR- NET, UGC-NET, SLET, ATE / CAT / GRE / TOFEL / GMAT / Central /State services, Defense, Civil Services, etc

Preparation for competitive exams is incorporated within the course plan. Exams requiring quantities aptitude are covered by training given in placement cell.

Year	Type of Exam	No. Of Students Appeared	No. Of Students Qualified
2014-2015	GATE	72	25
2013-2014	GATE	59	18

2012-2013	GATE	55	13
2011-2012	GATE	10	1

5.1.8 What type of counselling services are made available to the students (academic, personal, career, psycho-social etc.)

- Academic Mentoring: The focus of this session is on mentoring students for improving their academic grades. Parents are invited for parent teacher association and are a part of academic mentoring. Separate rooms are available for academic mentoring
- Every class is assigned with male and female faculty member as class in charges who also counsel the students on their personal issues
- Career counselling: Placement cell advises the students on their career choice through departmental placement coordinators and frequent career counselling centres. Regular activities of the placement cell ensures that the students interact with persons from different career background .
- Psycho-social counsel: The College employs full time psychologist Dr. Jins Mathew for psycho-social counselling of students. He also trains teacher on mentorship and counselling aspect

5.1.9 Does the institution have a structured mechanism for career guidance and placement of its students? If 'yes', detail on the services provided to help students identify job opportunities and prepare themselves for interview and the percentage of students selected during campus interviews by different employers (list the employers and the programmes).

Yes, Mangalam College of Engineering has a structured mechanism for career guidance and placement of the students. The Department of Placement & Training functions directly under Head-Corporate Relations, Asso. Prof. Sebastian Joseph, Asst. Placement Coordinator Neena Susan Shaji, Asst. prof. and dedicated faculties. The placement team comprises Head-Corporate Relations, Training & Placements, Asst. Placement coordinator, selected Department Placement coordinators from the faculty and volunteers from the student fraternity.

Department of Placement and Training caters for enhancing the employability skills of the passing out products of Mangalam as well as the overall development of their personality. The department organizes on campus and off campus recruitments and pre-placement training programs through Aptitude tests, Group Discussions, Interviews and presentations. Mock interviews and GDs are conducted on a regular basis so as to equip final and pre-final year students to face the challenges of the recruitment scenario.

Highlights of the placement and training cell activities include:

- The Cell has institutionalized scientific vocational training and guidance as part of the structured teaching practices and achieved commendable success by its phased out structured practical approach.
- A commendable rapport has been established with leading lights in the industrial and engineering environment which has resulted in a highly responsive interface with them.
- The training curriculum seeks to improve skills in technical expertise, general aptitude, inter-personal communications, general awareness and group compatibility.

Beside the academic or technical skills Department of Placement and Training is committed to develop skills in our students like integrity, reliability and teamwork, problem solving, entrepreneurship, communication in English and use of modern tools and technologies.

60 % of students got selected till now. List of the employers,

PLACEMENT CELL - OPPORTUNITIES PROVIDED (2012-2016 BATCH)

1. IBS
2. ITC INFOTECH
3. ERNEST & YOUNG
4. MPHASIS
5. AABASOFT
6. AMI
7. SPECTRUM SOFTTECH SOLUTIONS PVT.LTD
8. IBM

9. MU SIGMA
10. VVDN TECHNOLOGIES
11. ESPINA
12. KPMG
13. TCS
14. GICE
15. INFOSYS
16. WIPRO
17. SUN TECH
18. SAP
19. TECH MAHINDRA
20. ADITYA BIRLA MINACS
21. POORNAM INFOVISION
22. GATIKK TECHNOLOGIES
23. CSS CORPORATION LIMITED
24. IPSR SOLUTIONS
25. RELIANCE INDUSTRIES
26. ACCENTURE
27. COGNIZANT TECHNOLOGY SOLUTIONS
28. SYNTEL
29. HP
30. LARSEN & TURBO

5.1.10 Does the institution have a student grievance redressal cell? If yes, list (if any) the grievances reported and redressed during the last four years.

Yes, there is a separate grievance redressal cell which deals with problems, associated with students, academic and non- academic. The members of the cell are made up of senior faculty from each department, headed by an officer in charge. The cell conducts monthly meetings. Any student having a genuine grievance is free to approach his or her tutor who in consultation with the department Head tries to solve the issue at the earliest. Special cases are referred to the grievance cell in charge. Grievances related to college policy matters are sorted out in consultation with the management. If the matter is personal it is handled very discretely by a practicing counselor and his service is made available during two full days in a week.

Grievances reported and action taken

Grievances reported	Actions Taken
Extension of library hours	Library is now open till 6pm.
Extension of loan period	Relaxation given to genuine cases.
Overcrowding in buses	New buses were put into action.
Support for GATE examination	Classes and mock tests are conducted.
Water Shortage	Water tankers owned by the institution are used during summer season.

5.1.11 What are the institutional provisions for resolving issues pertaining to sexual harassment?

A separate woman grievance redressal cell takes care of grievances related to sexual harassment. The members of the cell are senior women faculty, one from each department, headed by a woman officer in charge. The duties of the cell are to safeguard the rights of female students and women faculty. The cell organizes lectures by eminent resource persons on matters related to self-awareness, understanding of legal rights, good hygiene and health habits.

5.1.12. 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 on these?

Anti-ragging Committee

The anti ragging committee is constituted in the beginning of every academic year. This committee along with disciplinary committee monitors and prevents the ragging incidents. It also visits the hostels in night time randomly to check whether there are any incidents of ragging

1. Formed Anti Ragging Committee consisting of senior faculties and headed by Principal.
2. Committee has taken steps and allotted duties to all the staff members at almost all areas in the college (i.e. canteen, parking places, different blocks, play grounds etc.) and ensure that at least one faculty member will be present at any particular time at all the locations to avoid ragging activities.

3. Committee has taken precautions to avoid ragging activities at other locations like bus stops and given instructions and appointed student volunteers and secret informers at various boarding points.
4. Awareness about anti-ragging, is being done in the forms of Flexes, Posters and Boards in college premises and surrounding areas where there is a chance of ragging.
5. Grievances & Redressal committee is also made a part of these anti-ragging activities.

5.1.13 Enumerate the welfare schemes made available to students by the institution.

Students Welfare Committee

This is a unique committee which has been formed with the sole intention to act as an the management and students. The committee administers and makes decisions concerning student welfare, taking up issues reported by students and resolves them by bringing it to the notice of the registrar. The committee meets on a monthly basis to discuss the problems and probable ways of improvement in the standards with respect to facilities and the like. If need be, the committee also ensures smooth functioning of any club or academic activity within the college.

We consider students as members of this Institution and their welfare has always been our concern All the Students and their each earning parent are insured under United India Assurance. The institution has the following schemes for student welfare

1. Student Counselling Support
2. Sports Welfare Fund
3. Facilitation and monetary incentives to achievers in sports, cultural, academics and NSS

NSS

1. As a part of starting up an NSS unit in Mangalam College of Engineering, first general body meeting was held on 29/9/2015 from 03.30 PM to 04.05 PM at digital theatre to discuss about the inauguration program and arranging the needful.
2. NSS unit inauguration was held on 6-10 -2015 from 10.15 to 11.30 am by PROF. Dr. CYRIAC THOMAS, Former Vice Chancellor, MG University. The program started with NSS prayer song by NSS volunteers followed by a

welcome speech by MR. ALBIN GEORGE, NSS program officer. PROF. MARY THOMAS , Principal, MLMCE delivered the Principal's address and ADV. ABRAHAM CHETTISSERY, Legal advisor, MLM delivered the Presidential address which was followed by inauguration and inaugural address by PROF. Dr. CYRIAC THOMAS. Felicitation was given by MR. JAIN P.GEORGE, HOD, Basic science, MLMCE. The program ended with a Vote of thanks by ALEENA ANN JOSE, NSS volunteer.

3. A general body meeting was held on 8/10/2015 for arranging NSS one day orientation camp with an agenda to organize the camp into three sessions and also to finalise the setting up of NSS office.
4. NSS one day orientation camp was held on 10/10/2015 from 9.30 am to 3.30 pm to motivate the students to get involved in social activities. The camp was inaugurated by Mr. SHAJAHAN C M (Associate professor, Holy Kings College of Engg, best programme officer-KTU (2014-15), NSS state award holder). The first session (9.30 to 10.45 am) was handled by Mr. SHAJAHAN C M, about the NSS curriculum and its importance. The next session (11 am to 12.30pm) was handled by PROF.THANKACHAN AUGUSTINE (Associate professor, ST. Thomas College, Pala, best programme officer, M.G University). The session helped the students to get acquainted with the social welfare activities and also to know how to effectively participate in a group. The last session (1.30 to 3.30 pm) was managed by Mr. TOM KALAPURA (Lecturer, ST. Marys H.S.S Arakulam, NSS project fellow) about the topic Volunteerism – community and beyond. This created enthusiasm among the students through group activities and also to learn the importance of togetherness.
5. NSS unit office was inaugurated by Prof. Thankachan Augustine, Mr. Tom Kalapura and NSS program officers on 10/10/2015. The room provided space for the NSS volunteers to organise and facilitate their activities.
6. NSS general body meeting was held on 13/10/2015 with an agenda to conduct INGENIOUS 15 - State Students Congress as a part of commemorating Birth Day of Dr. APJ Abdul Kalam.
7. As a part of commemorating Birth Day of Dr. APJ Abdul Kalam, NSS unit of Mangalam College of Engineering has organized INGENIOUS 15 - State

Students Congress on October 15 from 1.30 pm to 3 pm. A brief description about Dr. APJ Abdul Kalam's vision was introduced by NSS program officer.

8. Paper presentations on the given subthemes were intended for INGENIOUS 15 and four groups (each consisting of two students) presented. Best two got selected for presenting in State Students Congress. The selected topics are: The Correct use of Updated Technology and Student-Centered Learning – Challenges and Potential Opportunities. This session motivated the students to know more about technology oriented learning.
9. The program was fulfilled with the presence of NSS members and program officers
10. NSS volunteers of MLMCE donated to the blood bank of Matha hospital, Thellakom, Kottayam on 24/10/2015

5.1.14 Does the institution have a registered Alumni Association? If 'yes', what are its activities and major contributions for institutional, academic and infrastructure development?

The alumni meet of the students of each department is held separately every year. Following the registration of the alumni, the meet starts with address from the college management emphasizing on the need of support from alumni association. The alumni from each batch are called upon to share their views and feed backs are taken for the positive changes of the institution. The office bearers for the Alumni Association are selected from among the alumni. The faculty members are also called upon to share their views.

In order to facilitate the alumni to register themselves, the college started a website exclusively for the alumni. The web address of the above is www.mlmcealumni.org. The website hosts many services which are helpful for the alumni to regroup themselves and act as an online meeting place for them. Apart from the official college website, each department has their own alumni groups in social media which also serves as a platform for online interactions and feedbacks.

5.2. Student Progression

5.2.1. Providing the percentage of students progressing to higher education or employment (for the last four batches) highlight the trends observed

Student progression		2015	2014	2013	2012
UG to PG		1.2	1.75	2.24	3.5
PG to M.Phil		-	-	-	-
PG to Ph.D.		0	0	0	0
Employed	Campus selection	10.2	8.3	7.4	6.2
	Other than campus recruitment	4.4	11.2	13.4	5.4

5.2.2 Provide details of the programme wise pass percentage and completion rate for the last four years (cohort wise/batch wise as stipulated by the university)? Furnish programme-wise details in comparison with that of the previous performance of the same institution and that of the Colleges of the affiliating university within the UG-B.Tech

Sl.No	Branch	Programme wise Success Rate			
		2015	2014	2013	2012
		%	%	%	%
1	Civil Engineering	31.7	39.4	NA	NA
2	Computer Science Engineering	29.5	59.7	43	40
3	Electronics and Communication Engineering	46	38	43.9	37
4	Electrical and Electronics Engineering	41.86	50.7	40.3	35.2
5	Mechanical Engineering	28	25	27	28

M.Tech

Sl.No	Branch
-------	--------

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		Programme wise Success Rate			
		2015	2014	2013	2012
		%	%	%	%
1	Civil Engineering (Structural Engineering and Construction Management)	NA	NA	NA	NA
2	Computer Science Engineering (Computer science Engineering)	100	100	NA	NA
3	Electronics and Communication Engineering (VLSI and Embedded systems)	100	100	94.44	NA
4	Electronics and Communication Engineering (Communication Engineering)	100	NA	NA	NA
4	Electrical and Electronics Engineering (Power electronics and power systems)	100	100	NA	NA
5	Mechanical Engineering (Industrial Engineering And Management)	100	100	100	100

MBA

Sl.No	Branch	Programme wise Success Rate			
		2015	2014	2013	2012
		%	%	%	%

1	MBA	NA	57	69	58
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5.2.3 How does the institution facilitate student progression to higher level of education and/or towards employment?

GATE , CAT, GRE preparation/coaching classes are provided department wise through departmental placement cell, headed by a senior faculty.

Placement cell regularly organises special sessions for overall improvement of students.

Placement Team ensures that every student gets trained towards the goal of achieving high level of competency skills required for today's job market. The preparation starts from first year of academic curriculum. All the departments follow common course plan for training of students. The course plan is designed by college placement cell.

Apart from these Campus also provides following facilities for Placement Activities:

- a. Interview Rooms
- b. Customized/ Multi -Cuisine food options for the Guest.
- c. Dedicated Student Placement Coordinators for all Activities
- d. Transportation facility for attending off campus placement

5.2.4 Enumerate the special support provided to students who are at risk of failure and drop out?

Every department identifies students who are at the risk of drop out due to academic or other reasons. For this the class in charges are trained. Once the reason has been established the departments take any of the following actions.

1. Remedial Classes for academically weaker sections
2. Student mentoring
3. Financial support in selected cases and financial advice for all parents and students.

Remedial classes for subjects with considerable number of weak students are conducted with a course plan. Special rooms are allocated for student mentoring and parents are involved in the process. The admission cell takes decision on scholarship matters and gives appropriate financial advice for a good financial planning for the completion of course.

5.3 Student Participation and Activities

5.3.1 List the range of sports, games, cultural and other extracurricular activities available to students. Provide details of participation and program calendar.

SPORTS

Mangalam College Of Engineering has following games and sports

- Basketball
- Foot ball
- Cricket
- Badminton
- Athletics

Mangalam college of Engg. has fully fledged Basketball court, foot ball ground, badminton court, Volleyball court, and athletics track. There is a well- equipped gymnasium for boys and girls with an instructor.

Cultural festival

Mangalam college of Engg. annually organize two day cultural festival SARANG.

Some of the other avenues for students are

1. Participation in Institutional Social Responsibility (ISR) and Extension activities
2. Swach Bharat Swarg Bharat :This program is conducted to develop an awareness among school students on societal cleanliness and hygiene. This campaign started on January 2015 and concluded on 16 January 2015 running across 30 school interacting with more than 10000 students conveying the need of cleanliness. We the mechanical engineering department did this venture in association with Mangalam daily and Mediavillage 90.8 FM.

5.3.2 Furnish the details of major student achievements in co- curricular, extracurricular and cultural activities at different levels: University / State / Zonal / National / International, etc. for the previous four years.

Achievements in sports

2011

Mangalam basketball team takes 3rd position in MG university south zone basketball championship.

Dixon M (Mech.), Arjun Appu (IT), Jithin Francis (IT), Nandu Anand (EEE) played for Idukki senior district team and Sanjay Jayachandran for allapuzha district

2012

Mangalam basketball team secured 4th in MG university south zone basketball championship.

Dixon M (Mech.), Arjun Appu (IT), Jithin Francis (IT), Nandu Anand (EEE) played for Idukki senior district team and Sanjay Jayachandran for allapuzha district

2013

Mangalam basketball team secured 4th in MG university south zone basketball championship.

Arjun Appu (IT), Jithin Francis (IT), Nandu Anand (EEE) played for Idukki senior district team and Sanjay Jayachandran for allapuzha district.

2014

Mangalam basketball team secured 3rd in MG university south zone basketball championship and enters the super league , takes 3rd position in MG inter-zone basketball championship. Two of our players participated in MG university team (Sanjay Jayachandran 2nd year CS, Arjun Appu 3rd year IT) championship held at Satyabhama college Coimbatore.

Nandu Anand (EEE), Anand V kumar (EC) played for Idukki senior district team and Sanjay Jayachandran for allapuzha district.

Open Match Winners Title

2012

1st MBC trophy All Kerala inter- engineering basketball tournament winners held at Mar Baselious College of engg. and Tech peermade.

Baselious Trophy All Kerala inter- engineering basketball tournament 1st runner-up held at Mar Baselious College of engg. and Tech Trivandrum.

2013

2nd MBC trophy All Kerala inter- engineering basketball tournament winners held at Mar Baselious College of engg. and Tech peermade.

Marian Trophy All Kerala inter- engineering basketball tournament winners held at Marian College of engg. and Tech Trivandrum.

ARENA Trophy All Kerala inter- engineering basketball tournament winners held at Amal Jyothi College of engg. and Tech Kanjirapally.

RADIX All Kerala inter- engineering basketball tournament winners held at Mangalam College of engg. and Tech Ettumanoor.

PACE All Kerala inter- collegite basketball tournament runners held at St. Joseph's College of engg. and Tech Pala.

SB All Kerala inter- collegite basketball tournament semi-finalist held at SB College Chaganacherry

2014

3rd MBC trophy All Kerala inter- engineering basketball tournament winners held at Mar Baselious College of engg. and Tech peermade.

PACE All Kerala inter- collegite basketball tournament winners held at St. Joseph's College of engg. and Tech Pala.

DWANI All Kerala inter- engineering basketball tournament runners held at CET Trivandrum.

SB All Kerala inter- collegite basketball tournament semi-finalist held at SB College Chaganacherry.

Achievements in co curricular and extracurricular activities

Self Study Report of Mangalam College of Engineering

S.No	Year	Name of Students	Name Of Project	Venue	Organized By	Award/Prize
1	2014	1)Manu Thampi 2)Allan Mathew 3)AryaGovindan 4)Sreemol R Nair	VANET on Wheels	Saint Gits College Of Engg	AICTE IPS SPONSERED	Selected in Top 5
2	2014	1)Shahul V Salam 2)KiranBabu 3)Asha L Nair 4)AshbyN Sunny	Dump Aid Telephone System with gesture to Voice Conversion	Saint Gits College Of Engg	AICTE IPS SPONSERED	Selected in Top 5
3	2013	1)AjithSaju 2)JithinShaji 3)Syam S 4)Vimal K Varghese	WirelessKeyBoard Controlled Tank Robot	AmalJyothi College of Engineering, Kanjirapally	Magnificata Hybrid Gadgets and ISSEC, London	2 nd Position
4	2013	1)AnuBabu Joseph 2)Keerthi S Nair 3)Jennifer John 4)Sreeraj K.D	INTELLIGENT AERODROME CART	St.Joseph College of Engineering & Technology, Pala		Selected in Top 5
5	2014	1)Sherri Shaji 2)Davis Mathew 3)RenjiniRaveendran 4)Devi	Guiding Blind people with Haptic feedback	Albertian College of Engineering		1 st Prize
6	2014	1)Reshmi Jose 2)Sabarinath 3)Sarath 4)Manu Mohan	Hi-tech electronic power meter with JAVA	Albertian College of Engineering		2 nd Prize

5.3.3 How does the college seek and use data and feedback from its graduates and employers, to improve the performance and quality of the institutional provisions?

The following feed backs are collected by each department

- End semester feed back

- Course end feed back
- Course exit feed back
- Employer survey

Other than this regular class committee, course committee and open house are conducted.

The consolidated report every year is sent to the IQAC and forwarded to college council. The end decision on college provision is taken by college management.

5.3.4 How does the college involve and encourage students to publish materials like catalogues, wall magazines, college magazine, and other material? List the publications/ materials brought out by the students during the previous four academic sessions.

Our college is always encouraging the students to enhance their technical and cultural talents and to publish the same through college magazine. First year students are encouraged to present posters on technical topics through “Poster Presentation”. Our students are also sent to outside competitions to present posters/Papers. Space is provided within each class room to hand wall chart and articles. Our college magazine “CHALK PIECE” which was published in 2011 included students articles, short stories, technical writings and papers etc. As a policy to reduce the use of paper college provides a web page to host student articles, magazines and posters. In addition to this outstanding students are identified and are motivated them to prepare, present and publish Technical papers.

5.3.5 Does the college have a Student Council or any similar body? Give details on its selection, constitution, activities and funding.

Students’ Council is composed of the

- Chairman,
- Vice chairman
- General secretary
- University union councillors
- Arts club secretary
- Magazine editor
- Sports club secretary
- Year representatives

- Lady representative
- NSS Secretary

Selection of these office bearers are done by conducting an election. The voting rights for the election are given to two class representatives from each class from all departments.

Activities of College council

- College representation at university level
- Conduct of arts, sports and literary activities
- Organize programs of social awareness

5.3.6 Give details of various academic and administrative bodies that have student representatives on the

The following has student's representatives in them

- Student's Council
- Class committee
- Course committee
- Placement cell
- Alumni

5.3.7 How does the institution network and collaborate with the Alumni and former faculty of the Institution.

We network and collaborate the alumni through the following activities:-

1. Alumni association
2. Alumni website
3. Alumni meet
4. Social media
5. Employer survey
6. Alumni survey

CRITERION VI: GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 Institutional Vision and Leadership

6.1.1 State the vision and mission of the Institution and enumerate on how the mission statement defines the institution's distinctive characteristics in terms of addressing the needs of the society, the students it seeks to serve, institution's traditions and value orientations, vision for the future, etc.?

Vision

To emerge as a center of excellence in technical education and research, creating employable and committed professionals.

Mission

Inspire the learners to be globally competent engineers through innovative teaching and learning methods and imbibe a sense of social responsibility and creative inquiry in them that leads to higher learning and research.

6.1.2. What is the role of top management, Principal and Faculty in design and Implementation of its quality policy and plans?

