

FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT)®

*(Affiliated to Mahatma Gandhi University, Kottayam, Kerala and
A.P.J. Abdul Kalam Technological University, Kerala)*

**HORMIS NAGAR, MOOKKANNOOR P O,
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SELF STUDY REPORT



Submitted to

**NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL
BANGALORE**

DECEMBER 2015

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PREFACE

Federal Institute of Science and Technology (FISAT) was born out of the epoch making decision of a few officers of the Federal Bank who, enthused by their sense of social commitment and bold divergent thinking, moved beyond traditional perceptions of trade unionism to put their savings to start an institution that offers quality professional technical education. Mookkannoor, the birth place of Late Sri. K.P. Hormis, the founder of the Federal bank, one of the founding fathers of banking services in India and an inspiring force behind practising a culture of trust and cooperation, was rightly chosen as the location of the Institute.

Thirteen years have passed since its inception, and FISAT has emerged almost as the first option within professional education in Kerala, thanks to the undaunted commitment and indomitable determination of this coterie of bank officers in making the Institute unique and distinct.

The ethos of FISAT lean towards providing wholesome education that builds on individual contributions of learners and facilitators. Students are not fettered within the strictures of regulation, but choose to define discipline by their performances. It must be said that performance is not just academic but artistic, cultural, creative and competitive. Individual abilities and unique talents adorn the passageway of this institution and are revealed when media and public spheres highlight the unusual genius of these youngsters. We are proud to be the hand holders of these souls, allowing them to blossom individually from fledglings into morally upright, emotionally resilient and intellectually sharpened youngsters grounded in the values of FISAT's founding fathers.

FISAT is also rooted in the values of Mother Earth. This is to say that one of the strengths of the region is the verdant, sylvan surroundings, peaceful environment, green as the colour of the soul, the connect with agricultural independence, using community involvement to embed their contribution into the very roots of the region, partaking of the local governance and web of local entrepreneurs and farms. Green buildings, recycling, recirculation systems, poly houses and hydroponics represent the next level of planned environmental use as nurturers, with the aim of preserving it for posterity.

Despite these eco-friendly values and a strong focus on community, FISAT is technologically primed, innovation driven and open source oriented. Freedom of content and learning has encouraged project to be conceived and incubated using the excellent facilities in hard and soft infrastructure, supercomputer systems and support from faculty members. It has become a centre for project incubation from surrounding institutions as well and is steadfastly moving towards its long term goal of becoming an autonomous or deemed university and a prominent research institute to bring out technically competent, value driven professionals who would be assets to the country and to the community.

EXECUTIVE SUMMARY

1. Curricular Aspects

FISAT aims at becoming a centre of excellence in professional education by establishing a system of quality assurance on a continuous basis that will transform young talents into competent and socially committed professionals with global vision. The vision, mission and the objectives of FISAT are widely presented through the college website, official blog and numerous college publications. The curriculum implementation process of the Institution starts with an annual academic planning and preparing calendar for the year, which is strictly followed. Several procedural and practical support are provided by the Institution in the course of curriculum planning and implementation. Meticulous preparation of course plan, engagement of course coordinators, class teachers and mentors, industry internships, networking and membership in professional bodies etc. are some of the strategies for effective curriculum implementation at the College. Timetables, course plans and portions covered daily are entered in the class work record and also in the campus management software. Several faculty members contribute to the curriculum designing at the University level by being members of different Boards of Study. The College offers six Undergraduate (B. Tech.) programmes, six Post-Graduate (M. Tech.) programmes, MBA and MCA, all under self-funded streams. The lacunae in the University curriculum are identified through a need assessment process and are dealt with by the College by offering add-on courses, training programmes and entrepreneurial and creative engagements. Periodic reviews at the department level ensure the achievement of curriculum objectives.

2. Teaching-Learning and Evaluation

It is a matter of pride that the Institute has been able to fill 100% seats in all programmes from the first batch onwards. The admission process at FISAT is transparent and merit based. All seats are in the self-funded stream. 50% of B. Tech. seats (General Merit) is filled as per the State Government norms through CAP (Centralized Admission Process) and the rank list is published in the Government website. The other 50 % seats consists of Management Quota which is filled as per the Institute policy of inclusion and merit based admission. Merit list is based on Common Engineering Entrance examination conducted by Kerala State Government. Admission to M. Tech. course is based on marks scored in the qualifying examinations and GATE score/DTE Rank list. Admission to MCA course is based on the marks scored in the qualifying examinations. Both advanced and slow learners are identified; advanced learners are given higher challenges and slow learners remedial support. The IQAC team spearheads the quality initiatives in all aspects of teaching, learning and evaluation. Student-centric pedagogies are progressively adopted and ICT is increasingly integrated in the teaching-learning process. The AICTE approved Tuition Fee Waiver

Scheme to provide fee concession to women, economically backward and physically handicapped meritorious students is implemented in the Institute. Accordingly, students with high academic results and hailing from economically backward families are granted full fee concession. The selection is made purely on the basis of Kerala Engineering Entrance Examination rank list and family income. As this is fully implemented, about 168 students get the benefit and the estimated contribution by the institution is over Rs. 2 crores. The Institute also provides FBOAES scholarships, Merit cum Means Scholarships, Central Scholarship for State Board, Central Scholarship for CBSE, FedBank Hormis Foundation Scholarship, SC/ST, OEC Students Scheme, GATE Scholarships and Indian oil Corporation Scholarship. In addition to these, the Management grants Fee Concession to deserving students in special cases.