ROLE OF THE TOP MANAGEMENT

- The top management gives necessary infrastructure, resources and financial support in implementation of quality policy.
- The Governing Body meets at least once in an year.
- To govern, manage and regulate the finances, accounts, investments, property, business, etc of the college, promotion of academic areas.
- To enable the college to achieve and develop its mission, and primary objectives for learning, teaching and research.

ROLE OF THE PRINCIPAL

- To provide leadership, direction and co-ordination within the college.
- Maintenance of discipline, redressal of complaints and heading the anti-ragging committee.
- Officiate as chief superintendent of University examination and internal exams.

- To develop and maintain effective educational programs.
- To survey, promote and implement teaching and learning.
- Preparation and execution of academic calendar
- Take care of student's welfare.
- Organize internal audit
- Organize Faculty Development program and maintain Training Report
- To suggest annual budget
- Maintain result analysis and propose corrective measures
- Introduce remedial measures

FACULTY

- Implement teaching learning process which includes academic planning, course delivery and evaluation.
- The Heads of the Departments function through the academic committee, class committee, course committee and class tutor.
- Upgrading the knowledge and skill of staff members (both teaching and non teaching) by participating in various FDP's, workshops, seminars etc.
- The faculty members are responsible for the conduct of co-curricular and extra curricular activities for holistic development of students.

6.1.3. What is the involvement of the leadership in ensuring:

- **the policy statements and action plans for fulfillment of the stated mission**
- **formulation of action plans for all operations and incorporation of the same into the institutional strategic plan**
- **Interaction with stakeholders**
- **Proper support for policy and planning through need analysis, research inputs and consultations with the stakeholders**
- **Reinforcing the culture of excellence**
- **Champion organizational change.**

The policy statements and action plans for fulfilment of the stated mission

Institution has the vision followed by missionary statement to maintain the quality policy of the institution. The leadership at all the levels of the hierarchical structure of the steers its operations through well-defined action plans satisfying the goals of the mission statement.

Formulation of action plans for all operations and incorporation of the same into the institutional strategic plan

The action plan is formulated by Principal, Vice principal, Heads of the department and Coordinators of various academic committees.

Principal holds meetings with HODs periodically and discusses all the academic matters like fixing the academic calendar, students progress, placement and training details, industry interaction, alumni interaction etc

The Training and Placement Cell organizes programs, training sessions, paving the way for the much required industry connect and know how about industry expectations. Emotional and psychological support is assured through strictly monitored anti-ragging and student counseling. Students can directly approach to all the college authorities for redressal of their grievances, if any

Interaction with stakeholders

- Parent teacher meetings are conducted every semester to infer about the progress of their ward.
- Student counseling is conducted to identify their problems and resolve them.
- Parents are updated regularly about academic progress and attendance of their ward through post.
- Alumni meet is conducted once in a year to maintain the industry institution relationship.

Proper support for policy and planning through need analysis, research inputs and consultations with the stakeholders

- Implementing outcome based teaching methodology.
- The Heads of the Departments review the departmental progress for continuous improvement in consultation with the Principal and Vice principal
- To improve the performance of the students, internal assessment through Unit Tests and Assignments is conducted periodically and the results are send to parents through post
- Weak students are given remedial classes

Reinforcing the culture of excellence

MLMCE is striving for excellence in Quality Engineering Education through regular monitoring of academic activity, faculty improvement, student satisfaction,

extracurricular activities, research culture and industry collaboration.

Champion organizational change

- Industry oriented add-on courses, guest lectures by leading academicians and industrialists, are given to students.
- Students are send for IV every year.
- The students are encouraged to represent the institution at various conferences, technical paper presentations organized at various prestigious institutions.
- Fulfilling staff requirement as per growing needs of various departments.
- Upgrading infrastructure facilities and resources needed for improving teaching and learning process

6.1.4. What are the procedures adopted by the institution to monitor and evaluate policies and plans of the institution for effective implementation and improvement from time to time?

Yearly governing council meet ,monthly academic council meet and frequent staff meets at department level, are conducted for effective and timely feedback. The procedure adopted by the institution for effective implementation of policies and plans, are:

- Course exit feed back
- Employee survey
- Alumni survey
- Parent Teacher Association
- External and Internal audit
- Academic feedback.
- Placement cell

6.1.5 Give details of the academic leadership provided to the faculty by the top management?

The top management encourages the Principal and the staff by giving them full autonomy in delivering the academic responsibilities. The other provisions are:

- Planning of activities of the College within the policy framework.

- The HODs will implement all the activities reflecting the rules of the institution, university and the AICTE recommendations.
- Encouraging the faculty to pursue higher studies and research.
- Encouraging the faculty to organise and attend National/ International workshops, conferences and seminar.
- Management organises regular orientation and refresher courses.

6.1.6 How does the college groom leadership at various levels?

The Institute disburses responsibilities from top down by decentralizing duties and responsibilities for quick decision making. All the faculty members are given opportunities with entrusted responsibilities for effective functioning of the academic system.

MANAGEMENT LEVEL

- Encouraged to attend university level meeting and management association meeting

THE FACULTY LEVEL

- The Faculty members are encouraged to conduct conferences, workshops etc.
- The faculty members are assigned as the coordinators of various clubs, Associations, NSS Programme Officers, IST, IETE Program officers
- Encouraged to travel and visit numerous universities and consultancies to find out how they are functioning, observe their practices and implement them if necessary.
- To lead students in various social and community activities.
- Self-appraisal is done annually to analyze their progress.

STUDENT LEVEL

- A Student council is formed and the Chairman, Vice Chairman and Secretary are nominated from among the class representatives.
- Student take up positions in various clubs, associations, NSS, technical and cultural fest, and sports activities
- Students are given the role of class and hostel representatives.
- Students are encouraged to take projects as a team under the guidance of a faculty member.

- Students are encouraged to participate in university, state and national level sports competitions.
- Class representatives are nominated to address issues related to the class with the Principal, HOD, Faculty and class teachers.
- Seminars, group discussions are conducted in every class to identify the leadership and communicational skills.
- Students are given opportunity to invoke, anchor and to participate in other roles in the several stage events.

6.1.7 How does the college delegate authority and provide operational autonomy to the departments / units of the institution and work towards decentralized governance system?

In the beginning of the new academic year the College council meeting is convened by the management. Various committees are formed and their responsibilities and functions are earmarked and the chosen convenors are responsible for its successful functioning. Members from almost all departments are included in these committees.

The Heads of the departments regularly conduct department meetings in which important aspects of the requirements of the departments such as books, journals, equipments, laboratory materials and others are discussed. This should be brought to the notice of the Head of the Institution who in turn takes it up to the management for further action.

In the Academic Council meetings the principal discusses requirements for the departments and the nature of urgency. The number of books required in the library, number of computers, machines and equipments requirements are also discussed in detail. The principal receives the plan of expenditure on contingencies to execute academic programs and activities through the Head of the Department.

6.1.8 Does the college promote a culture of participative management? If 'yes', indicate the levels of participative management.

All decisions taken by the college management are through detailed discussions and deliberations. Decisions are conveyed to the staff members. Staff Committee headed by a staff secretary can cast its's opinion for academic and non academic improvements including staff welfare. Department meetings are conducted to address

common issues. The Principal with the Heads of the Departments discusses the needs, problems and suggestions to improve the educational quality and infrastructure and forward it to the management for further action. The college involves and allows the faculty members to participate voluntarily with involvement in every work including the preparation of NAAC self-study report. The constructive suggestions of the students represented through college union are given due importance. Suggestions of various committees and bodies like the Academic council, Research Council, ISO, NAAC, etc., are considered prior to major decision making. Inputs from parents, alumni and students are also carried forward to the management.

6.2 Strategy Development and Deployment

6.2.1 Does the Institution have a formally stated quality policy? How is it developed, driven, deployed and reviewed?

Yes, the institution has a well documented quality policy which contains all the details of academic and administrative aspects focusing our effort towards the attainment of the institute vision. It has being formulated by looking into the concerns of various stake holder's.

The quality policy of the institution was formulated by IQAC following the recommendations from governing body and college council. The quality policies are displayed at various locations

6.2.2 Does the Institute have a perspective plan for development? If so, give the aspects considered for inclusion in the plan.

Regular Governing body meetings are held to discuss on new courses, additional intake, infrastructural facilities-buildings, labs, transport, welfare schemes, MoUs, accreditation, Centres of Excellence, research grants, placement and training activities, recruitment of teaching and non-teaching staff, review of academic performance and University results, allocating funds etc., Regular Governing Council meetings are held to keep a track on the performance of the institution.

6.2.3 Describe the internal organizational structure and decision making processes.

The Mangalam College of engineering is run by the Mangalam Educational Society, and the administration of mangalam college of engineering is the responsibility of the chairman. Chairman is responsible the Policy and budget approval. Principal heads the academic council, college council and administrative office. Academic Council is responsible for academic policy. Vice principal and HODs of the department are directed by the principal. Activities of placement cell and physical education cel are regularly reviewed by the vice principal. HODs ensures that the plans communicated to them by the Principal are implemented systematically. All the faculty members in each department are directed by their HOD's.

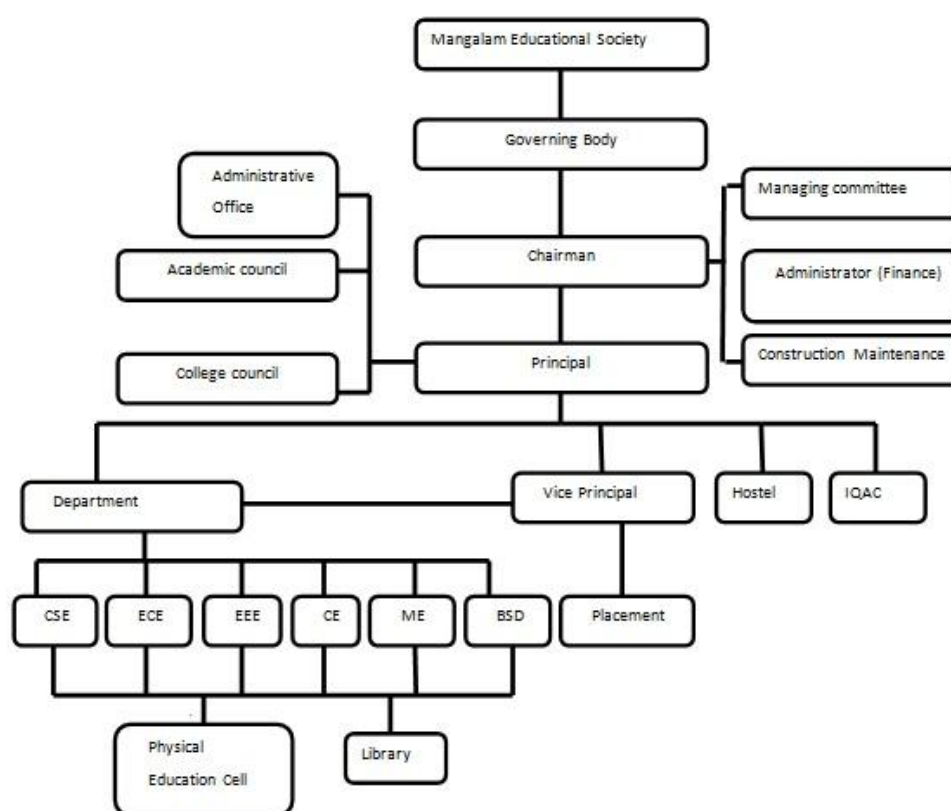


Figure 6.1 Organizational Structure

Name of the Body	Members
College Academic Council	- Principal - Vice-Principal - HOD, Department of Electronics & Communications - HOD, Department of Electrical & Electronics Engineering

	• HOD, Department of Computer Science Engineering • HOD, Department of Mechanical Engineering • HOD, Department of Civil Engineering • HOD, Department of Management Studies
College Council	• Chairman • Mangalam Educational Society • Representative of Management • Principal • Vice-Principal • HOD, Department of Electronics & Communications Engineering • HOD, Department of Electrical & Electronics Engineering • HOD, Department of Computer Science Engineering • HOD, Department of Mechanical Engineering • HOD, Department of Civil Engineering • HOD, Department of Management Studies
IQAC	• Principal • Mr. Sreeraj K .P (Accreditation Co-ordinator) • Mr. Ajit Joseph (Department of ECE) • Mr. Vipin Mathew (Department of ME) • Mrs. Neethu Maria John (Department of CSE) • Mrs. Anu Mathew (Department of CE)

	• Mrs. Susan V (Department of EEE) • Mr. Siby James (Department Of Management Studies)
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6.2.4 Give a broad description of the quality improvement strategies of the institution for each of the following

- **Teaching & Learning**
- **Research & Development**
- **Community engagement**
- **Human resource management**
- **Industry interaction**

Teaching & Learning

- Practicing outcome based education.
- Use of ITC tools for teaching purpose
- Academia industry interaction.
- Faculty prepares their teaching material which is approved by the expert committee.
- Assignment and Seminars are included as a part of curriculum.

Research & Development

- Institute encourages the innovations among students by providing them incubation facilities.
- Faculty and students are encouraged to participate in the activities of professional bodies like IEEE, CSI, ISTE etc.
- College has launched a start up

Community engagement

New programs are arranged yearly targeting different strata's of society

- Women Empowerment Program(E-smart program)- women's were made aware about the efficient and safe usage of electronic and electrical equipments.
- Earth quake awareness program

- NSS
- Social Service
- Career guidance

Human resource management

- Implementation of finger print attendance system
- Clear HR policy Document

Industry interaction

There is active and continuous interaction with industry. Various interaction are encouraged like

- Industrial visit
- Campus placement
- Talk by eminent speakers from different industries.
- Incubation centre for students to create an environment of how to work in an industry.
- Professional bodies like IST IETE

6.2.5 How does the Head of the institution ensure that adequate information (from feedback and personal contacts etc.) is available for the top management and the stakeholders, to review the activities of the institution?

To Top Management

- Programs ,details and schedules are communicated to management in advance.
- All activities in the institution are updated to the management.
- University related financial and examination matters are communicated.
- Academic performance of the students along with rank list and result analysis are communicated.
- Teaching and non-teaching staff appraisal,confidential and consolidated reports are sent to management.
- Consolidated student feedback is communicated

To Parents

- Parents Teachers meeting held to convey student's progress.
- Outstanding academic performance is communicated.
- Irregularities of students are communicated immediately.

To Students

- Students are kept informed through circulars, announcements, display on notice boards etc.

To the Alumni

- Alumni are informed through social networks, telephonic conversation and through personal interactions.

6.2.6 How does the management encourage and support involvement of the staff in improving the effectiveness and efficiency of the institutional processes?

- Representation of faculty members in the college council, academic council, IQAC, class committee, course committee.
- Faculties are encouraged to take up additional responsibilities for co-curricular extra-curricular activities like co-ordinators of workshops, technical fest, arts, NSS etc..
- The management encourages and supports its faculty by permitting them to attend training sessions and FDPs for enhancement of technical knowledge and development of additional skills.
- Awards are given in appreciation of publications in reputed journals, research activities and for grants received from funding agencies.
- Management ensures that non-teaching staff play an active role in supporting the various activities of the College such as examination work, admission process etc.
- Meetings of teaching and non-teaching staff members are conducted to motivate smooth performance of the activities.
- Management evaluates the various programs by seeking reports on feedback system, staff review meeting, IQAC involvement, Grievances Redressal etc.

6.2.7 Enumerate the resolutions made by the Management Council in the last year and the status of implementation of such resolutions.

Sl No:	Resolutions	Status
1	Apply for NBA	In progress
2	Apply for NAAC	In progress
3	Establish an independent Research lab	Implemented
4	Planting trees within the campus	Implemented
5	More emphasis towards Social commitment	In Progress

6.2.8 Does the affiliating university make a provision for according the status of autonomy to an affiliated institution? If 'yes', what are the efforts made by the institution in obtaining autonomy?

As of now the statutes of the affiliating university does not have any provision for according the status of autonomy to any affiliated college.

6.2.9 How does the Institution 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?

In order to address the grievances various committees are formed which are as follows:

- Grievance Redressal Cell.
- Anti-Raging Committee.
- Hostel Committee.
- Suggestion Box is provided and the grievances are addressed at the earliest. Some grievances are forwarded to the management for approval.
- Student's feedback is taken on teacher's performance with other parameters on academics. The report of the same is communicated to the respective teachers by the Principal.
- Year round feedback through Google form.
- Parents are encouraged to meet the class teachers to know the academic progress of their ward.
- For general grievances, parents are given freedom to express the same with the respective class teachers, HOD or Principal

6.2.10 During the last four years, had there been any instances of court cases filed by and against the institute? Provide details on the issues and decisions of the courts on these?

No, instances of cases filed by and against the institution.

6.2.11 Does the Institution have a mechanism for analyzing student feedback on institutional performance? If 'yes', what was the outcome and response of the institution to such an effort?

Student's feedback plays a major role in taking corrective measures whenever needed.

- The departments takes the course end feedback which covers the various aspects

of institutional performance. The report is consolidated and forwarded to the management

- At every alumni meet the members give feedback on improvement of the results, bridging industrial gap, developing entrepreneurial skills, supporting major events by alumni as judges, sponsors, trainers, organizers etc.

OUTCOMES

- Increase in transportation capacity and introduction of new bus routes based on students feedback.
- The institution purchased a new water tanker for solving the water crisis.
- Improvement in canteen facilities.
- Creation of new student free zones.

6.3 Faculty Empowerment Strategies

6.3.1 What are the efforts made by the institution to enhance the professional development of its teaching and non teaching staff?

The efforts made by the institution to enhance professional development:

Teaching Staff

- Conduct FDP's , Workshops etc.
- Encourage faculty to participate in Seminar's/Conferences,
- Encourage staff to join higher studies through QIP
- Special leave policy / Flexible work timings for encouraging book publication, allowance for international level conferences and journal publication, 50% of total charges to attend to national conferences etc

6.3.2 What are the strategies adopted by the institution for faculty empowerment through training, retraining and motivating the employees for the roles and responsibility they perform?

- Mentoring support professional growth and empowers faculty. Junior faculty is paired with mentors to improve their Teaching and research skill, to cultivate job satisfaction and improve organization socialization.
- Efforts are made to upgrade the professional competence of the staff. There are mechanisms evolved for regular performance appraisal of staff.
- The management protects the freedom of individuals, appreciates their innovations and ideas, and thereby motivates them.

6.3.3 Provide details on the performance appraisal system of the staff to evaluate and ensure that information on multiple activities is appropriately captured and considered for better appraisal.

The institution assesses its faculty through a well-structured appraisal system. The Staff Appraisal Form taken periodically gives details of the academic growth of the faculty. The faculty appraisal includes the instructional workload and their performance in each semester.

Performance in research activities, professional development activities, publications, achievements, extra, co-curricular and involvement in institute activities are obtained. The HOD observes the preparedness and alertness of the faculty in multiple activities throughout the semester. A feedback taken from the students gives further inputs regarding the effectiveness of the teaching learning methodologies used. All these factors contribute to the faculty appraisal system.

**MANGALAM COLLEGE OF ENGINEERING
ETTUMANOOR, KOTTAYAM
End Semester Self-Assessment
(Teaching Staff)**

Assessment Period: July 2014 – June 2015

Head of the Department- Confidential Report

Name of the Faculty Member		
Criteria	Your rating	Reason/Details
Result	Excellent/Good /Average/Poor	
Discipline	Excellent/Good /Average/Poor	
Regularity. (based on no of leaves taken)	Excellent/Good /Average/Poor	
No. Research Publications/ Books Authored	Excellent/Good /Average/Poor	
Interaction with outside world.	Excellent/Good /Average/Poor	
Consultancy.	Excellent/Good /Average/Poor	
Department level Contribution other than regular work load	Excellent/Good /Average/Poor	
Other Contributions: (Major responsibility in college level)	Excellent/Good /Average/Poor	

Overall Recommendations: Good/Average/poor

Signature of HOD

Recommendation of Vice-Principal:

Signature

The following are the fields of the template used for evaluation:

- Result
- Discipline
- Regularity
- Number of Research publications
- Interaction without side world and Consultancy
- Dept. level contribution
- College level contribution

6.3.4 What is the outcome of the review of the performance appraisal reports by the management and the major decisions taken? How are they communicated to the appropriate stakeholders?

- Outcome from performance appraisals should help in Compensation management, Succession Planning and planning the training needs.
 1. Compensation management :-The final rating for employees is an outcome of the performance appraisal. This can help to detail out the compensation of the employees . Also, it serves as a warning to poor performers to improve their performance.
 2. Improvement:-An employee's competency gaps can be identified and areas of improvement in the performance can be suggested. HOD's can take the necessary steps to help the employees improve on those areas. This will lead to growth of employees as well as organizational growth.
 3. Succession Planning :-Identification of potential employees will help in succession planning of an organization to head various departments.
- Training:-The necessary training requirements of employees can be an outcome of the performance appraisals.

6.3.5 What are the welfare schemes available for teaching and non teaching staff? What percentage of staff have availed the benefit of such schemes in the last four years?

1. Conducive ambience for academic pursuit
2. Transport facility and canteen facility at nominal rates
3. Gym facility
4. Clinic with free consultation
5. Salary through Bank
6. SBT Bank in College Premises
7. Internet WI-FI facility
8. Proposed margin free
9. Festival Kits
10. Morning Tea

Other Welfare than can be given

1. Group medi-claim facility
2. Incentive for International journal publication /Book publication
3. Tuition fee concession for the wards in sister concerns
4. Leave encashment

6.3.6 What are the measures taken by the Institution for attracting and retaining eminent faculty?

- Continuously improving Infrastructure facilities
- Career Growth:- definite career path for good performance
- Rewards & recognitions:- Certificates/ memeto's or incentives for excellent performance. Best Performer award in the Department/ Best all rounder in college etc
- On boarding for new joinees:- a buddy system for settling the new joinee

6.4 Financial Management and Resource Mobilization

6.4.1 What is the institutional mechanism to monitor effective and efficient use of available financial resources?

Efficient finance management is taken care of by an exclusive finance section with duties executed through a fulltime Accounts Manager, Finance Manager and

Finance Controller.

The mechanisms adopted to monitor effective and efficient use of available resources are:

- Preparation of budget for efficient utilization of financial resources.
- Monthly receipts and payment evaluation, quarterly receipts and payment evaluation by the accounts section in the office headed by superintendent of accounts in turn supervised by the principal.
- Chief account manager of the management is also consulted whenever required.
- An authorized chartered accountant will carry out internal and external audit.
- Books for library are purchased by librarian through the list provided by the library committee and authorized by the principal.

6.4.2 What are the institutional mechanisms for internal and external audit? When was the last audit done and what are the major audit objections? Provide the details on compliance.

The institution has a full time internal auditor appointed by the management who carries annual audit.

- The internal audit has been completed in the last financial year 2014-15.
- The external auditor conducts the financial audit regularly.
- There are no significant objections raised so far.

6.4.3 What are the major sources of institutional receipts/funding and how is the deficit managed? Provide audited income and expenditure statement of academic and administrative activities of the previous four years and the reserve fund/corpus available with Institutions, if any.

Since the institution is a self-financed institution, source of income is only the fee collected from the students

Expenditure Statement of Academic and Administrative Activities

Sl No.	Description	Expenditure in Rs.			
		2011-12	2012-13	2013-14	2014-15
1	Building	3,996,136.00	18,014,005.45	28,144,265.45	39,657,074.00
2	Electrical Items	195,165.00	1,084,060.00	2,701,538.00	2,162,281.00

	Purchase & installation				
3	Furniture & Fixtures	3,856,744.00	1,635,680.00	5,549,993.00	4,000,607.00
4	Equipment	1,714,730.00	5,862,419.00	2,827,826.00	613,577.00
5	Computers & Software	58,100.00	7,484,193.00	1,114,668.00	4,339,536.00
6	Repairs & Maintenance	4,592,258.44	1,852,004.85	1,849,162.59	2,543,471.00
7	Books	463,290.75	409,083.00	574,691.00	469,489.00
8	Printing & Stationery	346,175.00	685,980.80	934,392.86	614,348.00
9	Transport	726,937.00	638,971.00	564,345.00	731,175.00
	Total	15,949,536.19	37,666,397.10	44,260,881.90	55,131,558.00

6.4.4 Give details on the efforts made by the institution in securing additional funding and the utilization of the same (if any).

The institution is not securing additional funds.

6.5 Internal Quality Assurance System (IQAC)

6.5.1 Internal Quality Assurance Cell (IQAC)

- a. Has the institution established an Internal Quality Assurance Cell (IQAC)? If 'yes', what is the institutional policy with regard to quality assurance and how has it contributed in institutionalizing the quality assurance processes?**
- b. How many decisions of the IQAC have been approved by the management / authorities for implementation and how many of them were actually implemented?**
- c. Does the IQAC have external members on its committee? If so, mention any significant contribution made by them.**
- d. How do students and alumni contribute to the effective functioning of the IQAC?**
- e. How does the IQAC communicate and engage staff from different constituents of the institution?**

The IQAC has been formally inaugurated on 15/6/2015 and it monitors the internal quality aspects pertaining to academic, curricular and co- curricular activities for the welfare of the students within the existing academic and administrative systems. The opinions generated in the review meetings and the feedback taken from all the stakeholders become the input for effective implementation of quality assurance processes. All the recommendations made to the management are approved and implemented. The major decisions approved and implemented are as follows:-

Reccomendations	Approved	Implemented
Best projects done by students will be rewarded.	Approved	Executed
To prepare lesson plan	Approved	Instructed
Train the faculty to use e- boards	Approved	Trained
To subscribe for e-journals	Approved	Available
To subscribe for latest editions of competitive examination materials	Approved	Available
Availability of wifi	Approved	Executed
Cleanliness of class rooms and college campus	Approved	Executed
Classes for the weak students.	Approved	Executed

- The students and alumni are representatives of IQAC. Alumni discuss about the happenings in the College and suggest regarding quality improvement in teaching, learning, infrastructure facilities. They also guide the students in training activities conducted by the College for the purpose of placements.
- The IQAC is composed of members from different stakeholders like faculty, students, parents, alumni, office staff and management. The decisions taken in their meetings are communicated to all stakeholders through circulars, notice boards, College websites, and newsletter.

6.5.2 Does the institution have an integrated framework for Quality assurance of the academic and administrative activities? If 'yes', give details on its

operationalisation.

The IQAC acts as a facilitator of quality assurance in academic and administrative activities. All the important decisions pertaining to promoting the quality culture of the institution are made in IQAC core committee meetings. These are both academic and administrative decisions. The resolutions of the committee are conveyed to all the stakeholders through DQAC. The DQAC in turn ensures the proper implementation in the departmental level.

6.5.3 Does the institution provide training to its staff for effective implementation of the Quality assurance procedures? If 'yes', give details enumerating its impact.

Yes, the institution provides training to its staff members for effective implementation of quality assurance procedures through various methods. All the meetings conducted by HODs are reviewed by the principal. The goal of the Academic Audit is to have Continuous Quality Improvement

- Faculty induction programmes
- IQAC meetings in college level
- DQAC meetings in departmental levels
- Academic Audit of university
- Internal Audit.

6.5.4 Does the institution undertake Academic Audit or other external review of the academic provisions? If 'yes', how are the outcomes used to improve the institutional activities?

Yes, the institution undertakes academic audit by internal as well as external agencies.

Internal audit:

- IQAC conducted by principal
- DQAC conducted by HOD

External audit

- Audit by KTU
- Audit by MG University

in the principal conducts an internal audit of all the departments twice a year, in the form of departmental inspection. All the meetings conducted by HODs are reviewed by the principal. The goal of the Academic Audit is to have Continuous

Quality Improvement

6.5.5 How are the internal quality assurance mechanisms aligned with the requirements of the relevant external quality assurance agencies/regulatory authorities?

The Assurance System of the institution has been designed based on the NAAC SSR manual and AICTE guidelines. The quality assurance system was reviewed for KTU audit also. This assures that the institution is in compliance with the rules and regulations of the Government, University, , NAAC, AICTE , DTE etc.

6.5.6 What institutional mechanisms are in place to continuously review the teaching learning process? Give details of its structure, methodologies of operations and outcome?

The Review Mechanisms of Teaching-Learning Processes are:

- Evaluate periodically the course file which contain lecture plan, tutorial plan, course notes etc.by a central committee.
- The report given by IQAC on course delivery of faculty members based on the student feedback.
- Semesterwise result analysis report,evaluating the effect of teaching learning process, is forwarded the management.

6.5.7 How does the institution communicate its quality assurance policies, mechanisms and outcomes to the various internal and external stakeholders?

The major methods for communicating the quality assurance policies, mechanisms and outcomes to the internal and external stakeholders are the following:

- Common faculty meeting
- Internal and External Academic Audit
- Open houses
- Internal notice, newsletter, magazines, Procampuz (LMS), online publications, college website

6.5.8 Any other relevant information regarding Governance Leadership and Management which the college would like to include.

The institution comes under Mangalam Educational society which has educational institutions from playschools to institution of higher learning covering bachelors and Masters degrees in various disciplines like Arts, Sciences , Education, Paramedical , Architecture

Mangalam Educational Society is a sister concern of the Gaint media group, Mnagalam.

CRITERIA VII: INNOVATIONS AND BEST PRACTICES

7.1 Environment Consciousness

7.1.1 Does the Institute conduct a Green Audit of its campus and facilities?

Environmental consciousness is incorporated in the mission of the college and tree plantation is the major concern of the management to maintain the quality and beauty of the college to provide an eco- friendly atmosphere for the functioning. Institution does not conduct formal green audit in the campus.

The college situated on Vettimukal hill, is adding its beauty by the Amphy theatre which is surrounded by the Palm trees planted. The Amphy theatre which is nearing its completion will serve as an open gallery for the cultural activities of the college . The Construction Department is well organized for the construction works as well as maintenance.

7.1.2 What are the initiatives taken by the College to make the campus eco - friendly?

Energy Conservation

Minimal consumption of energy is the factor for energy conservation in the campus. Energy efficient lights and tubes in the class rooms and laboratories. Efforts is put to create awareness to minimize energy consumption by switching off electrical and electronics devices when not in use. The buildings in the campus are designed to ensure ample supply of light and ventilation and there by reducing the energy consumption.

Use of renewable energy

- It is proposed to install solar panels in the college hostels
- The demand of the fuel in the central kitchen is met by the biogas plant in the campus.

Water harvesting

Arresting the water flow in the rainy season is a great challenge to the management. MLMCE started a project for collecting rain water in the campus and that is aimed to end the water scarcity in the campus and hostels. And also a sewage treatment plant for purifying the waste water and the purified water is used for irrigation purposes.

Waste Management

- Effective methods are taken to disperse the waste materials.

Minimum use of Papers

Minimal use of paper is encouraged and official communications are mainly made through LAN and E-mail facility

Plantation

The greenery of the campus is constantly monitored and upgraded by the Construction and Development.

E-Waste management

Periodical functioning reviews and maintenance of electronic equipments and devices are performed whereby the E-waste is minimised. The parts of unrepairable devices are given to the students for study and research purpose.

If possible the computers are repaired to the working condition and used again, otherwise the scrap components are given to the vendors.

Efforts for Carbon neutrality

- The management team responsible for vehicle maintenance ensures that the vehicles owned by the college it conducts carbon emission test properly.
- The entry of student vehicles is strictly prohibited inside the campus.
- The staff members are also encouraged to utilise vehicle pooling system.
- Institute is provided with ample transportation facility from various cities and townships.

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 college

The college has introduced the following innovations in academics, administration and other areas which help for the effective functioning to enable the students in the fast changing scenario.

1. MLMCE is an ISO certified institution. Periodical inspections and audits are conducted by the ISO officials, there by ensuring the quality of education.
2. For effective teaching practice LCD projectors are installed in each class room.
3. Internet/WI-Fi facilities are available in campus and hostel.
4. Proper Procampuz (LMS) system is enabled.
5. For official sharing of the information the faculties are provided with official web mail. Also the communication between the management and the staffs are done by the official web site.
6. The college is proposing for the provision of SMS facility for the communication between students/parents/faculties.
7. The college is providing facility for conducting faculty development programmes
8. IQAC and DQAC monitor the course files and necessary suggestions are given.
9. Chapter of professional bodies like ICT, CSI etc.
10. Research cell and start-up.
11. For meeting the job scenario the students are guided to attend the communication classes, language labs. A full time faculty is appointed for training the students to enrich their communication skills and vocabulary skills.
12. The discipline of the students is maintained by providing college identity card and mobile phones are strictly banned inside the campus.
13. A well equipped Physical fitness centre is functioning in the campus.
14. Technical fest and paper presentation are more encouraged for the students to develop their innovative technical and organizing skill.

7.3 Best Practices

7.3.1 Elaborate on any two best practices, which have contributed to the achievement of the Institutional Objectives and/or contributed to the Quality improvement of the core activities of the college.

1. Title of Practice -Quality Education and Career Development

- Sir Albert Howard Clava(Organic Farming Club)
- Boutique De Confiance (Honesty Shop)
- Visiting old age homes, rehabilitation centres and orphanages

2. Aim of the practice

- To inculcate the essence of ethical and moral responsibilities among the students
- To chisel the students to be socially committed citizens.
- To prepare the students for handling adverse situations.
- To develop entrepreneurship skills among the students.

3. The Context

Youth are habited to junk foods which in turn affects life cycle and health. Poisonous chemicals which are used as manure and pesticides adversely affect the mental & physical condition of the youth. Taking the situation into consideration. Comprehensive solution was formulated and implemented as organic farming technique . Indulging in such type of fruitful activities students will themselves be self motivated & in turn become self sufficient.

4. Evidence of Success.

- Good academic performance and results.
- Increasing number of placements ,courses and students in the college.
- Better discipline and reputation of the college.

BEST PRACTICE II

Title of project-Poster Completion

Students can form a group of 2 to present a poster. Each group presents a poster during the first break every day. They are evaluated on

- Creativity
- Topic Selection
- Technical Aspects
- Oral Presentation
- Clarity of Message
- Time Utilization
- Question Answering
- Originality
- Resource Utilization
- Overall impact of the Discipline

Each student is evaluated for 50 minutes. The best poster is selected for NSS poster presentation held every year as per KTU norms.

Since the poster presentation is for First year students there is a tendency among them to present non technical topics.

The overall presentation skill of the students has improved.

The practice has ensured team work among students.

-Participation in NSS poster presentation.

-Improvement in the technical aptitude.

-Improved reading & browsing habits.

- Initially the quality of posters with respect to print quality was not upto the mark. Solution for better print output were realized . Initially the students faced problems in communication in English language .Continuous mentorship improved their communication skills.

EVALUATIVE REPORT OF CIVIL DEPARTMENT

1. **Name of the department:** Civil Engineering

2. **Year of Establishment** : 2010

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

UG: B.Tech- Civil Engineering

PG: M.Tech- Structural Engineering and Construction Management

4. **Names of Interdisciplinary courses and the departments/units involved** : Nil

5. **Annual/semester/choice based credit system (programme wise):**

Sl. No	Programme	Annual/semester/choice based credit system
1	UG B.Tech	Semester
2	M.Tech	Semester

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

Sl. No	Courses	Department
1	Engineering Mathematics I	Basic Science and Humanities
2	Engineering Mathematics II	
3	Engineering Mathematics III	
4	Engineering Mathematics IV	
5	Engineering Mathematics V	
6	Engineering Physics	
7	Engineering. Chemistry & Environmental Studies	
8	Engineering Graphics	Mechanical Engineering
9	Basic Mechanical Engineering	
10	Mechanical Workshop	

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11	Basic Electronics Engineering. &Information Technology	Electronics & Communication Engineering, IT
12	Electrical Workshop	Electrical Engineering
13	Fluid Mechanics Lab	Mechanical Engineering
14	C Programming	Computer Science

7. Courses in collaboration with other universities, industries, foreign institutions, etc.: Nil

8. Details of courses/programmes discontinued (if any) with reasons : Nil

9. Number of Teaching posts

Sl. No	Post	Sanctioned	Filled
1	Professors	2	Nil
2	Associate Professors	4	3
3	Asst. Professors	23	23

10. Faculty profile with name, qualification, designation specialization, (D.Sc./ D.Litt. / Ph.D./M.Phil. etc.,)

Sl. No	Name of Faculty	Qualification	Designation	Specialisation	Experience in Years (I=Industrial, A=Academic)	PhD Students Guided
1	Reshma Kassim	M.E	Associate Professor	Construction Eng & Management	I=1 A=12.5	Nil
2	Siply Abraham	M.E	Associate Professor	Construction Eng & Management	I=3 A=10.5	Nil
3	Geethu Thomas	M.Tech	Assistant Professor	Geomechanics & Structures	A=3	Nil
4	Aswathy Soman	M.Tech	Assistant Professor	Structural Engineering and Construction	A= 2.5	Nil
5	Femi Jose	M.Tech	Assistant Professor	Environmental Geotechnology	A= 1.75	Nil

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6	Manjusha P K	M.Tech	Assistant Professor	Traffic engineering and transportation	A=2.5	Nil
7	Susan Mathew	M.Tech	Assistant Professor	Water resource and hydroinformatics	A=2.5	Nil
8	Manoj C.M	M.Tech	Assistant Professor	Geomechanics & Structures	I=7 A=2.5	Nil
9	Deepak K Lekshmanan	M.Tech	Assistant Professor	Structural Engineering and Construction	A= 2.5	Nil
10	Revathy N	M. Planning	Assistant Professor	Planning and housing	A= 2.5	Nil
11	Reshmi A S	M. Planning	Assistant Professor	Planning and housing	A=2.5	Nil
12	Reni Kuruvilla	M.E	Assistant Professor	Structural Engineering	I=4 A=5.5	Nil
13	Smruthymol Joseph	M.E	Assistant Professor	Structural Engineering	A= 2.5	Nil
14	Salini Theresa	M.Tech	Assistant Professor	Computer aided structural engineering	A=2.5	Nil
15	Sruthi Krishnan	M.E	Assistant Professor	Energy And Environmental	A=1.5	Nil
16	Pooja S Ajay	M.Tech	Assistant Professor	Geomechanics & Structures	A=1.5	Nil
17	Deepa Varghese	M.Tech	Assistant Professor	Structural Engineering	I=8 A=1.5	Nil
18	Tissa Sebastian	M.Tech	Assistant Professor	Geotechnical Engineering	A=1.5	Nil

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19	Anu Mathew	M.Tech	Assistant Professor	Offshore structures	A=1	Nil
20	Anitha Philip	M.Tech	Assistant Professor	Structural Engineering and construction Management	A= 1	Nil
21	Nissy Susan Mani	M.Tech	Assistant Professor	Computer aided structural engineering	I=0.3 A=1.5	Nil
22	Akhil Lal	M.Tech	Assistant Professor	Transportation Engineering	A=1.5	Nil
23	Alice Johny	M.Tech	Assistant Professor	Computer aided structural engineering	A=1	Nil
24	Fr. Bennet Kuriakose	M.Tech,Ph.D	Associate Professor	Structural Engineering	A=1.5	Nil
25	Surya Sasidharan	M.Tech	Assistant Professor	Geomechanics & Structures	A=6	Nil
26	Deepthi S Nair	M.Tech	Assistant Professor	Computer aided structural engineering	A=1.5	Nil

11. List of senior visiting faculty:

Sl. No	Name	Date	Topic
1	Mr.Bijoy Varghese, Leading Structural Consultant	03/01/2014	What the industry demands from a civil engineer
2		17/01/2014	Construction automation
3		24/01/2014	Building materials

	&Properator of Framez Technologies		
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12. Percentage of lectures delivered and practical classes handled (programmewise) By temporary faculty : Nil

13. Student-Teacher Ratio (programme wise) :

Course	Number of students	Number of teachers	STR
B.Tech	421	23	18.3
M.Tech	22	3	7.33

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

Staff	Sanctioned	Filled
Technical Staff	6	6

15. Qualifications of teaching faculty with DSc/D.Litt/Ph.D/MPhil/PG.

Faculty with P.G = 26

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received : Nil

17. Departmental projects funded by DST-FIST;UGC, DBT, ICSSR, etc. and total grants received : Nil

18. Research Centre/facility recognized by the University : Nil

19. Publications:

- Publication per faculty

Sl. No	Author	Title	Year	Journal	Impact Factor
1	Aswathy Soman	Effect of supplementary cementitious materials in hybrid fibre reinforced concrete	Dec-2013	IJSAM	2.1
2	Akhil Lal	Prediction of Travel Time on	Nov- 2014	IJERT	1.76

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		Undivided Rural Roads			
3	Aparna Ben	Compressive Strength of uniformly corroded steel angle members retrofitted with CFRP	Aug-2014	IJETAE	2.67
4	M Gayathri Devi	Effect of Re-Dosing Superplasticizer to Regain Slump On Concrete	Sep- 2014	IJIRAE	1.31
5	Pooja S Ajay	Flexural behavior of cold formed steel beams with Diagonal stiffener	Nov- 2014	IJETT	1.4
6	Salini Theres N Kurian	Fatigue Analysis of Glass Fiber Reinforced Polymer(GFRP) Bridge Deck Panels	Dec-2013	IJRSET	1.682
7	Smruthimol Joseph	Effect of Water Absorption ,Acid Attack and Sulphate attack on Durability Properties of Geopolymer mortar	Mar-2013	IJETED	1.2
8	Bennet Kuriakose	Numerical Analysis of Concrete at Elevated temperatures	Jan-2014	IJERA	2.1
9	Bennet Kuriakose	Numerical analysis of temperature distribution across the cross section of a concrete dam during early ages	Aug-2013	AJER	1.6

- * Number of papers published in peer reviewed journals(national)
- * Number of publications listed in International Data base (For Eg:Web of Science, Scopus, Humanities International Complete, Dare Database-International Social Sciences Directory, EBSCOhost, etc.)