3. Research, Consultancy and Extension

FISAT provides a cordial and encouraging atmosphere to foster research culture. The College has instituted several monetary and non-monetary incentives and support systems for encouraging research and to bring out its output in terms of publications, patents and technology transfers. The Institution's collaborations with other national institutions are aimed at the promotion of collaborative research. Four approved research supervisors are guiding research in the Institute. Another batch of teachers has applied for guideship in the A.P.J. Abdul Kalam Technological University. The Management encourages research by providing good number of e-journals, computing and engineering laboratory facilities and takes efforts to make the departments as approved research centres of the affiliating universities. An application for starting a research centre has been submitted to the affiliating University.

The Institute has a research committee headed to monitor and address the issues regarding research. The Committee consists of faculty members from different departments. Every department is enabled and supported to apply for research schemes under the AICTE schemes or similar funding agencies. A constant monitoring of the approved projects is conducted by the research committee. The Institute strives to kindle research interest in students by providing ample opportunities during their programme. Project exhibition is a program organised every year with this aim. As part of this programme, specific days are allotted for each department, during which the students exhibit the projects which they have undertaken as part of their curriculum. The best project is awarded prizes. The people from industry are also invited to take part in this programme.

Promotion of research is a major activity undertaken by the Centre for High Performance Computing (CHPC). Under this program, a team of students is selected based on merit in the first/second year and they are given extra inputs on various technologies and trained in various projects. More than 50 projects have been successfully undertaken by this team. The Institute also encourages students to attend paper presentation contests organised by various institutes and provides

them with financial assistance. The students of Master of Business Administration are required to undergo a Summer Internship Project of two months over and above the requirement of Organisational Study by the affiliating University. This helps the students get involved in applied research so as to understand real life industrial problems and to come up with solutions for the same. The supercomputer developed in the Institute and funded by the Management helps the researchers to carry out their research. The Research and Development labs set up in the College help the students to do innovative programmes and research.

4. Infrastructure and Learning Resources

The Master Plan of the College gives direction to the spatial/infrastructural planning and development in synchronization with the academic growth. FISAT provides excellent infrastructure required for a professional education. The College has technology-enabled learning spaces, network resource centre, host of laboratories for various engineering disciplines, computer labs, language labs and a host of other facilities within the campus. Facilities for sports, physical fitness, health care, gymnasium, indoor and outdoor games and yoga are available. Hostel facilities for men and women are provided. A well-stocked, spacious library with built-in area 1652 sq. m., with 62,500 volumes, 247 research journals with OPAC system, browsing facilities and numerous other services are available to students and members of the staff. It has become an outstanding learning resource centre catering to the ever growing and uncompromising information and intellectual requirements of the students, faculty and researchers. The Library has maximum learning materials of NPTEL and has joined with DELNET so that different journals from 5002 libraries in South Asia can be accessed in FISAT library. A well maintained, eco-friendly, plastic and litter-free campus is a unique feature of FISAT.

5. Student Support and Progression

The college calendar, prospectus and handbooks help in dissemination of information regarding the support systems available to students. The Institution ensures the availability of various kinds of scholarships, freeships, and concessions to students. Along with the financial aids available from Central and State Governments the College promotes institutional scholarships to meritorious students and economically backward students every year. The Management takes initiative in providing financial assistance to the needy and deserving students by offering fee concessions. All SC /ST students receive financial assistance in the form of tuition fee and accommodation charges from the State Governments, as per the Government regulations. OBC students also receive financial assistance in terms of tuition fee and maintenance charges. Reservation stipulated by the government is strictly adhered to by the Management regarding all aspects, like admission, residential facility, freeships and scholarships. Efforts are made to disseminate information regarding scholarships to the target group. Class teachers

and mentors take special care of slow learners, identifying their academic deficiencies and other areas which require any other assistance. The students who are slow learners in a particular subject are identified based on their performance in examinations and remedial classes are arranged by the concerned faculty on weekends and holidays. The Institute encourages its students to present papers and participate in the conferences organized by external bodies in India. The Institution arranges visits to various institutions, industries governmental and non-governmental organizations, welfare institutions, research centres, universities, libraries, media centres, banks, factories, software companies, eco-friendly places etc., as a part of their project work and other academic activities. Industrial visits are arranged for the students for practical exposure. Workshops on entrepreneurship development are organized to enhance the interests of students to start their own business/industry. Both UG and PG students are encouraged to attend National & State level competitions and conferences.

6. Governance and Leadership

The vision and mission statements and objectives of the college give a long term perspective to its constituents and are pursued with social commitment zeal. The Management, under the leadership of Chairman (FBOES) and Principal, has evolved and integrated the quality policy for quality assurance, review and continuous improvement and brought FISAT to its present and highly commendable level since its inception just over a decade ago. Operational autonomy in academic and administrative affairs is provided by delegating authority to HODs of each Department. Planning, scheduling and budgeting of activities are done at the department level following a participatory decision making process. The multifaceted stakeholder feedback system and external audit are tools to facilitate the flow of information for institutional review by the Management.

7. Innovations and Best Practices

FISAT has developed an environmental policy which states its commitment to protect and sustain ecological resources and their equilibrium, particularly within the campus. Conscious efforts to inculcate a sense of responsibility towards the environment among students are taken. The environmental policy of the Institute underpins its commitment to environmental protection. The steps taken for making the FISAT campus environment friendly are: various energy conservation initiatives, maximum use of renewable energy, water harvesting, efforts for carbon neutrality, tree plantation cum gardening, waste management, minimum use of paper, plastic and litter-free campus etc. A number of innovations are implemented on the campus adding dynamism to the educational processes. FISAT has introduced many innovations in academics, student support, teaching quality assurance, personality development, institutional linkages, administration and other levels of college functioning to enable students to shape themselves in this fast changing educational scenario.

Almost all B.Tech. and M.Tech. projects, both mini and main, are being done in house. The advanced computing facility at the High Performance Computing Centre, which was developed by the Centre, is an added facility in this regard.

FISAT possesses a charming campus which spreads over an area of 42 acres of land. The Institution has a Nature Club, SWAN (Sanguine Workers and Admirers of Nature) which involves the staff and student participation in cultivation of all kinds of vegetables and habitat preservation. The Institute keeps the campus verdant with herbal plants and several crops that are tended by students, staff and workers. Minimizing the use of pesticides, focus is given to organic farming. FISAT conducts nature- related seminars to enlighten the society on effective farming, preservation and sustainability of natural resources like water. Precision farming, where thrust is given to produce maximum with minimum depletion of natural resources is practised in the Institute. FISAT has volunteered to build up a new venture- Green Farm House (FISAT Green Buds) to familiarize our students towards new trends in agriculture.

SWOC Analysis of the Institute

Strengths

- The vision, mission and objectives of FISAT are framed in clear terms.
- Committed management, faculty and staff for ensuring quality in every aspect of technical education.
- Academic programmes leading to professional degrees.
- Excellent infrastructure facilities, including classrooms, laboratories, library and other support facilities
- Very good ambience for teaching, learning, research and other curricular and extra-curricular activities
- Policies, systems and procedures in place for all the activities in the Institution.
- Academic collaborations with reputed Universities and NGOs at national and regional levels.
- Senior academicians serving as HODs and Directors of Academic departments and Centers
- Several internal quality assurance procedures unique to FISAT have been implemented for continuous improvement
- Curricular, co-curricular and extra-curricular programmes aimed at holistic development of students.
- Institutional commitment to develop avenues and networks for community oriented activities.

- Financial support given to economically weak students.
- Conducive physical learning environment with state of the art infrastructure.
- Mostly residential academic programmes; Majority of students staying in hostels.
- Young faculty profile (30 - 40 years in age)
- Well-equipped hostels managed by experienced hands.
- Eco – friendly campus and environment friendly policies in place.
- Special efforts made to impart value education.
- Presence of multi-skilled and multi-talented students on campus.
- Skill development trainings in communication, analytics, programming etc.
- Qualified, experienced, motivated and dedicated team of faculty members with a balanced blend of teaching and research interests, and diversity in terms of experience (teaching, research, administration and industry)
- Attractive pay structure enhances the chances and competitiveness in hiring new faculty, in a market scenario where there are a limited number of highly qualified, experienced and research oriented teachers.
- Generous policy of sponsoring faculty members for international and national seminars, conferences and workshops in premier institutions, to expose them to latest technological & research developments.
- High employee retention ratio by way of an effective employer-employee communication path, transparent management, scheduling of staff meetings, inviting constructive feedback and encouraging / complimenting staff members for their achievements.
- Excellent ambience that encourages creativity and participation in a variety of social, co-curricular and extra-curricular activities, thereby nurturing talent in a disciplined atmosphere.
- Transparent admission process.
- Strong demand for admission to various programmes.

Weaknesses

- The affiliated system which limits academic freedom of the Institution.
- Absence of family accommodation facility for staff on the campus.
- Absence of school and other facilities for the children of staff.