***Monographs** : Nil

***Chapter in Books** : Nil

***Books Edited** : Nil

***Books with ISBN/ISSN numbers with details of publishers** : Nil

***Citation Index** : Nil

***SNIP** : Nil

***SJR**

Sl. No	Topic	Journal	Author
1	Static behavior of laminated composite structure (2012)	Journal of institution of engineers India series A 93(4) 251-257	Kuriakose B, Sathyabhama L, Valsaraj K U
2	Modelling heat of hydration for thick concrete construction- a note (2015)	Journal of Structural Engineering 42 (348-357)	Kuriakose B, Rao B N, Dodagoadar GR, Venkitachalapathy V
3	Probabilistic settlement analysis of raft using first order reliability method (2016)	International Journal of Earth Science and Engineering (Accepted)	Kuriakose B, Rao B N, Dodagoadar GR, Krishnan A
4.	Dynamic Behaviour Laminated Composite Shells	Journal of institution of engineers India series A	Kuriakose B, Sathyabhama L, Valsaraj K U
5.	Reliability of raft foundations on uniformly random soils	Journal of structural engineering	Kuriakose B, Krishnan A , Dodagoadar GR, Rao B N

20. Areas of consultancy and income generated

Sl. No	Name of activity	Income(Rs)
1	Compressive strength of concrete	10000
2	Specific gravity of Aggregate	600
3	Concrete mix design	60000

4	Tension test on steel	2200
Total		72800

21. Faculty as members in a) National committees b) International Committees c) Editorial Board

Sl. No	Name of faculty	Name of national committee
1	Reshma Kassim	Indian Concrete Institute
2	Jincy Rose M A	Indian Society of Hydraulics
3	Nissy Susan Mani	Institute of Engineers of India
4	Alice Johny	Institute of Engineers of India
5	Bennet Kuriakose	American Concrete Institute, Institute of Structural Engineers(British Columbia)

22. Student projects

a) Percentage of students who have done in-house projects including interdepartmental/programme : 88.88%

b) Percentage of students placed for projects in organizations outside the institution i.e. in Research laboratories/Industry/ other agencies : 11.11%

23. Awards/Recognitions received by faculty and students :

Name	Award	Year
Bennet Kuriakose	John C Gammon Prize, Institution of Engineers (India)	2013
	John C Gammon Prize, Institution of Engineers (India)	2012
	T.K Divakaran Memorial	2010

	endowment,Best Outgoing student in Structural Engineering, CET	
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24. List of eminent academicians and scientists/visitors to the department

Sl. No	Date of visit	Name of Scientist/ Visitor	Designation/ Field
1	06/02/2015	B.G Sreedevi	Director Of National Transportation Planning and Research Centre (NATPAC)

25. Seminars/Conferences/Workshops organized & the source of funding

- a) National Nil
b) International Nil

26. Student profile programme/course wise :

Name of the Course/programme (refer question no. 4)	Applications received	Selected	Enrolled		Pass percentage
			*M	*F	
Btech Civil Engineering 2010-2014 Batch	33	33	15	18	53
Btech Civil Engineering 2011-2015 Batch	66	60	38	22	47.7
Btech Civil Engineering 2002-2016 Batch	66	60	30	30	N/A

Btech Civil Engineering 2013-2017 Batch	122	120	62	58	N/A
Btech Civil Engineering 2014-2018 Batch	146	120	59	61	N/A
Btech Civil Engineering 2015-2019 Batch	110	107	63	44	N/A
M.tech 2014-2016	7	7	-	7	N/A
M.tech 2014-2016	18	15	3	12	N/A

*M=Male *F=Female

27. Diversity of Students

Name of the Course	%of students from the same state	% of students from other States	%of students from abroad
Btech Civil Engineering 2010-2014 Batch	100	NIL	NIL
Btech Civil Engineering 2011-2015 Batch	100	NIL	NIL
Btech Civil Engineering 2012-2016 Batch	100	NIL	NIL
Btech Civil Engineering 2013-2017 Batch	100	NIL	NIL
Btech Civil Engineering 2014-2018 Batch	100	NIL	NIL
Btech Civil Engineering 2015-2019 Batch	100	NIL	NIL
M.tech 2014-2016	100	NIL	NIL

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.? Nil

29. Student progression

Student progression	Against %enrolled
UG to PG	15.15
PG to M.Phil.	
PG to Ph.D.	
Ph.D . to Post-Doctoral	
Employed	
• Campus selection	54.54
• Other than campus recruitment	6.06
Entrepreneurship/Self-employment	

30. Details of Infrastructural facilities

1	Library: Main Library: department library	1453 Books 85 Books
2	Internet facilities for Staff& Students	Wi fi inside Campus for staff and Students
3	Class rooms with ICT facility	8 classrooms with ICT
4	Laboratories	Area Sqm
	Civil Workshop	100 m ²
	Material Testing Laboratory I	160 m ²
	Survey Lab	103.17 m ²
	Computing Techniques Laboratory	100 m ²
	Geotechnical Engineering Laboratory	178 m ²
	Material Testing Laboratory II	153.6 m ²
	Transportation Engineering Laboratory	153.6 m ²
	Environmental Engineering Laboratory	120 m ²

31. Number of students receiving financial assistance from college, university, Government or other agencies:

Sl No	Academic Year	College	University	Government and other
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				Agencies
1	2010-2011	-	0	-
2	2011-2012	1	0	6
3	2012-2013	2	0	26
4	2013-2014	2	0	56
5	2014-2015	4	0	71

32. Details on student enrichment programmes (special lectures/workshops / seminar) with external experts:

Sl no	Event	Date	External Expert
1	Civil Association, Reinforce	06-02-2015	B.G Sreedevi
2	Cad training	Jan-2015	Vinu V Vijayan
3	3ds max, Revit	Feb-2015	Vinu V Vijayan
4	Soft skill Training	Dec-Jan 2014	Manikandan S
5	Soft skill Training	June 2012	Ratheesh Ambattu
6	Aptitude training	Dec-Jan 2014	Mr Ajith Joseph
7	Language Training	Dec-Jan 2014	Mr Alexander Saju
8	Grooming	Jan 2013	Ms. Harshitha Iyer

33. Teaching methods adopted to improve student learning

1. Power point presentation
2. Tutorial Classes
3. Seminars
4. Working Models
5. Industrial Visit

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

Batch	No of students	Place of service	Time
2011	60	Amma Veedu, Pampady Navajeevan trust, Arpookkara	June 2012
2012	60	Snehabhavan, Puthupally	June 2013
2013	120	Mariya Sadanam, Palai Amma Veedu, Pampady Navajeevan trust, Arpookkara	June 2014 December 2014

35. SWOC analysis of the department and Future plans

Strength

1. Young Dynamic faculty members with specialization in different streams of Civil Engineering
2. The institute is providing adequate infrastructure
3. Effective faculty mentoring system
4. Remedial classes based on various assessment methodologies
5. Well equipped lab facilities
6. Cordial relationship between staff and students

Weakness

1. The department does not have an external funding for research and development
2. Proactive placement activity are insufficient
3. The department is not enriched with highly qualified and experienced professionals
4. Lack of faculty and student development programmes and industrial interaction

Opportunity

1. Enhance consultancy services
2. Enhancement of curriculum through affiliation to KTU
3. Networking with national Research and development labs

Challenge

1. Poor remuneration for fresh graduates
 2. Lack of sufficient number of quality students with strong interest in civil engineering
 3. Emerging of local and new engineering colleges under self financing sector

Future Plans

1. Plan for funded project proposals to various funding agencies

2. Motivating the students and faculty members to publish their final year projects in national or international journal.
3. Extension of consultancy activities
4. Conduct more department level faculty/Student development programmes

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS
ENGINEERING**

1. Name of the department : Electrical and Electronics Engineering

2. Year of Establishment : 2002

3. Courses offered

Sl.No.	Programme	Name of Course
1	UG : B.Tech	Electrical and Electronics Engineering
2	PG: M.Tech	Power Electronics and power Systems

4. Interdisciplinary courses and the departments/units involved

Sl.No.	Course	Department
1	Engineering Mathematics I	Basic Science Department
2	Engineering Mathematics II	
3	Engineering Mathematics III	
4	Engineering Mathematics IV	
5	Engineering Physics	
6	Engineering Chemistry	
7	Engineering Mechanics	Department of Civil Engineering
8	Basic Civil Engineering	
9	Engineering Graphics	Department of Mechanical engineering
10	Basic Mechanical Engineering	
11	Mechanical Technology	
12	Mechanical Technology Lab	
13	C-Programming Theory	Department of Computer Science Engineering
14	C-Programming Lab	
15	Computer Networks	
16	Basic Electronics Engineering	Department of Electronics and Communication Engineering
17	Microcontroller and Embedded Systems	

5. Semester based credit system (programme wise)

Credit System

Each subject shall have a certain number of credits assigned to it depending upon the academic load and the nature and importance of the subject. Each course shall have an integer number of credits, which reflects its weightage

Grading

The university shall award the letter grade to students based on the marks secured by them in both internal assessment and Semester-End examinations taken together in the subjects registered. Each letter grade indicates a qualitative assessment of the student's performance and is associated with a specified number of grade points. All passed candidate will be allotted a grade S, A, B, C, D, or E according to the total marks scored by him/her.

If a candidate does not pass a subject, he/she will be assigned an Unsatisfactory grade 'U' irrespective of his/her total marks. If a student does not pass a subject in two attempts, the maximum grade he/she can get is 'C' when he/she passes the subject in any subsequent examination, whatever be the marks scored by him/her.

A student is considered to have completed a subject successfully and earned the credits if he/she secures a letter grade other than 'U' in that course. Letter grade 'U' has zero grade point and the candidate has to write the examination again to improve the grade. A student's performance is measured by the number of credits that he/she has earned and by the cumulative grade point average (CGPA) maintained by him/her

Total marks scored by the Candidate	Corresponding Grade allotted	Grade Points
136-150	S	10
121-135	A	9.0
106-120	B	8.0
91-105	C	7.0
83-90	D	6.0
75-82	E	5.5
FAILED	U	0.0

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

Sl. No	Name of Courses Offered	Name of department
1	Electric Drives and Control	Electronics and Communication Dept

2	Electrical Technology	Mechanical Dept
3	Basic Electrical Engineering	To All other Departments
4	Control System	Mechanical Dept.

7. Courses in collaboration with other universities, industries, foreign institutions: NIL

8. Details of courses/programmes discontinued (if any) with reasons: NIL

9. Number of Teaching posts

	Sanctioned	Filled
Professors	1	0
Associate Professors	3	4
Asst. Professors	14	15

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)

Sl.No.	Name	Qualification	Designation	Specialisation
1	Benny K.K.	M Tech	Associate Professor	Industrial Drives & Control
2	Preethi Sebastian	M Tech	Associate Professor	Industrial Management
3	Susan V Ninan	M Tech	Associate Professor	Industrial Drives & Control
4	Sebastian Joseph	M.Tech	Associate Professor	Industrial Management
5	Rahumat Beeby.K.A	M Tech	Assistant Professor	Power System
6	Dhanya S	M.Tech	Assistant Professor	Power Electronics and Power Systems

7	Reema Manavalan	M.E.	Assistant Professor	Power Electronics and Drives
8	Rahul P	M.Tech	Assistant Professor	Power System
9	Jeneesh Scaria	M.E.	Assistant Professor	Power Electronics and Drives
10	Jeepa K J	M.Tech	Assistant Professor	Industrial Drives & Control
11	Liya Alias	M.Tech	Assistant Professor	Power Systems
12	Aju Thomas	M.Tech	Assistant Professor	Power Systems
13	Meera Rose Cherian	M.Tech	Assistant Professor	Power Electronics and Power Systems
14	Shoma Mani	M.Tech	Assistant Professor	Power Systems
15	Eugene Peter	M.Tech	Assistant Professor	Power Electronics
16	Priya S P	M.Tech	Assistant Professor	Power Systems
17	Amalu Philip	M.Tech	Assistant Professor	Power Systems
18	Phejil K Paul	M.E	Assistant Professor	Power Electronics and Drives
19	Sreedevi P.R	M.Tech	Assistant Professor	Power Systems

11. List of senior visiting faculty

NIL

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty: NIL

13. Student-Teacher Ratio (programme wise):

UG:

Sl.No.	Academic Year	Total Number of Students UG					Total number of faculty in the programme	Teacher Student Ratio
		1 st Year	2 nd Year	3 rd Year	4 th Year	Total		
1	2014-2015	37	40	49	43	169	15	11:1

2	2013-2014	40	49	43	70	202	15	13:1
3	2012-2013	49	43	69	66	227	15	15:1
4	2011-2012	43	69	66	68	246	14	18:1

PG:

Sl.No.	Academic Year	Total Number of Students PG			Total number of faculty in the programme	Teacher Student Ratio
		1 st Year	2 nd Year	Total		
1	2014-2015	6	14	20	3	7:1
2	2013-2014	14	17	31	3	10:1
3	2012-2013	17	-	17	3	6:1
4	2011-2012	-	-	-	-	-

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled.

Staff	Sanctioned	Filled
Technical Staff	5	5
Administrative Staff	1	0

15. Qualifications of teaching faculty with DSc/D.Litt/Ph.D/MPhil/PG.

SL.NO	Qualification	Number of Faculty
1	PG	19

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received : NIL

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received : NIL

18. Research Centre /facility recognized by the University: NIL

19. Publications

Faulty Name	Date of print	Title of paper	National/ International	Journal/ Conf:/ workshop Name	Co-author's Name	Was it published when you were with Mangalam
Chikku Abraham	2008	1.FDTD Simulated Propagation of Electromagnetic Pulses due to PD for Transformer Diagnostics	International	IEEE Region 10 (Conf.)	Prof. S V Kulkarni	No
	2008	2. Towards Development of Competence in Simulation and Measurement of Partial Discharge Signals in the UHF Range	National	NPSC – IIT Bombay (Conf.)	Prof. S V Kulkarni Avinash S. Bhangaonkar	No
	2012		International	Conf. (Springer)		No
	2012		National	Manipal University (Conf.)	Remya K G, Dr. Babitha R Jose	No
	2012	3. A slope compensated Current Mode controlled Boost Converter	International	NITTE (Conf.)(Karnataka)		No
	2012		International	NITTE (Conf.)(Karnataka)	Remya K G, K R Varmah	No
	2012	4. Design and Simulation of Current Mode controlled Boost Converter	National	Satyabhama (Conf.)	Basilkumar	No
	2014	5. Analysis and Simulation Study of An Inverter Integrated with Soft Switching for a BLDC Drive System	National	Satyabhama (Conf.)	Ramna, Salitha	No
	2014		International	IEEE Conf. (ICACC-14)	Anumol George, K R Varmah	Yes
	2014	6. Position Sensorless Permanent Magnet Brushless DC Motor Drive	International	ICETREE(2014)-Elsevier		Yes
Chikku Abraham		7. Simulation of HPF Offline Power	International	IEEE -ISED-14 (NIT Surathkal)	Jassia M A, Caroline Ann Sam Poornima	Yes

		Supply for Wide Input Voltage Ranges Using IBFC 8. Compact Synchronous Buck Voltage Regulator with ZVS for Wide Load Range 9. A Novel Multiple Gain inductorless Buck-Boost DC-DC Converter 10. Charge Pump Driven High Step Up Converter for Renewable Energy Harvesting 11. A Multiple Input Multiple Gain Switched Capacitor DC-DC Converter with Reduced Switch Count			M S, Dr. Babitha R Jose Preetha K G, Susan V Ninan Dr. Babitha R Jose. Rakhee R Dr. Babitha R Jose.	
Susan V Ninan	06/08/2014	Charge Pump Driven High Step Up Converter for Renewable Energy Harvesting	International	Elsevier publication	Chikku Abraham Susan V ninan Dr. Babitha R Jose.	yes
Preethi Sebastian	May 2014	An Analysis of Emotional Intelligence Organizational Commitment and Absenteeism Among The Employees of A Mattress Company, India	International	Journal of Emerging Technology and Advanced Engineering	Preethi Sebastian & Anu Kishen	yes
Preethi Sebastian	April 2012	Development of an objective quality measurement model for measuring and evaluating quality of a manufacturing organization	International	International Journal of management	JayaKumar.K	yes

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Preethi Sebastian	May 2011	The role of power Electronics in wind power systems	National	national conference on power electronics systems & management, St Gits college of Engineering	Nil	Yes
Benny K.K.	June 2012	An Efficient High Voltage Full-Bridge DC-DC Converter for High Voltage DC Applications	Inter-national	Conference	Prof. J. T. Kuncheria	yes
Benny K.K.	June 2014	High Frequency LLC Resonant Inverter for Induction Heating With Asymmetrical Control	Inter-national	Conference	Kukku Joseph	yes
Benny K.K.	August 2014	Hardware Implementation of LLC Resonant Inverter for Induction Heating With Asymmetrical Voltage Cancellation method.	national	Conference	Kukku Joseph	yes
Reema Manavalan	MARCH 2013	Analysis of Hybrid Renewable Energy System using NPC Inverter	International	Journal	Senthil Kumar	NO
Reema Manavalan	APRIL 2013	Renewable Energy System analysis using Inverter	National	Conference	Senthil Kumar	NO
Reema Manavalan	AUG 2014	Power quality improvement of Fuel cell and Wind farm based DG System	International	Conference	Anumol C G	YES
Reema Manavalan	AUG 2014	Control of the Grid Interfacing Inverter to reduce harmonics in DG Systems	National	Conference	Anumol C G	YES

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Reema Manavalan	AUG 2014	Reduction of Harmonics in fuel cell based DG system	National	Conference	Anumol C G	YES
Liya Alias	August 2014	Peak current mode control of a symmetrical half bridge push pull converter for a grid connected photovoltaic system with P&O MPPT	National conference	National Conference on Technological Trends	Jasnah Hakkim	yes
Liya Alias	August 2014	Parallel operation of inverter in a stand-alone hybrid system with dump power control	National conference	National Conference on Technological Trends	Neethu Annie James	yes
Liya Alias	August 2014	Peak current mode control of a symmetrical half bridge push pull converter topology for photovoltaic array with P & O MPPT	International conference	computing, communication and energy systems, ICCCES	Jasnah Hakkim	yes
Liya Alias	March 2012	Three Phase Grid Connected Photovoltaic Power Systems Using Current Control	National conference	Recent Trends in Electrical Engineering	Mintu V Mani	no
Liya Alias	Feb 2012	Control Of Three Phase Grid Connected Photovoltaic Power Systems With Maximum Power Point Tracking	National conference	Proceedings of IEEE NACPOM	Mintu V Mani	no
Jeneesh Scaria	26-03-2015	Integrated CSIs with current buck boost capability	International	International Conference on Emerging Technology Trends	Prof. Jerald Christopher	No
Jeneesh Scaria	20-08-2014	A Two Stage Buck Boost Converter with Isolation as a High Power Factor	International	International Journal OF Advanced Research in Electrical, Electronics and	Lekshmi Sasidharan	YES

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		Supply for Power-LED Lamps		Instrumentation Engineering		
Rahumath beeby K.A	May 2011	Load frequency control of small isolated generating station	National conference	national conference on power electronics &Power systems St Gits college of Engineering	Nil	No
Dhanya S	16/11/2011	Average Current mode Controlled PFC Bridgeless Buck Converter	National	STEPMACC'11	Mr. Arun S	No
Dhanya S	27/9/2011	Bridgeless PFC Buck Converter	National	NCVPS 2011	Mr. Arun S	No
Eugene Peter	09/09/2014	Power factor correction of Bridgeless SEPIC Converter with ripple free input current	International	ICCES'14	Alphoneo Thomas	Yes
Eugene Peter	23-09-2014	Analysis and design of Bridgeless Sepic Converter with ripple free in put current	National	NCFIT'14	Alphoneo Thomas	Yes
Eugene Peter	07/09/2012	Grid Connected Inverter using Decoupled Current Control	National	NAIMSAP '12	Beena V	No
Amalu Philip	10/4/2013	Coordinated Voltage Controller For Enhancement Of Microgrid Voltage Stability	National	National Conference in advances in electrical control and computational engineering	Rishi Menom	No
Amalu Philip	8/11/2013	Fuzzy Based Coordinated Voltage Controller	International	International Conference on Materials for the Future Innovative Materials,Process,Products and Applications	Rishi Menom	No
PRIYA S P	12/02/2013	Power quality analysis of grid connected multilevel inverter with varying	national	National conference	Dr.Meena kshi K	No

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		dc inp				
PRIYA S P	21/03/2013	power quality analysis of grid connected multilevel inverter using intelligent system	International	International conference	Dr.Meena kshi K	No
Aju Thomas	FEBRUARY 2012	A Genetic PID Controlled Hydrothermal AGC with CES.	national		Dr. Rajesh Joseph Abraham	No
Aju Thomas	MARCH 2012	GA Optimized PID Controller for Two Area Hydrothermal AGC considering Capacitive Energy Storage	INTERNATIONAL		Dr. Rajesh Joseph Abraham	No
Aju Thomas	MARCH 2012	GA Optimized PID Controller for Two Area Hydrothermal AGC considering SMES	national		Emil Ninan Skariah	No
Aju Thomas	APRIL 2012	Automatic Generation Control of Two Area Hydrothermal System with Optimized PID Gain Settings and Energy Storage Unit	national		Dr. Rajesh Joseph Abraham	No
Aju Thomas	NOVEMBER 2014	Optimization and Simulation of AGC in Restructured Power system with CES and PID controllers	national		Athira Elizabeth Alex	Yes
Aju Thomas	NOVEMBER 2014	Optimization and Simulation of AGC in Restructured Power system with SMES and PID controllers using ITSE Technique	International		Athira Elizabeth Alex	Yes

Phejil K Paul	9-8-2014	Current compensation using modified seven level multilevel inverter and fast acting dc link voltage controller based DSTATCOM	international	International conference on computing, communication and Energy systems,2014	Nasreen iqubal	Yes
Phejil K Paul	23-8-2014	Current compensation using seven level multilevel inverter based DSTATCOM	National	15 th national conference on technological trends,2014	Nasreen iqubal	Yes
Sreedevi P.R	Decem ber-2014	Reactive power compensation of an isolated wind-diesel hybrid power system with a dynamic load	International conference	International conference on energy, environment, materials and safety.	Aparna Thampi	No
Sreedevi P.R	Decem ber -2014	Reactive power compensation of hybrid system having induction motor load.	International conference	International conference on emerging trends in electrical systems	Aparna Thampi	No
Sreedevi P.R	Octob er-2014	Automatic reactive power control of an isolated wind-diesel hybrid power system with a dynamic load	National conference	National conference on emerging electrical trends	Aparna Thampi	No

20. Areas of consultancy and income generated: NIL

21. Faculty as members in

- a) **National committees** : NIL
- b) **International Committees** : NIL
- c) **Editorial Boards** : NIL

22. Student projects

S.No	Year	Percentage of students who have done in-house projects	Percentage of students placed for projects in organizations outside the institution
1	2011-2015	100%	0%

2	2010-2014	70%	30%
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23. Awards / Recognitions received by faculty and students: NIL

24. List of eminent academicians and scientists/visitors to the department : NIL

25. Seminars/Conferences/Workshops organized & the source of funding

a) National: NIL

b) International: NIL

26. Student profile programme/course wise:

Name of the Course/programme	App.reced	Selected	Enrolled		%Pass
			*M	*F	
B.Tech Electrical and Electronics Engineering 2008-12 Batch	70	68	43	25	35.2%
B.Tech Electrical and Electronics Engineering 2009-13Batch	71	70	53	17	40.3%
B.Tech Electrical and Electronics Engineering 2010-14 Batch	70	69	52	17	50.72 %
B.Tech Electrical and Electronics Engineering 2011-15 Batch	43	43	33	10	41.86%
B.Tech Electrical and Electronics Engineering 2012-16 Batch	49	49	37	12	
B.Tech Electrical and Electronics Engineering 2013-17 Batch	40	40	35	05	
B.Tech Electrical and Electronics Engineering 2014-18 Batch	37	37	28	09	
M.Tech PEPS 2014-2016	06	06	03	03	
M.Tech PEPS 2013-2015	18	17	03	14	
M.Tech PEPS 2012-2014	18	17	00	17	100%

27. Diversity of Students

Year	Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
2014-2015	B.Tech (EEE)	100%	NIL	NIL
	M.Tech(PEPS)	100%	NIL	NIL
2013-2014	B.Tech (EEE)	100%	NIL	NIL
	M.Tech(PEPS)	100%	NIL	NIL
2012-2013	B.Tech (EEE)	100%	NIL	NIL
	M.Tech(PEPS)	100%	NIL	NIL
2011-2012	B.Tech (EEE)	100%	NIL	NIL
2010-2011	B.Tech (EEE)	100%	NIL	NIL

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

Year	Gate
2013-2014	1

29. Student progression - Against %enrolled

Year	UG to PG	Campus selection	Other than campus recruitment	Entrepreneurship/Self-employment
2014-2015		6.9%		
2013-2014		10.1%	18.84 %	
2012-2013	6 %	1.5%	4 %	1%

30. Details of Infrastructural facilities:

Department Library:

Department	Electrical and Electronics Engineering
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No. of Volumes	340
No. of Book Titles	104

Internet Facility:

Department is having a separate internet lab for the students and having Wi-Fi connectivity.