- Remoteness of the College from cities and facilities such as airport and railway connection.

Opportunities

- Pro-active management, committed faculty/staff and good quality students
- High rating of the college among engineering colleges in Kerala
- Well-positioned alumni across the globe who carry their alma- mater in their hearts.
- Pleasant climate and exotic scenic beauty.
- Opportunities for the College to design unconventional add-on courses and training programmes.
- Goodwill among industries, organizations and among local communities.
- The newly approved autonomy policy of the Government.
- Opportunities to attract research funding from Central and State Government agencies.

Challenges

- Continue attracting good students to the Institute in spite of the presence of a large number of engineering colleges in the State.
- Maintain the present high ranking among engineering colleges and to scale greater heights.
- Attract and retain expert faculty at all levels.
- Make a mark at the national level in the realm of research with high impact publications, patents and technology transfers
- Media and peer-group influence negatively affecting the academic orientation of students.
- Lack of autonomy inhibiting implementation of innovative academic programmes and administrative practices.
- Maintain excellence in engineering education inspite of its remote geographic location

PART C

PROFILE OF THE INSTITUTION

PROFILE OF THE COLLEGE

1. Name and Address of the College:

Name:	Federal Institute of Science & Technology (FISAT)		
Address:	Hormis Nagar, Mookkannoor P.O., Angamaly		
City:	Ernakulam	Pin: 683577	State: Kerala
Website:	www.fisat.ac.in		

2. For Communication:

Designation	Name	Telephone No. with STD code	Mobile	Fax	Email
Principal	Dr. George Issac	O: 0484-2725202 R: 0485-2824321	9495046290	0484-2725250	mail@fisat.ac.in
Steering Committee Co-ordinator	Dr. Sunny Kuriakose A	O: 0484-2725001 R: 0484-2595820	9495677688	0484-2725250	asunnyk@gmail.com

3. Status of the Institution:

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

4. Type of Institution:

a. By Gender

For Men	-
For Women	-
Co-education	✓

b. By Shift

Regular	✓
Day	
Evening	

5. Is it a recognized minority Institution?

Yes	
No	✓

If yes, specify the minority status (Religious/Linguistic/Any other) and provide documentary evidence -

NA

6. Source of funding

Government	
Grant-in-aid	
Self-financed	✓
Any other	

7. a. Date of Establishment of the College: 27. 05. 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
- (ii) A.P.J. Abdul Kalam Technological University.

c. Details of UGC recognition:

Under Section	Date, Month & Year (dd-mm-yyyy)	Remarks (If any)
2 (f)	--	--
12 (B)	--	--

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/ Programme	Day, Month and Year (dd-mm-yyyy)	Validity	Remarks
i.	F.NO. South-West/1 2456028850/2015/EOA/ Corrigendum - 1	23.06.2015	2015-16	

(Enclose the recognition/approval letter)

8. Does the affiliating University Act provide for conferment of autonomy (as Recognized by the UGC), to 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

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

b. for its performance by any other governmental agency?

Yes No

If yes, Name of the agency... and Date of recognition ... (dd/mm/yyyy)

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

Location *	Rural
Campus area in sq. mts.	101789.16. (25.153 acre)
Built up area in sq. mts.	51437.05 (5,53,462.658 sq.ft)

(* 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	Nil
* Gymnasium	✓

- **Hostel**

- * **Boys' Hostel**

i.	Number of Hostels-	2
ii.	Number of inmates -	552
iii.	Facilities (Mention Available facilities)-	Mess hall, Reading room, Wi-Fi facility, Recreation room with audio visual facilities(84 rooms, Area – 2086.5 Sq. m)

- * **Girls' Hostel**

i.	Number of Hostels-	02
ii.	Number of inmates -	540

iii.	Facilities (Mention Available facilities)-	Mess hall, Reading room, Wi-Fi facility, Recreation room with audio visual facilities(148 rooms, Area – 3572 Sq. M)
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*** Working Women’s Hostel- Nil**

i. Number of inmates

ii. Facilities (Mention Availablefacilities)

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

- ✦ **Principal’s Residence** - 1
- ✦ **PRO’s Quarters** - 1
- ✦ **For non-teaching staff** -Nil

- **Cafeteria** - 1
- **Health Centre** -1

First aid	✓
Inpatient	Nil
Outpatient	✓
Emergency care facility	✓
Ambulance	✓

• Health Centre Staff

Qualified doctor 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 managing constant supply and voltage of electricityand voltage-**
- **Solid waste management facility-**