Laboratories:

Sl.No	Name of the Lab	Lab Handled	Equipments to run the experiments	Size of the Lab (m ²)
1	Electrical Machines Lab	Electrical Machines Lab 1-5 th Semester	Lpf wattmeter, pf meter, voltmeter, ammeter, frequency meter, tachometer, DC-shunt, series, compound motor, DC-Generator, Induction Machine- Squirrel Cage and Slip ring, alternator, Transformer-single phase and three phase, rheostat, amplidyne generator, Cascaded M-G Set, Synchroscope, Double cage induction motor.	270.9
		Electrical Machines Lab 2-8 th Semester		
2	Electrical Measurements Lab	Electrical Measurements Lab-3 rd Semester	Wattmeter, Voltmeter, Ammeter, Variable Inductor, Rheostat, Lpf Wattmeter, Rheostat	55.68
3	Power Electronics Lab	Electronic Circuits Lab-4 th Semester	1-phase parallel inverter, chopper circuit, DSO, 1-phase controlled rectifier, power electronics trainer kit, 1-phase bridge inverter, trainer kit for step down chopper, dual power supply, power scope, series resonant converter, controller card, 3 phase IGBT based power module, DC buck boost converter, TMS 320LF 2407A based DSP trainer kit. CRO, resistor, inductor, capacitor. integrated circuits trainer, analog ic tester, 5V and 30V power supply, function generator, IC- 7410, 7476, LM 317, 7447, 7400	91.339
		Integrated Circuits Lab-5 th Semester		
		Power Electronics Lab-6 th Semester		
		Control and Simulation Lab-7 th Semester		
4	Computer Lab	C-Programming Lab-4 th Semester	Hardware - DELL computers, Software – MatLab, C programme, PS-CAD, E-CAD	73.295
		Electrical CAD Lab		
		Control and Simulation Lab		

31. Number of students receiving financial assistance from college, university, Government or other agencies:

SI No	Academic Year	College	University	Government and other Agencies
5	2014-2015			2

32. Details on student enrichment programmes (special lectures/workshops/seminar) with external experts:

SI No	Event
1	Electrical Cad training
2	Soft skill Training
3	Soft skill Training
4	Aptitude training

33. Teaching methods adopted to improve student learning

1. Power point presentation
2. Tutorial Classes
3. Seminars
4. Working Models
5. Industrial Visits

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

Date	Batch	No.of Students	Place
02/12/2013 to 17/12/2013	2011-2015	43	Snehatheeram,Kuthrappally P O,Karukachal,Kottayam
09/12/2013 to 17/12/2013	2012-2016	49	Mother Theresa Public School for disabled, Uzhavoor
May 2015	2012- 2016	49	Snehatheeram,Kuthrappally P O,Karukachal,Kottayam
May 2015	2013-2017	38	Mother Theresa Public School for disabled, Uzhavoor

35. SWOC analysis of the department and Future plans

Strength

1. Young Dynamic faculty members with specialization in different streams of Electrical and Electronics Engineering
2. The institute is providing adequate infrastructure
3. Effective faculty mentoring system
4. Remedial classes based on various assessment methodologies
5. Well equipped lab facilities
6. Cordial relationship between staff and students

Weakness

1. The department does not have an external funding for research and development
2. Proactive placement activity are insufficient
3. The department is not enriched with highly qualified and experienced professionals
4. Lack of faculty and student development programmes and industrial interaction

Opportunity

1. Enhance consultancy services
2. Enhancement of curriculum through affiliation to KTU

Challenge

1. Poor remuneration for fresh graduates
2. Lack of sufficient number of quality students with strong interest in Electrical engineering
3. Emerging of local and new engineering colleges under self financing sector

Future Plans

1. Plan for funded project proposals to various funding agencies
2. Motivating the students and faculty members to publish their final year projects in national or international journal.
3. Extension of consultancy activities
4. Conduct more department level faculty/Student development programmes

EVALUATIVE REPORT OF COMPUTER SCIENCE DEPARTMENT

- 1. Name of the department** : Computer Science and Engineering
- 2. Year of Establishment** : 2002
- 3. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)**

Name of Programmes/Courses	Details
UG in Computer Science and Engineering	Started with 60 seats in 2002. Intake increased to 120 from 2013 to till date
PG in Computer Science and Engineering	Started with 18 seats in 2012

- 4. Names of Interdisciplinary courses and the departments/units involved**

Sl No	Course	Department
1	Engineering Mathematics I	Basic Science and Humanities
2	Engineering Mathematics III	
3	Engineering Mathematics Iv	
4	Engineering Mathematics V	
5	Economics and Communicative English	
6	Engineering Physics	
7	Engineering Chemistry	
8	Basic Civil Engineering	Civil Engineering
9	Engineering Mechanics	
10	Basic Mechanical Engineering	Mechanical Engineering
11	Engineering Graphics	
12	Workshop	
13	Basic Electrical Engineering	Electrical and Electronics Engineering
14	Basic Electronics and Information Technology	Electronics and Communication Engineering
15	Switching Theory and Logic Design	
16	Electronics Devices and Circuits	
17	Digital Signal Processing	
18	Electronic Circuits and Communication Lab	
19	Logic Design Lab	

5. Annual/ semester/choice based credit system (programme wise)

Sl No	Course	Annual/Semester/Choice based Credit System
1	B.TECH Ist YEAR	Annual for MGU & Semester for KTU
2	B.TECH IInd,IIIrd,IVth YEARS	Semester
3	M.TECH	Semester

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

Sl.No	Name of the Course	Name of the department involved
1	Computer Programming	B.TECH(CE)
2	Computer Programming	B.TECH(ME)
3	Computer Programming	B.TECH(EEE)
4	Computer Programming	B.TECH(ECE)
5	Computer Networks	B.TECH(EEE)
6	System Programming	B.TECH(ECE)

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

- ❖ Credit transfer program with James Cook University, Australia
- ❖ Waiariki Institute of Technology, NewZealand
- ❖ Seneca College,Canada

8. Details of courses/programmes discontinued (if any) with reasons : NIL

9. Number of teaching posts

Teaching Designation	Sanctioned(As per AICTE)			Filled		
	UG	PG	Total	UG	PG	Total
Professors	1	1	2	1	0	1
Associate	3	1	4	2	1	3
Asst Professors	17	1	18	18	2	20

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./Ph.D. / M. Phil. etc.,

Sl. No.	Name	Qualification	Designation	Area of specialization	Experience in Years	No. of Ph.D. Students guided for the last 4 years
1	Vinodh P Vijayan	M.E	Associate Professor	Computer Science & Engineering	7.7Years	NIL
2	George Sebastian	M.E	Professor	Computer Science & Engineering	18 years	NIL
3	Neethu Maria John	M.E	Associate Professor	Computer Science & Engineering	8.11 Years	NIL
4	Sreenimol K.R	M. Tech	Associate Professor	Computer & Information Sciences	7.10Years	NIL
5	Nimmymol Manuel	M.TECH	Assistant Professor	Computer Science & Engineering	8.11Years	NIL
6	Neena Joseph	M. Tech	Assistant Professor	Computer Science & Engineering	7.5 Years	NIL
7	Anna Prathibha Shobhak	M.E	Assistant Professor	Computer Science & Engineering	7.4 years	NIL
8	Divya S B	MTech	Assistant Professor	Information Technology	7.5 Years	NIL
9	Elsa Tom	MTech	Assistant Professor	Computer Science & Engineering	7.4Years	NIL
10	Vineetha V Nair	M.E	Assistant Professor	Computer Science & Engineering	6.5 years	NIL
11	Sujitha M	M.Tech	Assistant Professor	Information technology	5.8years	NIL
12	Neema George	M.E	Assistant Professor	Computer Science & Engineering	5.8 Years	NIL

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13	Mitha Rachel Jose	M.E	Assistant Professor	Computer Science & Engineering	5 .7years	NIL
14	Simy Mary Kurian	M.E	Assistant Professor	Computer Science &Engineering	5 years	NIL
15	Neethu Tom	MTech	Assistant Professor	Computer Science & Engineering	4.7 Years	NIL
16	Syamamol T	M.Tech	Assistant Professor	Technology Management	4 Years	NIL
17	Subha Sreekumar	M.Tech	Assistant Professor	Computer Science & Engineering	3.7yYears	NIL
18	Renjana Ramachandran	M.E	Assistant Professor	Computer Science & Engineering	3yrs	NIL
19	Gayathri R Krishna	M.Tech	Assistant Professor	Computer Science &Engineering	3.6Years	NIL
20	Jissy Liz Jose	M.Tech	Assistant Professor	Computer Science &Engineering	3.5 years	NIL
21	Merlin Mary James	M.E	Assistant Professor	Computer Science & Engineering	3.1 years	NIL
22	Rose V Pattani	M.E	Assistant Professor	Computer Science & Engineering	2.8 years	NIL
23	Seena Teresa George	MTech	Assistant Professor	Computer Vision and Image Processing	2.7 Years	NIL
24	Vishnu S Sekhar	M.Tech	Assistant Professor	Computer Science & Engineering	9 months	NIL

11. List of senior visiting faculty: NIL

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty : NIL

13. Student -Teacher Ratio (programme wise)

Sl No	Academic Year	Total no of students UG					Total number of faculty in the program	Teacher Student Ratio
		I Year	II nd year	III year	IV th year	Total		
1	2014-2015	81	90	65	61	304	23	1:13
2	2013-2014	90	65	61	67	283	19	1:15
3	2012-2013	65	61	67	72	265	18	1:15
4	2011-2012	61	67	72	65	265	18	1:15

Academic Year	Total no of students(PG)			Total number of faculty in the program	Teacher Student Ratio
	I year	II year	Total		
2014-2015	14	17	31	3	1:10
2013-2014	18	17	35	3	1:12
2012-2013	17	..	..	3	1:6

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

Staff Designation	Sanctioned(As per AICTE)	Filled
System Administrator	1	1
Instructor	7	7

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.

S.No	Qualification	Number of Faculty
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1	P.G	24
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16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received: NIL

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received: NIL

18. Research Centre /facility recognized by the University: YES

19. Publications:

a) Publication per faculty

b) Number of papers published in peer reviewed journals (national International) by faculty and students

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

- **Monographs**
- **Chapter in Books**
- **Books Edited**
- **Books with ISBN/ISSN numbers with details of publishers**
- **Citation Index**
 - ❖ **SNIP**
 - ❖ **SJR**
 - ❖ **Impact factor**
 - ❖ **h-index**

Sl. No	Name of Authors	Date of print	Title of paper	National/ Inter-national Journal	Journal/ Conf:/ workshop	Was it published when you were with Mangalam
1	Vinodh P Vijayan, Gopinathan E	Aug 2014	Improving Network Coverage and life-Time in a Cooperative Wireless mobile Sensor Network	International	Conference	Yes

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2	Lakshmi R Nair, Vinodh P Vijayan	Aug 2014	Detection and Prevention of flooding attack using a hybrid approach	International	Journal	Yes
3	Juby Joseph, Vinodh P Vijayan	July 2014	Misdirection Attack in WSN Due to Selfish Nodes; Detection and Suppression using Longer Path Protocol	International	Journal	Yes
4	Vinodh P Vijayan, Vikas K Soman	June 2012	Multi Objective Multi Agent Based Access Point Selection Mechanism using Fuzzy Logic.	International	Journal	No
5	Vinodh P Vijayan, K Prasad, Biju paul	April 2011	A Hybrid Intelligent Path Planning Approach to Cooperative Robots”	International	Conference	No
6	Vinodh P Vijayan, Biju paul	2010	Multi Objective Traffic Prediction Using Type-2 Fuzzy Logic and Ambient Intelligence	International	Conference	No
7	Vinodh P Vijayan Deepti John, Merina Thomas, Neetha V Maliackal, Sara Sangeetha argheese,	May 2009	Multi Agent Path Planning Approach to Dynamic Free Flight Environment	International	Journal	No
8	Poornaselvan, K.J. Kumar T G Vinodh P Vijayan	July 2008	Agent Based Ground Flight control Using Type-2 Fuzzy Logic And Hybrid Ant Colony Optimization To A Dynamic Environment	International	Conference	No
9	Vinodh P Vijayan	2008	Traffic Prediction with GPS and Fuzzy logic based Decision support	International	Conference	No

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			System			
10	Vinodh P Vijayan	2008	Agent Based Automated Ground Flight Control Using Type-2 Fuzzy Logic and Ant Colony Optimization to a Traffic Environment	National	Conference	No
11	Vinodh P Vijayan	2007	Agent Based Automated Ground Flight Control Using Ant Colony Optimization	National	Conference	No
12	Gireesh Kumar K T ,Vinodh P Vijayan	May 2007	A Multi-agent Optimal Path Planning Approach to Robotics Environment	International	Conference	No
13	Sneha Mary Thomas Nimmymol Manuel	April 2015	A Pair wise Homogeneity Active Learning	International	Journal	Yes
14	Jensy Mariyam Kurian , Sreenimol K R	JULY 2014	Secured Mobility Controlled Java-Centric Architecture for Industrial Systems	International	IJJC, VOLUME 4, ISSUE 3, JULY, 2014 ISSN (Print):223 1:2153, ISSN (Online):22 30:9039	YES
15	Nimmy.S Sreenimol K R	JULY 2014	Proof-Based Intrusion Detection System in MANETs,	International	IJCSIT, Vol . 5 (4) , 2014, 5724-5725. ISSN:0975: 9646	YES
16	Shruthy Y Sreenimol K R	MARCH 2015	Minimizing Cost for big data processing using Online Database	Inter- national	IJCSIT, Vol. 6 (2) , 2015, 1356-1359, ISSN:0975: 9646	YES

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17	Neethu Maria John	Jan '07	A priori Algorithm for Frequent Item sets mining using Bodon's Implementation	National	Conference	No
18	Jisha Mariyam John Neethu Maria John	Aug' 14	Segmentation of Skin Lesions from digital Images using Texture Distinctiveness with Neural Network	International	Journal	YES
19	Vishnu S Sekhar, Neena Joseph	August 2014	"Optimizing the Virtual Machine Migrati Cloud Computing Systems by using Future Prediction Algorithm"	International	IJERT Volume. 3, Issue.08, August 2014	YES
20	Vishnu S Sekhar, Neena Joseph	March 2014	Stealthy P2P Botnet Detection Based On Automated Threshold Computing Using Genetic Algorithm	International	IJCSIT Volume. 5,2014,6910-6813	YES
21	Vishnu S Sekhar, Neena Joseph	March 2014	Stealthy P2P Botnet Detection Based On Automated Threshold Computing Using Genetic Algorithm" In National Conference On Advanced Computer Technolgy-NACAT-2K14	National		YES
22	Pinky M.S Anna Prathibha Shobak	April 2015	"Secure Multimatch Packet Classification Based On Signature Tree"		IJCSIT Vol 6(2)	YES
23	Leya zacharia ,Neema george	March 2015	"Enhanced Security in personalized web search	International	journal	YES
24	Mitha Rachel Jose I. Berin Jeba Jingle	MAY 2010	Automated Detection of Clustered micro-calcification in breast cancer using mammograms and a CAD system	International	ICACC, May 2010, pp 119-124 .	NO

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25	Anu Susan Chandy Mitha Rachel Jose	Jul 2014	A Report based Payment Scheme for Multihop Wireless Networks	-	IJACSS	YES
26	Asha J Gomez Mitha Rachel Jose	JUL 2014	Self Adaptive Harmony Search Algorithm for optimizing ECG signal		IJCSIT	YES
27	Anisha Sarah Mathew Mitha Rachel Jose	MARCH -APRIL 2015	Enhancing security of Traffic Redundancy and Elimination Approach in cloud data storage using 3DES		IJCSIT	YES
28	Nirmal Zacharia Syamamol T	July 2014	Computation and Storage Using Cloud based Desktop.	International	IJAICT	YES
29	Nirmal Zacharia Syamamol T	July 2014	Client Server Assignment for Better Traffic Traffic Route in Distributed System.	International	IJERT	YES
30	Simi Susan Samuel Subha Sreekumar	August 2014	“Comparative Study Between Sparse Representation Classification and Classical Classifiers on Cervical Cancer Cell Images” Volume 3, Issue 8, August 2014.	Inter- national	IJARCCCE	YES
31	Tinku Varghese Subha Sreekumar	March 2015	Efficient Ranking on Websites Using ScaleRank with Interpolation Search	Inter- national	IJARCET	YES
32	Gayatri Mohan Renjana Ramachandran	2014	"An Improved Approach for MANET Security using Cluster Based Certificate Revocation",	International	IJCSIT, 5781-5784, Vol. 5 (4) ,	YES
33	Renjana Ramachandran	2011.	Efficient monitoring of Application-layer DDoS attack by genetic algorithm tuned HMM	International		NO

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34	Vineetha V Nair M.Selvan	March 2013	Source and Sink Location Privacy in Wireless Sensor Networks against a Global Network Monitoring Adversary	International	ICGITS	YES
35	Anu Mohan Vineetha V Nair	July 2014	An Optimal Caching Mechanism to Re-duce Content Provisioning Cost in Social Wireless Networks	International	IJJC 651-654, Vol. 4 ,Issue 3	YES
36	Merin C. Moncey, Merlin Mary James	January 2012	An efficient method for medical image diagnosis using Association rule mining and Neural networks	International	International conference proceeding, Volume 1	NO
37	Merin C. Moncey, Merlin Mary James	August 2014	An Expandable and Secure Key Predistribution Scheme for Wireless Sensor Networks	International	ISJSET Volume 17, issue 7.	YES
38	Saniya Elza Dominic Gayathri Krishnan	March 2014	CHOKe: A Stateless Queue for securing flows	International	IJCSIT	YES
39	Manju Joseph Seena Teresa George	July 2014.	"Discovering and Profiling Overlapping Communities in Location Based Social Networks using Feature Description"	International	Journal	YES
40	Aliya V Azeez Cerene Mariam Abraham	July 2015	Skin Color Based Number Identification System	International	Journal	YES
41	Divya S B	26/3/2011	Implementation of Secondary	International	Emerging Technology	YES

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			Authorization Recycling using Co-operative Approach		Trends	
42	Divya S B	5/4/2011	A Co-Operative Approach for Eager Recycling Of Authorization	National	VLSI Design and Information Technologies	YES
43	Selin Sam Divya S B	13/4/2010	Intrusion Detection in Homogeneous and Heterogeneous Wireless Sensor Networks	National	Advanced Trends in Computing	NO
44	Elsa Tom	26 th May 2011	Improve Handwritten Text Recognition with Slope and Slant Removal Using ANN	National	NCCC 2011	NO
45	Neethu Tom J.Anitha	3 rd Dec 2010	Multiple Object Tracking: A Survey	International	Language Development & Computing Methods	NO
46	Neethu Tom J.Anitha Ann Mary Mathew	12 th Feb 2011	Object Tracking in Videos Reconstructed from Multiple Compressed Copies	International	ICRIT	NO

20. Areas of consultancy and income generated:

Areas of Consultancy	Income Generated
TCS ion online examination centre(GATE,IBPS,...)	Approx 5 lakhs/annum
ASAP voice based online examination centre	Approx 25000

21. Faculty as members in

- a) National Committees
- b) International Committees
- c) Editorial Boards....

NIL

22. Student projects

- a) Percentage of students who have done in-house projects including inter

departmental/programme

Academic Year	Percentage of Students who have done in-house projects (UG)	Percentage of Students who have done out-house projects (UG)
2014-2015	100	NIL
2013-2014	100	NIL
2012-2013	100	NIL

Academic Year	Percentage of Students who have done in-house projects (PG)	Percentage of Students who have done out-house projects (PG)
2014-2015	100	NIL
2013-2014	100	NIL
2012-2013	100	NIL

b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies:

NIL

23. Awards / Recognitions received by faculty and students:

Sports

1. SANJAY JAYACHANDRAN of CS4 B has participated in UNIVERSITY LEVEL basketball championship. He has qualified in university championship held at SATHYABHAMA COLLEGE, CHENNAI.
2. SANJAY JAYACHANDRAN of CS4 B has participated in MBC TROPHY conducted by MAR BASELIOS college, PERUMADE and SECURED FIRST POSITION
3. SANJAY JAYACHANDRAN of CS4 B has participated in SH TROPHY conducted by SACRED HEART COLLEGE THEVARA
4. SANJAY JAYACHANDRAN of CS4 B has participated in MARIAN TROPHY conducted by MARIAN COLLEGE KUTTIKANAM and secured first runners up trophy
5. SANJAY JAYACHANDRAN of CS4 B has participated in DWANI 2k15 conducted by COLLEGE OF ENGINEERING, TVM and secured runners up trophy
6. SANJAY JAYACHANDRAN of CS4 B has participated in FURY 2015 conducted by NIT KOHIKODE and secured first runners up trophy

7. SANJAY JAYACHANDRAN of CS4 B has participated in PACE 2k15 PALAI, Conducted by St.JOSEPH ENGINEERING COLLEGE PALAI. and SECURED FIRST POSITION
8. SANJAY JAYACHANDRAN of CS4 B has participated in S.B TROPHY 2k15. Conducted by S.B COLLEGE CHANGANACHERRY

24. List of eminent academicians and scientists / visitors to the department : NIL

25. Seminars/ Conferences/Workshops organized & the source of funding

a) National : NIL

b) International: NIL

26.Student profile programme/course wise:

***M = Male *F = Female**

Programme /Course		Applications received	Selected	Enrolled		Pass percentage
				*M	*F	
B.TECH (CSE)	2011-2012	70	61	38	23	-
	2012-2013	75	65	28	37	-
	2013-2014	106	90	40	50	-
	2014-2015	95	81	37	44	-
M.TECH (CSE)	2012-2013	40	17	2	15	99
	2013-2014	45	18	2	16	-
	2014-2015	20	14	1	13	-

27. Diversity of Students

Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
UG	100	0	0
PG	100	0	0

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

Competitive Examination	Batch	No. of Students Qualified
GATE	2011-2015	1
MAT	2011-2015	1
Defense	2010-2014	1
GATE	2010-2014	2
Banking Service	2010-2014	1
GATE	2008-2012	1

29. Student progression

Student progression	Academic Year	Total No of Students	No of Students Secured	Against % enrolled
UG to PG	2014-2015	61	-	-
	2013-2014	67	3	4.5
	2012-2013	72	6	8.3
	2011-2012	68	7	10.0
PG to Ph.D.	NIL			
Ph.D. to Post-Doctoral				
Employed • Campus selection	2014-2015	61	8	13
	2013-2014	67	13	19
	2012-2013	72	16	22
	2011-2012	68	5	7.3
Employed • Other than campus recruitment	2014-2015	61	1	1.6
	2013-2014	67	30	45
	2012-2013	72	45	63

	2011-2012	68	30	44
Entrepreneurship/Self-employment	2014-2015	61	NIL	0
	2013-2014	67	NIL	0
	2012-2013	72	NIL	0
	2011-2012	68	7	10.3

30. Details of Infrastructural facilities

a) Library

YES. The department is maintaining a department library with 200 titles and a total of 595 volumes. These reference facilities are available for staff and PG students. Library is equipped with 6 Book Shelves, and reading tables.