- Waste water management -

- Water harvesting -

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

Sl. No.	Program Level	Name of the Programme/ Course	Duration	Entry Qualification	Medium of Instruction	Sanctioned/ Approved Student Places	No. of Students Admitted
1.	Under-Graduate	B.Tech	4 yrs.	Plus Two	English	620	620
2.	Post-Graduate	M.Tech	2 yrs	B Tech (50%) Graduation (50%) Graduation (50%)	English	138	83
		MCA	3 yrs		English	120	105
		MCA (Lateral Entry)	2 yrs		English	120	120
		MBA	2yrs				
3.	Integrated Programs PG Ph.D	Nil	Nil	Nil	Nil	Nil	Nil
4.	M.Phil	Nil	Nil	Nil	Nil	Nil	Nil
5.	Ph.D	Nil	Nil	Nil	Nil	Nil	Nil
6.	Certificate Courses	Nil	Nil	Nil	Nil	Nil	Nil
7.	UG Diploma	Nil	Nil	Nil	Nil	Nil	Nil
8.	PG Diploma	Nil	Nil	Nil	Nil	Nil	Nil
9.	Any other (Specify and provide details)	Nil	Nil	Nil	Nil	Nil	Nil

Table C1 - Programmes offered

13. Does the College offer self-financed Programmes?

Yes

No

If yes, how many?

14. New programmes introduced in the College during the last five years if

Yes	<input checked="" type="checkbox"/>	7 Numbers
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15. List of 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, also do not list the departments offering common compulsory subjects for all the programmes like English, regional languages etc.)

Particulars	UG	PG	Research
Science	Nil	Nil	Nil
Arts	Nil	Nil	Nil
Commerce	Nil	Nil	Nil
Any Other not covered above	6	9	Nil

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

a.	Annual system	-
b.	Semester system	15
c.	Trimester system	-

17. Number of Programmes with

a.	Choice based credit system	-
b.	Inter/multidisciplinary approach	-
c.	Any other (specify and provide details)	15

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

Yes

No

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

Yes

No

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

As per RCI Norms:

Positions	Teaching Faculty						Non-Teaching Staff		Technical Staff	
	Professor		Associate Professor		Assistant Professor		* M	* F	* M	* F
	*M	*F	* M	* F	*M	* F	* M	* F	* M	* F
Sanctioned by the UGC/University/State Government (RCI Requirements) <i>Recruited</i>	NA						NA		NA	
<i>Yet to recruit</i>	NA						NA		NA	

Sanctioned by the Management/Society or other authorized bodies <i>Recruited</i>	9	4	5	2	68	116	36	20	38	19
<i>Yet to recruit</i>	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

* M-Male *F-Female

Table C2 - Faculty strength

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.	-	-	-	-	-	-	0
Ph.D.	8	4	5	2	3	1	23
M. Phil.	-	-	-	-	2	6	8
PG	1	-	-	-	63	109	173
Temporary teachers							
Ph.D.	-	-	-	-	-	-	-
M. Phil.	-	-	-	-	-	-	-
PG	-	-	-	-	2	12	14
Part-time teachers							
Ph.D.	-	-	-	-	-	-	-
M. Phil.	-	-	-	-	-	-	-
PG	-	-	-	-	-	-	-

Table C3 - Faculty qualifications

22. Number of Visiting Faculty / Guest Faculty engaged with the College: 13

23. Furnish the number of the students admitted to the Institute during the last four Academic years.

Categories	Year 1 (2015-16)		Year 2 (2014-15)		Year 3 (2013-14)		Year 4 (2012-13)	
	Male	Female	Male	Female	Male	Female	Male	Female
SC	9	5	10	12	12	11	13	6
ST	-	-	-	-	-	1	1	1
OBC	186	146	214	158	136	114	143	151
General	325	217	258	267	299	303	233	256
Others	-	-	-	-	-	-	-	-

Table C4 – Profile of the students admitted

24. Details on students enrolment in the College during the current academic year:

Type of students	UG	PG	M. Phil.	Ph.D.	Total
Students from the same state where the College is located	531	308	-	-	-
Students from other states of India	-	-	-	-	-
NRI Students	89	-	-	-	-
Foreign students	-	-	-	-	-
Total	620	308	-	-	-

Table C5 – Details of Student Enrolement

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

UG	05
PG	-

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.95880.85
b)	Excluding the salary component	Rs. 49496.47

27. Does the College offer Distance Education Programme (DEP)

Yes No

If yes,

a) Is it a registered center for offering distance education programmes of another University?

b) Name of the University which has granted such registration.

c) Number of programmes offered

d) Programmes carry the recognition of the Distance Education Council.

Yes No

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

B.Tech., MCA, MBA - 1: 15
M. Tech. - 1: 12

29. Is the College applying for

Accreditation: Cycle 1	Yes
Cycle 2	-
Cycle 3	-
Cycle 4	-
Re-Assessment:	-

(Cycle 1 refers to first accreditation and Cycle 2, Cycle 3 and Cycle 4 refers to re-accreditation)

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

NA

* Kindly enclose copy of accreditation certificate(s) and peer team report(s) as an annexure.