Department	Computer Science & Engineering
No. of Volumes	596
No. of Book Titles	200

b) Internet facilities for Staff & students

The department is provided with internet facility for all students and staff. Campus is WiFi enabled with a speed of 30Mbps.

c) Class rooms with ICT facility

Rooms	No. of rooms	Facilities Available
Lecture rooms	6	Fan, LED lights, adequate number of writing tables and sitting benches, Notice boards and all PG classes are equipped with multimedia projectors.
Tutorial Rooms	2	Fan, LED lights, adequate number of writing tables.

d) Laboratories

YES. The department is provided with well established lab for all subjects. The details are given below.

Laboratory Description	Practical's Conducted	Platform	Tools	Area of the Lab and list of major equipments
Programming Lab	Programming Lab, Network Programming Lab	Windows, Ubuntu, Debian,	Turbo C, C++ Jdk 7.0, JDK 6.0,GCC	No. of Computers:36
Database and storage Lab	Data Structure Lab, Database Management System Lab	Windows, Ubuntu, Debian,	Turbo C, Turbo C++, Oracle 10.0g, MY SQL	No. of Computers:36
Systems Programming Lab	OS Lab, System Software	Windows, Ubuntu, Debian	Gcc, Shell: Bash, C shell	No. of Computers:36
Multimedia and simulation Lab	Computer Graphics Lab, NS2 Lab	Windows, Ubuntu, Debian	Turbo C, NS2, NAM, XGRAPH, Wireshark,AWK	No. of Computers:18
Microprocessor and Hardware Lab	Microprocessor Lab		VI Microsystems Microprocessor Trainer Kit	No. of Kits: 12

31. Number of students receiving financial assistance from college, university, Government or other agencies

Category	Admission Year	No of Students
SC/ST/OEC	2014-2015	1
	2013-2014	4
	2012-2013	2
	2011-2012	1
Tution Fee waiver from	2014-2015	3

Govt.	2013-2014	2
	2012-2013	NIL
	2011-2012	1

32. Details on student enrichment programmes (special lectures / workshops / Seminar) with external experts

- ❖ Orientation program for first year students
- ❖ Bridge course for third semester entry students
- ❖ Aptitude training program
- ❖ Soft skills training program
- ❖ Certification Programs : Oracle OCA/OCJP certification
- ❖ IBM Certification-
- ❖ NET training by CLAVE LAND Technologies

33. Teaching methods adopted to improve student learning

- ❖ 10-15 min Question and answer Session at the beginning of each hour.
- ❖ Remedy for weak students
- ❖ Open book test
- ❖ Black Board Teaching
- ❖ Power Point Presentation
- ❖ Student Motivation
- ❖ Encourage and train students to participate in GATE exams

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

- ❖ Blood donation camps
- ❖ Free Eye Check Camps
- ❖ Career guidance programs

These activities are conducted by the Institution and the department on regular basis. All the students and faculties are participating in it.

35. SWOC analysis of the department and Future plans

Strength

- ❖ Sufficient number of dedicated and experienced faculty
- ❖ Sufficient infrastructure and lab facility
- ❖ Reasonably good position in University results
- ❖ Rural students are trying to achieve professional

Weakness

- ❖ On campus placement
- ❖ Quality Research Consultancy
- ❖ Lack of national and international students

Opportunities

- ❖ MOU with foreign universities for higher education
- ❖ Opportunity for doing projects in various industries or academic institutions in India and abroad

Challenges

- ❖ Students are from rural background

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION
ENGINEERING**

1. Name of the department

Department of Electronics and Communication Engineering

2. Year of Establishment

The Department was established in the year 2002

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

Sl.No	Name of Programme Offered	Remarks (UG/PG)
1	B.Tech (Electronics & Communication Engg)	UG (Full Time)
2	M.Tech (VLSI & Embedded Systems)	PG (Full Time)
3	M.Tech (Communication Engg)	PG (Full Time)

4. Names of Interdisciplinary courses and the departments/units involved

Semester	Subject	Department
S3 ECE	EN010 301 Engineering Mathematics II	Basic Sciences
S3 ECE	EN010 302 Economics and Communication Skills	Basic Sciences
S3 ECE	EC010 308 Computer Programming Lab	Computer Science
S3 ECE	EC010 306 Computer Programming	Computer Science
S4 ECE	EN010 401 Engineering Mathematics III	Basic Sciences
S4 ECE	EN010 402 Principles of Management	Basic Sciences
S5 ECE	EN010 501 Engineering Mathematics IV	Basic Sciences
S5 ECE	EC010 504 Electric Drives and Control	

		Electrical and Electronics Engineering
S5 ECE	EC010 508 Electric Drives and Control lab	Electrical and Electronics Engineering
S6 ECE	EC 010 604 Computer Architecture & Parallel Processing	Computer Science & Engineering.

5. Annual/ semester/choice based credit system (programme wise)

S.No	Course	Annual/Semester/Choice based Credit System
1	B.Tech Ist Year	Annual for MGU & Semester for KTU
2	B.Tech IInd,IIIRD,IVth Years	Semester
3	M.Tech	Semester

Credit System

Each subject shall have a certain number of credits assigned to it depending upon the academic load and the nature and importance of the subject. Each course shall have an integer number of credits, which reflects its weightage .

Grading

The university shall award the letter grade to students based on the marks secured by them in both internal assessment and Semester-End examinations taken together in the subjects registered. Each letter grade indicates a qualitative assessment of the student's performance and is associated with a specified number of grade points. All passed candidate will be allotted a grade S, A, B, C, D, or E according to the total marks scored by him/her.

If a candidate does not pass a subject as per the conditions given in Section (9), he/she will be assigned an Unsatisfactory grade 'U' irrespective of his/her total marks. If a student does not pass a subject in two attempts, the maximum grade he/she can get is 'C' when he/she passes the subject in any subsequent examination, whatever be the marks scored by him/her.

A student is considered to have completed a subject successfully and earned the credits if he/she secures a letter grade other than 'U' in that course. Letter grade 'U' has zero grade point and the candidate has to write the examination again to improve the grade. A student's performance is measured by the number of credits that he/she has earned and by the cumulative grade point average (CGPA) maintained by him/her.

Total marks scored by the passed candidate	Corresponding Grade allotted	Grade Points
136-150	S	10
121-135	A	9.0
106-120	B	8.0
91-105	C	7.0
83-90	D	6.0
75-82	E	5.5
Failed	U	0.0

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

Subjects taken for S1S2		Hours	Credit
Civil Engineering	Basic Electronics Engineering. & Information Technology	3	5
Computer Science Engineering	Basic Electronics Engineering. & Information Technology	3	5
Electrical & Electronics Engineering	Basic Electronics Engineering. & Information Technology	3	5
Mechanical Engineering	Basic Electronics Engineering. & Information Technology	3	5
Subjects Taken for S3		Hours	Credit
Computer Science Engineering	Electronics Devices and Circuits	4	4
	Switching Theory and Logic Design	4	4
	Logic Design lab	3	2
Subjects Taken for S4		Hours	Credit
Electrical & Electronics Engineering	Electro Magnetic Theory	4	4
Subjects Taken for S5		Hours	Credit
Computer Science Engineering	Digital Signal Processing	4	4
Subjects Taken for S6		Hours	Credit
Information Technology	Digital Signal Processing	4	4
	Information theory and coding	4	4
Electrical & Electronics Engineering	Microcontroller and Embedded System	4	4
Mechanical Engineering	Mechatronics	4	4

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

NIL

8. Details of courses/programmes discontinued (if any) with reasons.

NIL

9. Number of teaching posts

Teaching Designation	Sanctioned	Filled
Professors	2	1
Associate Professors	4	3*
Asst. Professors	24	27

* 1 staff on Study leave – Pursing Ph.D in CUSAT

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc,)

Sl. NO	Name	Qualification	Designation	Specialization	No. of Years of Experience
1	Ms.Asha Panicker	M.Tech	Professor	Electronics & Communication	26 Years 6 Months
2	Mr.Ajit Joseph	M.Tech	Associate Professor	Optical Communication	8years 9 Months
3	Mr. Sreeraj K P	M.Tech	Associate Professor	Signal Processing	8year 6 Months
4	Mr.Anu Philip Mathew	M.E	Assistant Professor	Embedded Systems Technology	8 year
5	Ms. Binu Manohar	M.Tech	Assistant Professor	VLSI Design	7 Year 8 Month
6	Mr.Joby John	M.E	Assistant Professor	Applied Electronics	7 Year 2 month
7	Ms.Sunu Ann Thomas	M.E	Assistant Professor	Optical Communication	6 Year 8 months
8	Mr. Gopakumar M. G.	M.E	Assistant Professor	VLSI Design	6Year 5 Months
9	Ms. Jyothisree K R	M.E	Assistant Professor	Embedded Systems Design	5 years 6 months

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10	Ms. Sreelakshmi	M.Tech	Assistant Professor	Applied Electronics Technologies	5 years 8 months
11	Mr.Jinu Isacc Kuruvilla	M.Tech	Assistant Professor	Embedded Systems Design	5 Year 8 months
12	Ms. Resma Chandran	M.E	Assistant Professor	Applied Electronics	5 Year 6 months
13	Mr. Reneesh C. Zachariah	M.Tech	Assistant Professor	VLSI Design	5 Year 2 months
14	Mr. Nidhish Antony	M.Tech	Assistant Professor	Solid State Technology	4 years 9 months
15	Ms. Jency Andrews	M.Tech	Assistant Professor	VLSI Design	4 Year 8 Months
16	Mr. Rakesh S.	M.E	Assistant Professor	VLSI Design	4 Year 5 months
17	Ms. Simi P. Thomas	M.Tech	Assistant Professor	Applied Electronics	4 Year 2 months
18	Mr. Kevin Varghese	M.E	Assistant Professor	Mechatronics	3 Year 7 months
19	Ms.Aswathi Gopan	M.E	Assistant Professor	VLSI Design	3 Year
20	Ms.Hima Sara Jacob	M.Tech	Assistant Professor	VLSI & Embedded system	2 Year 9 Months
21	Ms. Neethan Elizabeth Ebrahim	M.Tech	Assistant Professor	Communication Engineering	2 Year 7 Months
22	Ms. Ankitha Chandran	M.Tech	Assistant Professor	Signal processing	2 Year 3 Months
23	Ms. Lakshmy Sasidharan Nair	M.Tech	Assistant Professor	Wireless Technology	2 Year 2 months

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24	Ms. Krishnapriya CV	M.Tech	Assistant Professor	Power Electronics	2 Year 2 months
25	Ms. Aswathi Sarma	M.E	Assistant Professor	Communication Sysytem	1 year 7 Months
26	Ms. Remya Elizabeth Philip	M.E	Assistant Professor	Communication Sysytem	1 Year 7 Months
27	Ms. Bency Abraham	M.Tech	Assistant Professor	Signal Processing	1 Year 3 month
28	Mr. Nikhil Thomas	M.E	Assistant Professor	Communication Engineering	11 Months
29	Mr. Jibu Thomas	M.Tech	Assistant Professor	Wireless Technology	8 Months
30	Ms. Ayona Philipose	M.Tech	Assistant Professor	Communication Engineering	3 Month
31	Mr. Rijo Sebastain*	M.Tech	Associate Professor	Embedded System Design	8 Years

*Doing Ph.D on leave

11. List of senior visiting faculty NIL

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty NIL

13. Student -Teacher Ratio (programme wise)

Sl. No	Academic Year	Total Number of Students : UG				Total Number of Faculty in Program	Teacher Student Ratio
		2 nd Year	3 rd year	4 th Year	Total		
1	2014-2015	88	119	113	320	20	16:1
2	2013-2014	119	113	139	371	27	14:1
3	2012-2013	115	139	141	395	24	16:1

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4	2011-2012	139	141	140	420	30	14:1
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Sl. No	Academic Year	Total Number of Students : PG			Total Number of Faculty in Program	Teacher Student Ratio
		1st Year	2 nd Year	Total		
1	2014-2015	8	29	37	4	12:1
2	2013-2014	29	18	47	5	12:1
3	2012-2013	18	18	36	3	12:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

Sl.NO	Staff Designation	Sanctioned	Filled
1	Technical Staff	8	7
2	Administrative Staff	1	1

15. Qualifications of teaching faculty with DSc/ D.Litt/ PhD/ MPhil / PG.

Sl.NO	Qualification	Faculty Number
1	PhD	Nil
2	PG	31

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received NIL

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received

S.No	Project	Year	Amount	Status	Funded By
1	Electrical Lineman Safety	2015	4400	Ongoing	KSCSTE

2	Smart Speed Governor	2015	2200	Ongoing	KSCSTE
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18. Research Centre /facility recognized by the University NIL

19. Publications:

- **a) Publication per faculty**
- **Number of papers published in peer reviewed journals (national / International) by faculty and students**
- **Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)**
- **Monographs**
- **Chapter in Books**
- **Books Edited**
- **Books with ISBN/ISSN numbers with details of publishers**
- **Citation Index**
- **SNIP**
- **SJR**
- **Impact factor**
- **h-index**

Year of Publication	Faculty	Title	Conference/Journals
2015	Prof.Asha Panicker	“An Energy efficient unequal cluster based routing protocol WSN with non-uniform Node distribution”	International Journal Of Scientific & Technology Research
	Mr. Ajith Joseph	An Energy efficient unequal cluster based routing protocol WSN with non-uniform Node distribution”	International Journal of Scientific & Technology Research
	Mr. Jinu Issac Kuruvila	Fast Multiplication Based on Different Compressors	IJIREEICE
	Mr. Gopakumar M G	ARM Based Smart Energy Metering with Digital Anti-	IARJSET

		Stealing Techniques	
	Ms. Resma Chandran	Hardware Design using Flexible Hk-Means	Journal of Electronic Design Technology
	Ms. Simi P Thomas	Hardware Design using Flexible Hk-Means	Journal of Electronic Design Technology
	Ms. Resma Chandran	Background Suppression for Visual Surveillance Using SOM	journal of Communication Engineering & Systems
	Mr. Gopakumar M G	Modified Pre-Encoder For Eti Coding Scheme	IJRSR
	Mr. Gopakumar M G	An Efficient FPGA Implementation Of Feature Extraction Based On Histopathological Image and Subsequent Classification By SVM	IJRSR
	Ms. Simi P Thomas	Background Suppression for Visual Surveillance Using SOM	Journal of Communication Engineering & Systems
	Ms. Resma Chandran	Overview of various dynamic community evolution detection approaches	Journal of Embedded System & Applications
	Ms. Simi P Thomas	Overview of various dynamic community evolution detection approaches	Journal of Embedded System & Applications
	Ms. Hima Sara Jacob	Modified FSM Based 32-Bit Unsigned High Speed Pipelined Multiplier Using Carry Look Ahead Adders In Verilog HDL	IJISSET
	Ms Lakshmy Sasidharan Nair	Active Aggregation Node Selection for Multiple Target Tracking in Static WSN	IJARCCE
2014	Ms. Binu Manohar	HDL Implementation of RC4 Stream cipher for cryptographic applications	Journal of Emerging Technologies and Innovative Research
	Ms. Hima Sara Jacob	Enhanced Detection Of Double Adjacent Errors In Hamming Codes Through Selective Bit Placement	Journal of Emerging Technologies and Innovative Research

	Ms. Anjali V	Implementation of SPONGENT variants using FPGA	Journal of Emerging Technologies and Innovative Research
	Ms. Binu Manohar	Low power energy-efficient CMOS full-adders For fast arithmetic applications	IEEE SSCS Sponsored Conference on Solid State Circuits
	Mr. Reneesh C Zachariah	A Novel Approach for the Design and Implementation of FPGA based High Speed Digital Modulators using Digital Clock Manager	IEEE SSCS Sponsored Conference on Solid State Circuits
	Mr. Rakesh S	Efficient 16-bit Square Root Carry Select Adders	IEEE SSCS Sponsored Conference on Solid State Circuits
	Mr. Rakesh S	Design and Analysis of New Modified Feed through Logic (MFTL) Circuits Using Carbon Nanotube Field Effect Transistor (CNTFET)	IJERA
	Mr. Bibin Binu Simon	An FPGA based image denoising architecture with histogram equalization for enhancement	IJIREA
2013	Mr. Rakesh S	VLSI Implementation of digital keying techniques using VHDL	IJSER
	Ms. Anjaly V	Comparison of parallel adders based on speed area and power consumption	GJEAS
	Ms. Hima Sara Jacob	A Novel Architecture Design & Characterization of CAM Controller IP Core with Replacement Policy	International Journal of Recent Trends in Engineering & Technology
2012	Mr. Anu Philip Mathew	Fault detection & correction of AES used for satellite images	Musaliar College of Engg
	Ms. Siji Eapen	An advanced contrast enhancement method using 3D RGB histogram	Kongu Engg. College
	Ms. Jeena Thomas	Virus detection processor for embedded n/w security	Musaliar College of Engg

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	Ms. Sonali Greeshma	Fuzzy logic based NHICD algorithm for biomedical reconstruction of images	Musaliar College of Engg,
	Mr. Rajasekharan J	Implementation of an embedded GPS receiver in SOC method	Gnanamani College of Engg.
	Ms. Bibin Binu Simon	Algorithm for the Detection of Microcalcification in Mammogram	IJSER
	Ms. Hima Sara Jacob	A novel Architecture Design & Characterization of CAM Controller IP Core	International Journal of Electronics & Communication Technology

20. Areas of consultancy and income generated

Areas of Consultancy	Income Generated
TCS ion online examination centre	Approx 5 lakhs/annum

21. Faculty as members in

- a) National committees b) International Committees c) Editorial Boards....
d) List of faculty with life time membership in ISTE

S.No	Name Of Faculty	Responsibility
1	Prof. Asha Panicker	External auditor - KTU Chairman of PG cluster4 – Kottayam

22. Student projects

- a) Percentage of students who have done in-house projects including inter departmental/programme
b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies

Batch/Year	a) % of In house Projects	b) % of Projects Outside the Institution
M.Tech (2011-2013)	20	80

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M.Tech (2012-2014)	50	50
M.Tech (2013-2015)	80	20
B.Tech (2008-2012)	0	100
B.Tech (2009-2013)	10	90
B.Tech (2010-2014)	20	80
B.Tech (2011-2015)	0	100

23. Awards / Recognitions received by faculty and student

Awards / Recognitions received by Faculty

2014	Junior Research Fellowship (UGC)	Mr.Rakesh.S
2012	M.Tech 2 nd Rank	Mr. Anu Philip Mathew
2012	M.Tech 2 nd Rank	Mrs. Hima Sara jacob

➤ Awards / Recognitions received by Students for Projects

Students are encouraged to participate in various Internal and external competitions to excel in extra and co- curricular activities. Following are the list of students who have proved themselves and won prizes in various events conducted by near by colleges.