31. Number of working days during the last academic year 283

32. Number of teaching days during the last academic year 223

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

33. Date of establishment of

Internal Quality Assurance Cell (IQAC)

28 - 07 - 2015

34. Details on submission of Annual Quality Assurance Reports (AQAR) to NAAC

NA

35. Any other relevant data (not covered above) the College would like to include. (Do not include explanatory/descriptive information)

No

* * * * *

Part D

CRITERIONWISE INPUTS

CRITERION 1: 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.

The Federal Institute of Science and Technology (FISAT) has the motto '*Focus on Excellence*'. The coat of arms bearing a wheel with a folded white ribbon at its base, has in its center, the symbol of education; an open book with white pages, waiting to be written on and guided by a lighted candle having a halo spreading wisdom and enlightening the mind with its light.

Vision

To become a world class professional institute with focus on excellence, shaping committed global professionals and technocrats who can meet the demands of business, industry and research.

Mission

FISAT strives to transform itself into an advanced center of technical education, which will, in turn, bring out professionals with superior skill and social commitment. It is the earnest endeavor of the institution to provide state of the art facilities to mould brilliant young talents, enabling them to take up challenging assignments in the highly competitive global scenario.

Goals and Objectives

FISAT has the following goals and objectives to realize the vision.

- To establish a system of quality assurance on a continuous basis
- To enhance the employability of students.
- To encourage industry - institute interactions and to nurture entrepreneurial skills in the graduates
- To promote research, consultancy and extension
- To transform young talents into competent and socially committed professionals with global vision

The communication of these fine ideals are done through the following means:

- (i) Vision, mission and quality objectives of FISAT are explained at the induction meeting itself which is conducted every year before the commencement of classes and attended by newly admitted students, their parents and the PTA Executive members.
- (ii) College prospectus, calendar and handbook contain the vision, mission and quality objectives for easy perusal and for general awareness.
- (iii) The vision, mission and quality objectives appear on the front page of the college website for easy access to all the stake holders.

- (iv) College Magazine, Department and College Newsletters contain the vision, mission and objectives of FISAT.
- (v) Posters containing vision, mission and objectives are placed at strategic locations such as reception parlour, library, conference halls, canteen and common rooms
- (vi) Posters containing vision and mission statements are displayed inside staff rooms.
- (vii) Every course file used by the teaching staff contains a copy of the vision and mission of the college.
- (viii) Department level vision and mission statements framed at the Department Advisory Committee meetings are in accordance with the vision and mission statements of the College.
- (ix) Framed posters containing vision, mission and objective statements are displayed inside the Principal's room.
- (x) Vision mission and objective statements are also displayed at prominent and strategic locations on every floor of the college building.

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 examples(s).

FISAT has comprehensive action plans for the effective implementation of the curriculum.

- (i) Meticulous planning is done at department and college level meetings at the beginning of every academic year.
- (ii) Detailed course plan as envisaged in the University syllabus and curriculum, is prepared and also the details of other events planned for the year are incorporated in the College Handbook which is distributed to all students and staff.
- (iii) A copy of time table is provided to note the hours allotted for each subject.
- (iv) Each student is provided with a copy of the curriculum.
- (v) '*DSpace Repository*' is an intranet facility provided by the college in which question bank (previous years' university question papers), project reports, copies of faculty publications etc. could be accessed by the students and staff.
- (vi) The progress of syllabus coverage and performance of students in class/university examinations are regularly monitored by the Academic Progress Monitoring Cell and the HODs.
- (vii) Attendance of students are monitored by the HOD and the Principal.
- (viii) In addition to the curriculum, students are exposed to the latest developments in their respective fields by arranging guest lectures by industry experts, industrial and field visits, industrial training etc.,

- (ix) Class Committee meetings are conducted by the Head of the Department to review the teaching learning process, academic progress of the students and grievances, if any, and suitable remedial measures are taken whenever necessary.
- (x) Faculty Group adviser system where a batch of 20 students is assigned to each teacher to have one to one interaction and counselling, is followed.
- (xi) Remedial classes are arranged for the slow learners and poor performers.
- (xii) Open House programmes are conducted to interact with the parents and their wards after the first internal examinations.

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?

The College follows the syllabi and curriculum prescribed by the affiliating universities - Mahatma Gandhi University, Kottayam and APJ Abdul Kalam Technological University (The 2015 batch of students are admitted and affiliated to APJ Abdul Kalam Technological University). The syllabi and curriculum are well transacted to students after necessary preparations ensured in the audit.

- (i) The faculty members are encouraged to keep abreast of the latest developments of their respective area of teaching.
- (ii) Various FDPs (Faculty Development Programmes) are conducted in the college in collaboration with IIT Mumbai and IIT Kharagpur (*Ekalavya* Programme). The faculty members are also encouraged to attend seminars / workshops / refresher courses or orientation programmes offered by reputed institutions.
- (iii) More than 5,000 e-journals and 247 research journals are subscribed by the college for the effective use of the faculty members and students.
- (iv) The *Digital Library*, a collection of online resources consisting of teaching materials like NPTEL lecture notes, video lectures, previous years' question papers etc. are available for faculty reference.
- (v) The College Management extends all possible support in terms of providing state-of-the-art facilities for the effective delivery of courses.
- (vi) The Management encourages the staff to pursue higher studies including research. Apart from depositions and study leaves, financial incentives (Rs. 5000/- per month) are given to eligible Assistant Professors who achieve higher qualifications (Ph. D.).
- (vii) Faculty members are encouraged to apply for projects and research grants to different funding agencies such as AICTE, DST, UGC etc. to enhance competence and to improve promotional avenues to the staff.
- (viii) In order to meet the present need of getting first-hand experience of industry, Institute Industry Partnership (IIP) is made under the supervision of teachers.

- (ix) Financial incentives are given to faculty for presenting papers in conferences and publishing research papers in journals.
- (x) The College gives great importance for social activities and community service. In connection with the Decennial celebrations, TEN houses were constructed with the engineering expertise of the students and staff, for the under privileged staying around.
- (xi) The Management is committed to building a science park in which many of the engineering theories and principles would be translated into working models, thereby helping the staff and students kindle engineering skills and aptitude.
- (xii) Orientation and training programs are conducted for the newly joined faculty members
- (xiii) Training programmes are given to non-teaching staff.
- (xiv) Transportation facility is extended to faculty members at a subsidized rate. The Institution supports various welfare schemes for staff.
- (xv) There are several welfare schemes offered including providing residential colony in the proximity of the college.

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

The first year students (2015 batch) are admitted to APJ Abdul Kalam Technological University and the rest of the batches are affiliated to Mahatma Gandhi University, Kottayam. The curriculum delivery and transaction on the curriculum are done accordingly. The following are the initiatives taken by the institution in this regard.

- (i) Transparent and merit based appointment method is strictly followed in FISAT, thereby ensuring the quality of teachers. Necessary orientation and training are given to the newly appointed teachers.
- (ii) Faculty members are continuously groomed through various Faculty Development Programmes (FDPs) and workshops. This type of FDPs/workshops help the faculty to get acquainted with the latest developments in their fields and the best practices in the teaching learning process in institutes of national repute. They attend the training programmes offered by APJ Abdul Kalam Technological University. The expenses incurred by the faculty members for attending these types of programmes are fully or partly met by the institution.
- (iii) Detailed course schedules and course material are prepared by the faculty before the commencement of every semester.
- (iv) State-of-the-art infrastructure facilities are provided in the institution for effective delivery of the courses.

- (v) Meticulous planning is done before the commencement of classes and calendar of academic and extra/co-curricular activities is prepared and published.
- (vi) Course files are maintained by each department. The course file contains
 - a) course work record
 - b) course plan
 - c) lesson plan
 - d) semester plan.
 - e) result analysis of internal examinations and university examinations and details of remedial classes.
- (vii) In order to review the progress of each course, class committees are formed for each class. The class committee under M.G. University consists of the HoD, a senior faculty, group advisors, a senior faculty member from another department and two student representatives for the courses.

For classes under the APJ Abdul Kalam Technological University, course committees are formed for first semester classes. The course committee meetings are held at least twice in a semester. The responsibilities of the course committee include

- a) review the progress and conduct of students in the class
- b) discuss any problems concerning any course in the semester concerned
- c) identify weaker students of the class and suggest remedial measures.
- d) review teaching effectiveness and coverage of syllabus.
- e) discuss any other grievances of students in the class.

The faculty members concerned are informed of the deficiencies in the conduct of the courses, if any, after the course committee meeting so as to improve their performance. Group advisors work closely in association with students of the course committee to ensure successful delivery of the courses.

After completing approximately 40% of the course, a feedback from the students is collected. Thirteen aspects are addressed in this questionnaire for students' evaluation about the faculty. On the basis of the feedback, the faculty members are advised to improve their performance.

- (viii) A good collection of books is available in the main library. Every year latest books related to the curriculum are procured. The expenses on the purchase of books are included in the annual budget of the college. A good number of research journals in various subjects are also

subscribed in the college library. The collection of e-journals subscribed include IEEE (ASPP), ASCE, ASME, McGraw Hill-Access Engineering, Springer Link, J-Gate (JET & JSMS), ASTM Digital Library, Proquest, Elsevier, Science-Direct and India Business Insight. DSpace` digital library helps the users to access the digital archive of the library. An international inter-library loan facility is available through DELNET. Digital library can be accessed from all systems connected to FISAT intranet through the site *library.fisat.edu*.