S.No	Year	Name of Students	Name Of Project	Venue	Organized By	Award/Prize
1	2015	1)Jidhin John 2)Mohammed Diab Khan 3)Jerin j Xavier 4)Jithin Jose	Electric line Man Safety	Amaljoythi College Of Engineering	KSCSTE & KTU	Fund of 5000/- for best 5 Projects
2	2015	1)Aparna jose 2)Asishmathew johnson 3)Ashitha v 4)Anuja jacob	Smart Speed Governer	Amaljoythi College Of Engineering	KSCSTE & KTU	Best Project Nomination
		1)Aparna jose	Smart Speed	Amaljoythi	Malayala	Selected For

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3	2015	2)Asishmathew johnson 3)Ashitha v 4)Anuja jacob	Governer	College Of Engineering	Manorama IEDC	Final Round.
4	2014	1)Manu Thampi 2)Allan Mathew 3)Arya Govindan 4)Sreemol R Nair	VANET on Wheels	Saint Gits College Of Engg	AICTE IPS SPONSERED	Selected in Top 5
5	2014	1)Shahul V Salam 2)Kiran Babu 3)Asha L Nair 4)AshbyN Sunny	Dump Aid Telephone System with gesture to Voice Conversion	Saint Gits College Of Engg	AICTE IPS SPONSERED	Selected in Top 5
6	2014	1)Sherri Shaji 2)Davis Mathew 3)Renjini Raveendran 4)Devi	Guiding Blind people with Haptic feedback	Albertian College of Engineering		1 st Prize
7	2014	1)Reshmi Jose 2)Sabarinath 3)Sarath 4)Manu Mohan	Hi-tech electronic power meter with JAVA	Albertian College of Engineering		2 nd Prize
8	2013	1)Ajith Saju 2)Jithin Shaji 3)Syam S 4)Vimal K Varghese	WirelessKeyBoard Controlled Tank Robot	Amal Jyothi College of Engineering, Kanjirapally	Magnificata Hybrid Gadgets and ISSEC, London	2 nd Position
9	2013	1)Anu Babu Joseph 2) Keerthi S Nair 3) Jennifer John 4) Sreeraj K.D	INTELLIGENT AERODROME CART	St.Joseph College of Engineering & Technology, Pala		Selected in Top 5

24. List of eminent academicians and scientists / visitors to the department

S.No	Resource Person	Designation	Date Of Visit
1	Dr M K Radhakrishnan	Scientist, & Technical Consultant Founder Director & Chief Technical Consultant of NANOREL Editor, IEEE Electron Devices Society Newsletter.	09/07/2015
2	Dr. M V. Rajesh	Secretary of IETE Kerala chapter.	09/07/2015
3	Dr. Jaishree V K	HOD ECE and placement officer at Model Engineering college	10/07/2015
4	Dr. Jobymol Jacob	HOD EEE at College of Engineering, Cherthala	10/07/2015
5	DR. Babita Roslind Jose	Asst. Professor, Dept. of ECE ,School of Engineering, CUSAT	10/07/2015
6	Ms. Biji C L	Research scholar at Bio informatics center, Kariyavattom University campus	10/07/2015
7	Dr.V N Rajasekharan Pillai	Former Vice Chancellor of IGNOU	21/05/2015
8	Dr. E Krishnan	Rtd. Prof, University College, TVM	21/05/2015
9	Dr. V. P. N. Nam-poothiri	Emeritus Professor, International School of Photonics, CUSAT	22/05/2015
10	Dr. Joseph T Moolayil	Associate Professor , S.H. College, Thevara	22/05/2015
11	Dr. Toru Maekawa	Professor Toyo University of Japan	12/08/2014
12	Dr. Jayan Thomas,	Researcher, University of Cen-tral Florida,USA	05/07/2014
13	Dr. Praveen Shenoy	Sr. Principal Engineer at Infineon Technologies	20/06/2013

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14	Prof. Varkey Philip	Professor , Placement Co-ordinatorneerin Rajagiri College Of Engineering	19/06/2013
15	Dr. Florain Schatz,	Professor Christian-Albrechts-University, Germany	09/08/2012

25. Seminars/ Conferences/Workshops organized & the source of funding

S.No	Seminars/ Conferences/Workshops organized	Date	Source of Funding
1	E- Smart Women empowerment Program	20/11/2015	Mangalam Educational trust
2	Graphical System design (LabView) in Engineering Applications	15/12/2015 & 16/12/2015	Mangalam Educational trust
3	ELECTROVAGANZA 2015 (Project Exhibition)	11/08/2015 & 12/08/2015	Dept Of ECE/ MLMCE
4	INTRODUCTION TO PIC MICROCONTROLLER		Dept Of ECE/ MLMCE
5	INNOVATIVE RESEARCH IDEAS IN MULTI - DISCIPLINARY AREAS	09/07/2015 & 10/07/2015	Mangalam Educational trust
6	Tesla 2015 Technology Up gradation & Skill Development Programme for Laboratory Instructors.	27/05/2015, 28/05/2015 & 29/05/2015	Mangalam Educational trust
7	ELECTROVAGANZA 2014 (Project Exhibition)	04/07/2014 & 15/07/2014	Dept Of ECE/ MLMCE

26. Student profile programme/course wise:

Name of the Course/programme (refer question no. 4)	Applications received	Selected	Enrolled		Pass percentage
			*M	*F	

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B-Tech Electronics and Communication Engineering (2011-15 Batch)	130	115	50	65	48
B-Tech Electronics and Communication Engineering (2010-14 Batch)	157	139	68	71	38
B-Tech Electronics and Communication Engineering (2009-13) Batch	155	141	64	77	41.2
B-Tech Electronics and Communication Engineering (2008-2012 Batch)	152	140	80	60	37

*M = Male *F = Female

27. Diversity of Students

Year	Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
2014-2015	B.Tech (ECE)	100%	NIL	
	M.Tech(VLSI& ES)	100%	NIL	
	M.Tech(CE)	100%	NIL	
2013-2014	B.Tech (ECE)	100%	NIL	
	M.Tech(VLSI& ES)	100%	NIL	
	M.Tech(CE)	100%	NIL	
2012-2013	B.Tech (ECE)	100%	NIL	
	M.Tech(VLSI& ES)	100%	NIL	
2011-2012	B.Tech (ECE)	100%	NIL	
	M.Tech(VLSI& ES)	100%	NIL	

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

Year	Gate	NET	SSB	IES
2014-2015			1	
2013-2014	5			
2012-2013	2			

29. Student progression (last four batches)

Student progression	Against % enrolled
UG to PG	17%
PG to M.Phil.	
PG to Ph.D.	Nil
Ph.D. to Post-Doctoral	Nil
Employed • Campus selectio • Other than campus recruitment	30% 42%
Entrepreneurship/Self-employment	3%

30. Details of Infrastructural facilities

a) Library

The department has a departmental library equipped with 721 Volumes and equipped with all subject reference books for the access of staff and students.

No of Titles		No of Volume	
ECE		ECE	208
Mtech VLSI	81	Mtech VLSI	146
Mtech CE	78	Mtech CE	367

List of E-Journals

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Sl.No	Title	E-Contents	Access
1.	IEEE ASPP Online	145 E- Journals + Back file access since 2000	http://www.ieee.org http://ieeexplore.ieee.org/xplore
2.	Wiley Civil Engineering Collection	Civil Engineering (18 Titles)	http://www.wileyonlinelibrary.com http://onlinelibrary.wiley.com
3.	Wiley Computer Science	Computer Science + Data Systems + Telecommunication and related discipline collection	http://www.wileyonlinelibrary.com http://onlinelibrary.wiley.com
4.	Springer Mechanical Engineering Collection	Mechanical Engineering (46 Titles, back files from 1997-2011)	http://www.springerlink.com
5.	Mc Graw-Hill's Access Engineering	Electronics + Electrical etc	http://2.accessengineeringlibrary.com
6	J-Gate Engineering & Technology	Engineering & Technology	http:// www.jgate.in or http://www.j-gate.informindia.co.in
7	Science Direct (Elsevier)	Engineering + Computer Science (275 Journals, Back file access from 2000 onwards)	http://www.sciencedirect.com
8	J-Gate Social & Management Sciences	Management	http:// www.jgate.in or http://www.j-gate.informindia.co.in
9	Emerald Management First Database	Management (1200 Journals)	http://www.emeraldinsight.com
10	ASTM Digital Library	Digital Library over 1700 E-Book and over 13000 Journals	http://enterprise.astm.org

b) Internet facilities for Staff & Students

- The department is provided with internet facility for all students and staff.

- One Separate Internet Lab for PG and UG Students.
- Digital Library is accessible through the Wi-Fi Connection
- IEEE ASPP online Access
- Mc-Graw Hill Access Engineering online Access

c) Class rooms with ICT facility

The PG Classes are provided with ICT Facility in order to improve advanced Teaching methods.

d) Laboratories

Sl. No	Name of Lab	Lab Handled	Equipments to Run Experiments	Size of Lab
1	Analog Circuit Lab	Analog Circuits ECE – 3Sem	CRO, FUNCTION GENERATOR, DC Power Supply, DIGITAL MULTIMETER, LINEAR IC TESTER, Ammeter, Voltmeter, ANALOG MULTIMETER, BREAD BOARD, RHEOSTAT, DECADE CONDENSER BOX, DECADE INDUCTANCE BOX, DECADE RESISTANCE BOX	169m2
		Circuits & Communication IT 3 rd Sem		
2	Communication Lab	Analog Communication Lab ECE – Sem4	CRO, DSO, FUNCTION GENERATOR, DC POWER SUPPLY, DIGITAL MULTIMETER, LINEAR IC TESTER, Ammeter, Voltmeter, Fiber optic trainer kit with voice interface card, Sampling and reconstruction unit, TDM trainer kit, TD Pulse amplitude modulator /Demodulator, PCM Transmitter/Receiver, TDM PCM Transmitter/Receiver, Delta and Adaptive Delta and sigma modulator and demodulator, Digital kit ASK,FSK,PSK, GUNN oscillator and power supply, Frequency Meter, Advanced Antenna trainer, Microwave lab kits using klystron, PLC Trainer, PAM,PPM,PWM Modulator & demodulator, Transmitter(1);Receiver(1);Transponder(1)	169m2
		Advanced Communication Lab ECE- Sem7		
3	IC Lab	Digital IC Lab ECE- 5 th Sem	Digital Trainer Kit, Digital IC Tester, Rheostat , Universal Programmer, DCPS, CRO, Digital Multimeter, Voltmeter, Ammeter	169m2
		Mini Project		

		Lab ECE- 6 th Sem		
4	MP&MC Lab	MP&MC Lab CS-5 th Sem, ECE-6 th Sem	ADC,ADC AND DIGITALOUT PUT CARD 8BITCUCARD/PROJECT CARD,89C51DAC DAC AND DIGITAL OUT PUT CARD,8-BIT EXTENDING I/O PORT USING SHIFT REGISTER INTERFACE BOARD 6251&8253 INTERFACE BOARD 8255 INTERFACE BOARD DMA INTERFACE ELEVATOR SIMULATOR INFRARED TRANSMISSION AND RECEPTION (INFRARED TRANSIVER) KEYBOARD AND DISPLAY INTERFACE BOARD LCD DISPLAY AND KEYPAD CARD LED DISPLAY AND KEYPAD CARD MICRO PROCESSOR TRAINER 8085 MICRO CONTROLLER TRAINER 8051 OPTO ISOLATED I/P CARD OPTO ISOLATED O/P CARD PRINTER INTERFACE BOARD PIGGY BACK FOR UNIVERSAL TRAINER 89C51 STEPPER MOTOR CONTROLLER STEPPER MOTOR TRAFFIC LIGHT CONTROL SYSTEM UNIVERSAL PIC EMBEDDED TRAINER VGA VIED DISPLAY	85m2
5	Signal Processing Lab	C-Programming Lab ECE 3 Sem Signal Processing Lab ECE 7 Sem	Computer (I2 Processor, 2GB RAM, 250 HDD) MATLAB	85m2
6	Advanced Comm. Lab	Advanced Comm. Lab M. Tech CE	Computer (i3 Processor, 2GB RAM, 250 HDD) MATLAB, HFSS NS3,NS2,	85m2

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7	VLSI Lab	VLSI Design Lab M.Tech Sem1	89S52 Development Board + Programmer, ARM7 – LPC 2378 + Adaptor, ARM9 LPC – 2929, RTC Interfacing board Stepper Motor, Music generator Borad, KEIL S/W, Modelsim 6.3, Xilinx ISE 13.2, Spartan -3 FPGA Boards+UTK, Mentor Graphics Hep Catagory-1, Mentor Graphics Hep Catagory-2	85m2
		VLSI & ES Lab		
		ECE-7 th Sem		
		CProgramming Lab ECE- 3 rd sem		
8	Hardware Lab	Main Project ECE 8 Sem	Computer (AMD Processor, 2GB RAM, 250 HDD) Keil Software	85m2
		Mini Project ECE 6 th Sem		

31. Number of students receiving financial assistance from college, university, government or other agencies

UG Batch

Year	Financial Assistance				
	Management	University	State Govt	Central Govt	Others
2014-15	23				
2013-2014	14			6	
2012-2013	13				
2011-2012	6		2	2	

PG Batch

Year	Financial Assistance				
	Management	University	State govt	Central Govt	
2014-2015	1				
2013-2014	2				

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts

S.No	Name of Function	Resource Person	Target Audience
1	Technical Speech in recent Trends in VLSI	Dr. M. K. Radhakrishnan Founder Director of NANOREL Editor-in Chief, IEEE EDS Newsletter	B.Tech Final Year Students, M.Tech Students and Faculty
2	Workshop on Introduction to PIC Microcontrollers	Faculties From ARWIN Technologies	B.Tech Pre Final Year Students
3	1day Technical Speech in Cloud Computing	Dr. Florain Schatz, Christian-Albrechts-University, Germany	M.Tech Students and Faculty
4	1day Speech different phases in placement training	Prof.Varkey Philip , Professor , Placement Co-ordinator	B.Tech Final Year Students
5	1 day Technical Speech on bio nano technology	Dr. Toru Maekawa, Professor, Toyo University of Japan	M.Tech Students and Faculty
6	1 day Technical Talk on bio Nano Electronics	Dr. Jayan Thomas, Researcher, University of Central Florida,USA	B.Tech Final Year Students, M.Tech Students and Faculty

33. Teaching methods adopted to improve student learning

1. Using different teaching aids (Black board, OHP, LCD projector....)
2. By arranging field visits/Industrial visits
3. Faculties are giving their own Video Lectures to Students that will enhance students learning process.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

Department related club activities (special lectures / workshops / seminar) organized by ECE association

Faculties are attending national/international conferences, workshops in various institutions and that is useful for their research activities

Students are motivated to participate in various technical symposiums, conferences in various institutions.

The Students of 2011-2015 ECE have done fifteen days of social service in “MARIYASADANAM”, Pala, a Home for Homeless Mentally Deranged People, from 7th

January to 1st February 2013

Students of 2012-2016 year ECE A batch have done three days of social service in MGM AB-HAYA BHAVAN, Pothampuram, Pampady from 14th January to 19th January 2013

Blood donation camps are conducted every year to create awareness among the students and to help the people in emergency

35. SWOC analysis of the department and Future plans

Strength

- Driven by our mission statement of imparting knowledge to all
- Optimum utilization of resources infrastructure and lab facility
- Commendable Student Teacher ratio and dedicated and Experienced Faculty

Weakness

- Due to the economic background of students and the paucity of time available to them, limitation on implementing of value added courses
- On campus placement

Opportunities

- Location advantage for strengthening academia-industry linkages
- Exploring possibility of collaborative research with research institutions

Challenges

- Keeping pace with the rapid changes in higher education
- Providing resources for marginalized students

EVALUATIVE REPORT OF MECHANICAL DEPARTMENT

1. **Name of the department:** MECHANICAL ENGINEERING

2. **Year of Establishment:** 2004

3. **Names of Programmes/ Courses offered:**

UNDER –GRADUATE COURSE	POST-GRADUATE COURSE
B.TECH IN MECHANICAL ENGINEERING	M.TECH IN INDUSTRIAL ENGINEERING AND MANAGEMENT

4. **Name of interdisciplinary courses and the departments/units involved**

COURSES OFFERED	DEPARTMENTS UNDERTAKING
MATHEMATICS	BASIC SCIENCE
ECONOMICS& COMMUNICATION SKILL	BASIC SCIENCE
PROGRAMMING IN C	COMPUTER SCIENCE ENGINEERING
COMPUTER PROGRAMMING LAB	COMPUTER SCIENCE ENGINEERING
STRENGTH OF MATERIALS & STRUCTURAL ENGINEERING	CIVIL ENGINEERING
STRENGTH OF MATERIAL LAB	CIVIL ENGINEERING
ELECTRICAL TECHNOLOGY LAB	ELECTRICAL ENGINEERING
ELECTRICAL & ELECTRONICS LAB	ELECTRICAL ENGINEERING
MECHATRONICS & CONTROL SYSTEMS	ELECTRICAL & ELECTRONICS ENGINEERING

ENGINEERING PHYSICS	BASIC SCIENCE
ENGINEERING CHEMISTRY	BASIC SCIENCE
BASICS OF ELECTRICAL ENGINEERING	ELECTRICAL & ELECTRONICS ENGINEERING
BASICS OF ELECTRONICS ENGINEERING	ELECTRONICS AND COMMUNICATION
ENGINEERING MECHANICS	CIVIL ENGINEERING
BASICS OF CIVIL ENGINEERING	CIVIL ENGINEERING

5. Annual/ semester/ choice based credit system (program wise)

Semester based credit system

Under graduate level

B.TECH MECHANICAL ENGINEERING

SEMESTER	CREDITS
S1 & S2	44
S3	28
S4	28
S5	28
S6	28
S7	28
S8	28
Total	212

Post Graduate Level

M.TECH INDUSTRIAL ENGINEERING AND MANAGEMENT

SEMESTER	CREDITS
S1	25
S2	25

S3	15
S4	15
Total	80

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

COURSES OFFERED	DEPARTMENTS INVOLVED
HYDRAULICS LAB	ELECTRICAL ENGINEERING
HEAT ENGINE LAB	ELECTRICAL ENGINEERING
HYDRAULICS LABORATORY	CIVIL ENGINEERING
BASICS OF MECHANICAL ENGINEERING	CIVIL ENGINEERING,
BASICS OF MECHANICAL ENGINEERING	COMPUTER SCIENCE & ENGINEERING
BASICS OF MECHANICAL ENGINEERING	ELECTRICAL & ELECTRONICS ENGINEERING
BASICS OF MECHANICAL ENGINEERING	ELECTRONICS & COMMUNICATION ENGINEERING
MECHANICAL WORKSHOP	CIVIL ENGINEERING,
MECHANICAL WORKSHOP	COMPUTER SCIENCE & ENGINEERING
MECHANICAL WORKSHOP	ELECTRICAL & ELECTRONICS ENGINEERING

MECHANICAL WORKSHOP	ELECTRONICS & COMMUNICATION ENGINEERING
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7. Courses in collaboration with other universities, industries, foreign institutions, etc. : NIL

8. Details of courses/programmes discontinued (if any) with reasons : NIL

9. Number of Teaching post

DESIGNATION	SANCTIONED		FILLED	
	UG	PG	UG	PG
PROFESSORS	3	1	1	0
ASSOCIATE PROFESSORS	7	1	1	1
ASSISTANT PROFESSORS	22	1	24	2

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)

Name	Qualification	Designation	Specialization	No. Of Years Of Experience	Ph.D Student s Guided For The Last Four

					Years
Rajeev K Mohan	M.TECH	Associate Professor	Welding Engineering	7 .5 yrs	
Harikrishnan. A.R	M.TECH	Associate Professor	Industrial Engg: & Management	6.6 yrs	
Aneesh K S	M TECH	Associate Professor	Production &Industrial Engg	8 YEAR	
Suresh.S	M.E	Assistant Professor	Manufacturing Engg	5.6 years	
Bindu Divakar	ME	Assistant Professor	Manufacturing Engg	4.1 yrs	
Shaiju Mohan	M.E,MBA	Assistant Professor	Cad/Cam	Dec 2008- May 2010, Aug- 2012- till date	
Subin George Mathew	M.TECH	Assistant Professor	Industrial Engg: & Management	4 yrs	
Benphil C Mathew	M.TECH	Assistant Professor	Ic Engines & Turbomachinery	1.1yrs	
Ajith Kurian Baby	M.TECH	Assistant Professor	Machine Design	2yrs	
Shijo Thomas	M.TECH	Assistant Professor	Manufacturig Engineering	1.5 yrs (on leave *)	

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Binny Kuriakose	M.TECH	Assistant Professor	Machine Design	2.2yrs	
Sarath Chandran K G	M.TECH	Assistant Professor	Industrial Engg: & Management	2.8yrs	
Shifa Sulaiman	M.TECH	Assistant Professor	Machine Design	2yrs	
Vipinraj A R	M.E	Assistant Professor	Heat Power Engineering	1yrs	
Vipin Mathew	M.TECH	Assistant Professor	Industrial Engg: & Management	6 years	
Prakash T	M.TECH	Assistant Professor	Machine Design	3.4yrs	
Jishnu M	MTECH	Assistant Professor	Ic Engines & Turbomachinery	2.5 years	
Jacob C Joy	M.TECH	Assistant Professor	Production Engineering	2 YEARS	
Albert Mathew	M.E	Assistant Professor	Design	2 YERAS	
Arun Jose	M.TECH	Assistant Professor	Industrial Engineering And Management	2.8 YEARS	
Sammon Korah	M.TECH	Assistant Professor	Design Engineering	8 MONTHS	
Agil Alex	M.TECH	Assistant Professor	Propulsion Engineering	8MONTHS	
Mahesh S Kumar	M.E	Assistant Professor	Manufacturing	6 MONTHS	
Rinu Thomas	ME	Assistant Professor	Thermal Engineering	6 MONTHS	

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Anoop A Pillai	M.E	Assistant Professor	Engineering Design	6 MONTHS	
Manoj Balu	M.TECH	Assistant Professor	Industrial Metallurgy	6 MONTHS	
Abu Thomas Cherian	M.TECH	Assistant Professor	Machine Design	3 .2 YRS	
Hariprasad K S	M.TECH	Assistant Professor	Industrial Engineering And Management	1.6 YRS	
Leneesh N Gopal	M.TECH	Assistant Professor	Industrial Engineering And Management	7 YRS	
Renju Mohan	M.TECH	Assistant Professor	Machine Design	6 MONTHS (ON LEAVE *)	

11. List of senior visiting faculty:NIL

12. Percentage of lectures delivered and practical classes handled(programme wise) by temporary faculty : NIL

13. Student -Teacher Ratio (programme wise)

B.Tech in Mechanical Engineering

Year	X	Y	Z	X+Y+Z	N1	STR
2012 -13	70	68	70	208	16	13:1
2013 -14	134	70	68	272	22	12.3:1
2014 -15	127	131	68	326	21	15.5:1

where, x = Number of students in 2nd year of the programme

y = Number of students in 3rd year of the programme

z = Number of students in 4th year of the programme

$N1$ = Total number of faculty members in the programme

M.Tech in Industrial Engineering and Management

Year	X	Y	X+Y	N1	STR
2012 -13	18	15	33	4	8.3:1
2013 -14	13	18	31	5	6.2:1
2014 -15	13	3	16	4	4:1

where, x = Number of students in 2nd year of the programme

y = Number of students in first year of the programme

$N1$ = Total number of faculty members in the programme

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

Name	Designation	Total Service In Mangalam	HQ	Prev. Experience (Yrs.)
V B Rao	Workshop Superendent	4 Years	ITI	25
Vasudevan Nair	Lab Instructor	8 Years	ITI	30
Philip Mathew	Lab Instructor	7.5 Years	ITI	23
Mohanan T G	Lab Instructor	7 Years	Diploma In Mechanical Engg.	28

Shihab V A	Lab Instructor	1.5 Years	Diploma In Mechanical Engg.	7
Jayakumar V N	Lab Instructor	1 Year	Diploma In Mechanical Engg.	8
Manzoor R	Lab Instructor	2 Months	Diploma In Mechanical Engg.	2.5
Abijith N	Lab Instructor	7 Month	Diploma In Mechanical Engg.	1
Baby M K	Lab Instructor	6 Months	ITI	18

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG

SL NO.	FACULTY NAME	QUALIFICATION
1	Manoj George	M.TECH
2	Rajeev K Mohan	M.TECH
3	Harikrishnan. A.R	M.TECH
4	Aneesh K S	M.TECH
5	Suresh.S	M.E
6	Bindu Divakar	M.E
7	Shaiju Mohan	M.E,M.B.A
8	Subin George Mathew	M.TECH
9	Benphil C Mathew	M.TECH
10	Ajith Kurian Baby	M.TECH

11	Binny Kuriakose	M.TECH
12	Sarath Chandran K G	M.TECH
13	Shifa Sulaiman	M.TECH
14	Vipinraj A R	M.E
15	Vipin Mathew	M.TECH
16	Prakash T	M.TECH
17	Jishnu M	M.TECH
18	Jacob C Joy	M.TECH
19	Albert Mathew	M.E
20	Arun Jose	M.TECH
21	Sammon Korah	M.TECH
22	Agil Alex	M.TECH
23	Mahesh S Kumar	M.TECH
24	Rinu Thomas	M.E
25	Anoop A Pillai	M.E
26	Manoj Balu	M.E
27	Abu Thomas Cherian	M.TECH
28	Hariprasad K S	M.TECH
29	Leneesh N Gopal	M.TECH

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received : Nil

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received : Nil

18. Research Centre /facility recognized by the University : Nil

19. Publications:

(a) Publication per faculty - 1.2

(b) No. of publications of faculty in conferences and journals: 35

Sl No	Name Of Faculty	Journals		Conferences	Books Published
		National Level	International Level		
1	Manoj George		1	1	

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2	Rajeev K Mohan	1		1	
3	Aneesh K S	2			
4	Shaiju Mohan			2	
5	Subin George Mathew	4	0	2	1
6	Ajith Kurian Baby	1		2	
7	Binny Kuriakose			1	
8	Sarath Chandran K G			1	
9	Vipinraj A R	2		1	
10	Sammon Korah	1		1	
11	Agil Alex			1	
12	Rinu Thomas			5	
13	Manoj Balu	1		1	
14	Abu Thomas Cherian	3			

20. Areas of consultancy and income generated – Nil

21. Faculty as members in

a) National committees : NIL

b) International Committees: NIL

c) Editorial Boards:

Faculty Name	
Prof. Manoj George	Material Research Journal Reviewer .Publisher name SciELO.

22. Student projects:

a) Percentage of students who have done in-house projects, including inter-departmental/programme:

Year	% of in- house project
2015	28
2014	22

2013	15
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b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies - Nil

23. Awards / Recognitions received by faculty and students :

Sl. No	Name	Batch	Award / Recognition	Year
1	Nimisha J P	M.TECH IE&M	Third Rank In M. G University Degree Examination	2012
2	Bijimol M R	M.TECH IE&M	Second Rank In M. G University Degree Examination	2014
3	Lino Lukose	B.TECH 2013 - 17	Third Prize In Quiz Competetion (Masterminds 2015) Organized By CADD Centre	2015
4	Sooraj S	B.TECH 2014 - 18	Participated In National Level Program “Drive To Safety” Organized By HONDA	2015

24. List of eminent academicians and scientists / visitors to the department:

Lectures on ANSYS was delivered by Mr. Shivasankar from iCAD , Kottayam and Ms Jincy Sarath delivered a lecture on AutoCAD for the final year students.

25. Seminars/ Conferences/Workshops organized & the source of funding

a) National : Nil

b) International : Nil

26. Student profile programme/course wise:

Name of the Course/programme (refer question no. 4)	Applications received	Selected	Enrolled		Pass percentage
			*M	*F	
Mechanical Engineering (B.Tech 2013)	550	67	66	1	27
Mechanical Engineering (B.Tech 2014)	650	67	66	1	25
Mechanical Engineering (B.Tech 2015-)	680	67	67	0	30
Industrial Engineering & Management (M.TECH 2013)	15	15	11	4	100
Industrial Engineering & Management (M.TECH 2014)	24	18	13	5	100
Industrial Engineering & Management (M.TECH 2015)	18	13	11	2	NA

27. Diversity of Students

ACADEMIC YEAR	% of students from the same state	% of students from other States	% of students from abroad
MECHANICAL ENGINEERING (B.TECH)			
2015	100	NIL	NIL

2014	100	NIL	NIL
2013	100	NIL	NIL
INDUSTRIAL ENGINEERING (M.TECH)			
2015	100	NIL	NIL
2014	100	NIL	NIL
2013	100	NIL	NIL

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

SL NO	Year	Type of Examination	% Of Qualified Students
1	2011-2012	GATE	8
2	2012-2013	GATE	14
3	2013-2014	GATE	15
4	2014-2015	GATE	15

29. Student progression

ACADEMIC YEAR 2010-2014

Student progression	Against % enrolled
UG to PG	6.63 %

PG to M.Phil.	NA
PG to Ph.D	NA
Ph.D. to Post-Doctoral	NA

Employed	%
Campus selection	10
Other than campus recruitment	5
Entrepreneurship/Self-employment	NIL

30. Details of Infrastructural facilities

a) Library

ITEMS	DEPARTMENT LIBRARY
Total No. of Books	473
Reference Books	50
Periodicals/Journals	4
General books	10
Project reports	128
Seminar reports	200

b) Internet facilities for Staff & Students - Central Computing Facility

c) Computing facilities available in the department

Hardware:	Qty.
Dell Vostro (Core i3 3.07 GHz, 2 GB RAM, 250 GB HDD, Windows XP Professional SP3)	4

Intel Core 2 Duo E7500 2.93 GHz, 2 GB RAM, 300 GB HDD, Windows XP Professional SP3	36
	Total 40

d) Description of Class Rooms, Faculty Rooms, Seminar and Conference Halls:

Adequate number of rooms for lectures (core/electives), seminars, tutorials, etc., for the department.

Adequate number of rooms for lectures (core/electives), seminars etc. for the program are available as given in the above table as per AICTE norms.

Room Description	Usage	Shared/ Exclusive	Capacity (in sqm)	Room equipped with
M301	Class room for 4 th year B.Tech (A Batch)	Exclusive	77.08	LCD projector, 2 tube lights, 6 fans, green board, 15 four seater benches in good condition, staff table, sufficient air circulation, natural lighting and one exit.
M 302	Class room for 4 th year B.Tech (B Batch)	Exclusive	77.08	LCD projector, 2 tube lights, 4 fans, green board, 12 four seater benches in good condition, staff table, sufficient air circulation, natural lighting and one exit.
M 303	Tutorial 1	Exclusive	31.35	1 tube lights, 2 fans, 3 tables in good condition, 14 chairs, staff table, sufficient air circulation, natural lighting

				and one exit.
M 305	Faculty Rooms	Exclusive	84.05	3 tube lights, 6 fans, Internet, book rack, 12 staff tables and chairs, one exit. Faculty tables of senior faculty equipped with personal computers (Three numbers), 2 steel almirahs, Intercom phone and one printer are provided for each computer.
	HOD's Desk			1 tube lights, 1 fan, PC with Internet, printer, telephone, book racks, table, chairs and one exit.
M306	Class room for 2 nd year B.Tech (A Batch)	Exclusive	84.05	LCD projector, 2 tube lights, 4 fans, green board, and 17 four seater benches in good condition, staff table, sufficient air circulation, natural lighting and one exit.
M 307	Faculty Rooms	Exclusive	67.96	1 tube lights, 2 fans, black board, PC with Internet, telephone, book racks, 2 almirahs, 12 tables, chairs and one exit.
M 308	Conference Hall	Shared	84.72	LCD projector, conference table, Internet, telephone, chairs and Two exits

M 309	Class room for 1 st year M.Tech	Exclusive	67.82	LCD projector, 2 tube lights, 2 fans, 8 tables in good condition, 23 chairs, staff table, green board, sufficient air circulation, natural lighting and one exit.
M 310	Class room for 2 nd year B.Tech (B Batch)	Exclusive	85.075	LCD projector, 2 tube lights, 4 fans, green board, 16 four seater benches in good condition, staff table, sufficient air circulation, natural lighting and one exit.
M 311	Class room for 3 rd year B.Tech (B Batch)	Exclusive	85.075	LCD projector, 4 tube lights, 4 fans, green board, and 16 four seater benches in good condition, staff table, sufficient air circulation, natural lighting and one exit.
M 313	PG Computer Lab	Exclusive	30.08	18 PCs equipped with internet and one Printer
M 314	CAD Lab	Exclusive	77.08	36 PCs equipped with internet, 2 Air conditions and white board.
M 315	Class room for 3 rd year B.Tech (A Batch)	Exclusive	77.08	LCD projector, 3 tube lights, 4 fans, green board, 17 four seater benches in good condition, staff table, sufficient air circulation, natural lighting and one exit.

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M 205	Class room for 2 nd year M.Tech / Tutorial 2	Exclusive	82.7	LCD Projector, 4 tube lights, 4 fans, white board, 24 chairs and 6 tables in good condition, staff table, sufficient air Circulation, natural lighting and one exit.
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e) Teaching aids

S. No.	Teaching aids	Quantity
1	Black Boards	In all UG and PG class rooms, tutorial, elective rooms and all laboratories.
2	White Boards	2 In all PG class rooms
3	LCD Projectors	5 In all UG and PG class rooms
4	PA System	0

f) Laboratories in the department

Curriculum Lab Description	Exclusive / Shared	Space / Number of students	Number of experiments	Quality of instruments	Lab Manuals
ME010 307: Computer Programming Lab	Exclusive	/35 Students	35 Programs		Available

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ME010 308: Fluid Mechanics Lab	Shared	/35 Students	8	Good quality certified equipment. All the equipment in the lab is maintained by the technicians and Service providers.	
ME010 407: Hydraulic Machines Laboratory	Shared	151.2/35 Students	9		
ME010 408 Strength Of Materials Lab	Shared	/35 Students	13		
ME010 507: CAD/CAM Lab	Exclusive	/35 Students	11		
ME010 508 Electrical & Electronics Lab	Shared	/35 Students	13		
ME010 607: Heat Engines Laboratory	Exclusive	/35 Students	9		
ME010 608 Machine Tool Laboratory	Exclusive	/35 Students	5		
ME 010 707 Mechanical Measurements Laboratory	Exclusive	/35 Students	9		
ME 010 708 Advanced Machine Tools Laboratory	Exclusive	/35 Students	4		
ME010 806 Mechanical Systems Laboratory	Exclusive	/35 Students	13		

Adequate, well-equipped laboratories to meet the curriculum requirements

31. Details Of Students Receiving Financial Assistance

ACADEMIC YEAR	NUMBER OF STUDENTS RECEIVING FINANICIAL ASSISTANCE					
	COLLEGE	UNIVERSI TY	GOVERNME NT (B.TECH)		OTHER AGENCIES	
					BTECH	MTECH
			SC/ST	OEC		
2014-15	10	NIL	3	2	20	0
2013-14	8	NIL	4	5	21	1
2012-13	4	NIL	3	4	22	0

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts:

The Mechanical Department along with i-CAD, Kottayam has conducted a one day workshop for the students on Design , Drafting and Analysis .The objective of the program was to enhance the students with their professional skills in design and analysis.

33. Teaching methods adopted to improve student learning:

Along with classroom lectures, power point presentations, Group discussions , NPTEL video lectures ,seminars and case studies were adopted to improve the student learning

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

Swach Bharat Swarg Bharat This program is conducted to develop an awareness among school students on societal cleanliness and hygiene. This campaign started on January 2015 and concluded on 16 January 2015 running across 30 school interacting with more than 10000 students conveying the need of cleanliness. We the mechanical engineering department did this venture in association with Mangalam daily and Mediavillage 90.8 FM.

35. SWOC analysis of the department and Future plans

Strengths

- ✓ One among the first self financing engineering college under MG university.
- ✓ Well equipped laboratories with latest systems and required software to meet the curriculum.
- ✓ Good Intake of students
- ✓ Systematic monitoring of teaching-learning process.
- ✓ Post Graduate program under department

Weaknesses

- ✓ Lack of MoU with leading Industries
- ✓ Less number of publications

Opportunities

- ✓ Continuous faculty development programmes at Institute.
- ✓ Soft skills and related training by T&P Cell and association with alumni grabs the opportunities to raise the employability of the students.

Challenges

- ✓ Lack of good communication skills in English language and lack of exposure to the city based benefits.
- ✓ To bring more number of core companies

Future Plans

- ✓ To enhance Industry Institute Interaction to attract leading MNC's to conduct campus recruitment.
- ✓ To Motivate Faculties to publish at least two papers in International Journals & Conferences.
- ✓ To encourage the students become an entrepreneur by conducting more entrepreneurship Programmes.
- ✓ The numbers of faculty members with Ph.D. degree are to be increased

Evaluative Report of Department of Management Studies

1. **Name of the department:** Department of Management Studies
2. **Year of Establishment:** 2005
3. **Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)**
Two year Full Time MBA Programme
4. **Names of Interdisciplinary courses and the departments/units involved:** Nil
5. **Annual/ semester/choice based credit system (programme wise):**
MBA Programme (Semester Wise)
6. **Participation of the department in the courses offered by other departments:**
Provides Academic Support for the HRD, Placement and Training programmes of the College
7. **Courses in collaboration with other universities, industries, foreign institutions, etc.**
Six Sigma Program in Production
Certification Program with MSME(Micro Small and Medium Enterprises), Kerala Chapter
8. **Details of courses/programmes discontinued (if any) with reasons:** Nil
9. **Number of Teaching posts**

	Sanctioned	Filled
Professors	2	2
Associate Professors	3	3
Asst. Professors	10	8
10. **Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt.**

/Ph.D. / M. Phil. etc.,)

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. Students guided for the last 4 years
Dr Siby C Chithran	MBA, M.Phil, PhD	Professor	HRM & Marketing	18 years	2
Dr Abraham Chettisserry	LLB,MBA	Professor	HRM	26 years	7
Mr Siby James	MBA, PhD(Pursuing)	Associate Professor	Marketing & Finance	13 years	Nil
Mrs Ann Jose	MBA	Associate Professor	HRM	5.2 years	Nil
Mrs Tinta Baby	MBA, MHRM	Associate Professor	HRM	5 years	Nil
Mrs Sony Stephen	MBA	Assistant Professor	Finance	3 years	Nil
Ms Reshma	MBA	Assistant Professor	Production Management	2 years	Nil
Mrs Demy Devassy	MCA	Assistant Professor	Information Systems	1.5 years	Nil
Ms Ashu Prakash	M.Sc	Assistant Professor	Quantitative Methods	1.4 years	Nil
Ms Malini K	MBA	Assistant Professor	Finance	1 year	Nil
Ms Jeenu Mathew	MBA	Assistant Professor	Finance	1year	Nil
Ms Jisha Mathew	MBA	Assistant Professor	HRM & Finance	1year	Nil
Mrs Manju	LLM	Assistant Professor	Legal	6 Months	Nil

11. List of senior visiting faculty

1. Dr Tomy Mathew, CMS College, Kottayam
2. Dr Jacob Kurian Oonat, Former Principal, Baselius College, Kottayam

3. Mrs Kochurani, School of Legal Studies, M.G Univeristy

12. Percentage of lectures delivered and practical classes handled(programme wise) by temporary faculty

4 hours/Week(Around 16 hours per month – 10%)

13. Student -Teacher Ratio (programme wise): 15: 1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

Administrative Staffs = 5(Sanctioned 7)

Technical Staffs = 4 (Sanctioned 5)

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.

PhD(2), M.Phil(1), MBA(10), UGC-NET(4), PhD (Pursuing)-1

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received

Nil

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received:Nil

18. Research Centre /facility recognized by the University:Nil

19. Publications:

*** a) Publication per faculty**

Dr Siby C Chithran	11 Publications in National Journals
Dr Abraham Chettisserry	13 Publicatios in National Journals
Mr Siby James	5 Publications in National Journals
Mrs Ann Jose	3 Publications in National Journals

Mrs Tinta Baby	2 Publications in National Journals
Mrs Sony Stephen	4 Publications in National Journals
Ms Reshma	1 Publications in National Journals

*** Number of papers published in peer reviewed journals (national / international) by faculty and students**

Dr Sibu C Chithran	3 Publications in peer reviewed journals
Dr Abraham Chettisserry	5 Publications in peer reviewed journals

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

*** Monographs:** Nil

*** Chapter in Books:** Nil

*** Books Edited:** Nil

*** Books with ISBN/ISSN numbers with details of publishers:** Nil

*** Citation Index:** Nil

*** SNIP:** Nil

*** SJR:** Nil

***Impact factor:** Nil

***h-index:** Nil

20.Areas of consultancy and income generated:

Consultancy project with Kerala Police, Kottayam district – Revitalization of retailing at Mini Super Market, Police Academy

21.Faculty as members in

1. Kerala Management Association (KMA)
– 3 members
2. National Institute of Personal
Management (NIPM) – 2 members
3. All India Management Association
(AIMA) – 1 Member
4. ENCON Club, BPCL-Cochin Refinery-
1member

a)National committees b) International Committees c) Editorial

Boards: Nil

22.Student projects

a)Percentage of students who have done in-house projects including inter departmental/programme

1. Project with Ettumanoor Municipality on ‘Waste Disposal Systems’
2. Project with ‘Kudumbasree’ mission of the Kerala Government

b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies: 9%

23.Awards / Recognitions received by faculty and students

Mr Siby James, Associate Professor – M.V Pylee Endowment Award

Dr Abraham Chettisserry – Activist Award – National Human Rights Commission

24. List of eminent academicians and scientists / visitors to the department

1. Dr Anandakuttan B Unnithan, Professor, IIMK
2. Dr Justin Paul ,University of Washington
3. Prof Biju Varkkey , IIM A
4. Prof MM Monipally ,IIM A
5. Mr. T C Mathews, Kerala Cricket Association
6. Mr Sumith . BSE ,Mumbai
7. Prof Stephen Mathews , Ex. Director,XIME , Bangalore
8. Prof Henry , Harvard Business School
9. Prof Joffi Thomas, IIMK
10. Prof N. S Ramaswamy, Founder Director, IIMB
11. Mr. Prasant Srinivas ,FCA
12. Mr. Vijay Menon ,Corporate Trainer
13. Prof V S Ramaswamy , Marketing Professional
14. Ms Namakumari , Marketing Professional
15. Sri Kris Gopalakrishnan ,CEO , Infosys
16. Mr. Joy Alukkas ,Chairman , Joy Alukkas Group
17. Sri Gulfar Muhammed Ali ,Chairman ,Gulfar Group
18. Dr Roswitha Meyer, Rotary Club International

25. Seminars/ Conferences/Workshops organized & the source of funding

a)National

1. International Seminar on ‘Systems Thinking in Management’
2. National Seminar on ‘Value Based Management Practices’
3. National Seminar on ‘Green Marketing’
4. FDP on ‘Management Education in India-Inculcating a Global Mindset’
5. National Seminar on ‘Capital Market Challenges in India’

b) International

26. Student profile programme/course wise:

Name of the Course/programme (refer question no. 4)	Applications received	Selected	Enrolled		Pass percentage
			*M	*F	
MBA (2015-2016)	134	90	46	44	73%

MBA (2014 -2015)	148	100	58	42	78%
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*M = Male *F = Female

27. Diversity of Students

Name of the Course	% of students from the	% of students from other States	% of students from
MBA(2015)	94	6	Nil
MBA (2014)	89	11	Nil

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

8 Students (UGC – NET)

29. Student progression

Student progression	Against % enrolled
UG to PG	NA
PG to M.Phil.	2 persons (1 %)
PG to Ph.D.	Nil
Ph.D. to Post-Doctoral	Nil
Employed	
• Campus selection	68
• Other than campus recruitment	
Entrepreneurship/Self-employment	Nil

30. Details of Infrastructural

facilities a) Library: Independent

Library (MBA) with National and International Journals

b) Internet facilities for Staff & Students: 24 hrs Internet facility with Wi-Fi. 30 mbps leased line from BSNL

c) Class rooms with ICT

facility: 6

d) Laboratories: Nil

31. Number of students receiving financial assistance from college, university, government or other agencies

22 Students from College

6 Students from Government

3 students from NGOs

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts

1. Yoga and Art of Living Sessions
2. Soft Skills Development Programmes
3. Visits to various charitable institutions and Orphanages

33. Teaching methods adopted to improve student learning

1. Case Study approach
2. Management Games, Simulations and Workshops
3. Industrial Visits
4. Class room and Outbound training

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

1. Flash Mobs arranged on various social awareness programmes
2. Blood Donation Campaigns
3. Charity to the needy and to the various organizations
4. Maintenance of clean and hygiene campus

35. SWOC analysis of the department and Future plans

Strengths

- ✓ Good Academic Results consistently
- ✓ Good Placement record consistently
- ✓ Media Back up

- ✓ Growing number of admissions

Weaknesses

- ✓ Only Kerala based student pool
- ✓ International linkages

Opportunities

- ✓ Starting of Mangalam Radio and Television Channel
- ✓ Extension of Admission Activities

Challenges

- ✓ Growing number of MBA colleges
- ✓ Slump on Placement season

Future Plans

- 1) An International Seminar .
- 2) An Alumni Meet
- 3) An Industry-Institute interface at Techno park.
- 4) Student Internships
- 5) Releasing of our Management Journal.
- 6) Consultancy Projects with Two leading firms.
- 7) Mahasangram- Management Fest,2016
- 8) Convocation -2016
- 9) Finishing School Programm