- (ix) Industrial visits promoted by the college provide ample opportunities to learn things practically in a real-time functional environment through interaction, witnessing the working methods and clarifying doubts with experienced workers. Other than industrial training, one or two-day industrial visits and site visits are also arranged for students. This also provides the students a practical perspective on the world of work.
- (x) Invited talks are also arranged on frontier areas to provide opportunity for the students to interact with eminent professors from institutes of national repute, practicing engineers and successful entrepreneurs.
- (xi) Technical fests are also conducted in the college by different departments. The technical fests comprise of competitions, lectures, workshops and exhibitions related to different courses in the curriculum. Students across the state and outside states are participate in these technical fests. It gives students an opportunity to bench mark the technical skills they have acquired against their peer groups. These tech fests promote innovative ideas and allow students to share their knowledge and ideas with other students. Participating in these fests also gives information on the different fields of study.
- (xii) The institute provides ample supply of devices and facilities like class room projectors, laptops to staff members for the most efficient academic curriculum delivery.

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

Industry

- The institution is committed to keeping good interaction with many industries enabling the students to update themselves with the industry processes and realization of the curriculum. The college has signed MOU with five companies / industries. (BSNL, KELTRON, ICT Academy, Reubro International, IBM SAP). The Institute Industry Partnership (IIP) Cell monitors such activities.
- FISAT conducts surveys among the employers of the alumni. These surveys help the departments to groom the students in accordance with the needs of the industry.
- Class-wise industrial visits are arranged on regular basis.

- Experts from industry are included in the Department Advisory Committee for experts suggestions on the curriculum implementation

Research Bodies

- FISAT has developed a super computer, which helps the institute in carrying out research in all fields of Engineering. Research scholars and students from other institutes and universities also utilize this facility for doing their projects.
- Four teachers are approved research guides of different universities and supervise scholars. The College offers all possible encouragements to them.
- The College Research Cell conducts seminars on recent trends so as to kindle the research interest of the students.
- Research Cells of EIE, ECE, ME, CE, MBA also promote research activities.
- The Institute encourages faculty and students to take up projects sponsored by government funding agencies and pursue research. Many of the faculty members are doing part-time research in different universities/NITs.
- Most of the faculty members are members of the professional bodies like IEEE, ISA, ACM, IETE, CSI, ISTE and attend conferences, which in turn help them in effective operationalization of the curriculum.

University

- Faculty members regularly keep in touch with their counter parts at different colleges in the affiliating universities and keep themselves updated with the latest information regarding their respective subjects.

1.1.6 Institutional Contribution to the Development of Curriculum by the University

The syllabi and curriculum are framed by the University in consultation with the faculty and experts. Formal and informal recommendations are given by the FISAT faculty in the curriculum development of various programmes. The faculty of ECE, ME, CE, CSE and EEE departments have been participating and contributing to the curriculum and syllabus development for P.G. programmes under APJ Abdul Kalam Technological University. The faculty members identify significant topics from various resources including people from industry, and contribute to the syllabus restructuring process.

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.

The Department of Computer Applications has designed an add-on programme on ‘Foundations on Computing’. This 50 hour programme consists of both theory and practical sessions with continuous evaluation process.

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

The curriculum objectives are manifested mainly in the following aspects:

a) Course outcome:

The curriculum designed for each course of a programme is in such a way that after taking the course, students achieve the set outcomes. Unlike in the past, each course is taught in the outcome based educational perspective. The course outcome is evaluated and if there is any gap found, then necessary measures are taken to fill the gap.

b) Programme objectives:

In the process of curriculum design and development of each programme, its objectives are clearly pronounced. Outcomes are decided keeping in mind the wholesome education. The success of the achievement of these objectives is measured using different feedback mechanisms like student feedback, employer feedback, alumni feedback and examination results.

c) Programme educational objectives:

How the graduates perform in their professional and personal life after the successful completion of each programme, is identified in the programme educational objectives. Even though the achievement of this outcome cannot be fully quantified, indirect method of evaluation is done through alumni feedback and employer feedback. Necessary caution is taken to ensure that every student who graduates from FISAT is moulded a value embedded, morally upright, socially oriented and responsible citizen.

1.2 Academic Flexibility

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

The goals and objectives of FISAT are framed in accordance with its mission and vision. In order to achieve the goals and objectives, several skill development programmes are conducted besides, the formal certificate and diploma courses offered by departments.

- Regular training programmes on placement are conducted by experts from outside under the aegis of the Placement Cell for developing the various skills in students and enhancing the employability of students.
- The department of Computer Science and Engineering conducted a workshop on *R-programming* and trained the students to take part in the collaborative project work with Reubro International, a member partner software company promoting the industry institute partnership.
- Students are given classes on entrepreneurial challenges and tasks.
- Consistent and continuous attention is given in the conduct of every programme. Periodical review of all the activities is done.

- The College Research Cell is committed to promoting research activities in the Institute. The Super Computer in the Centre for High Performance Computing (CHPC) is an added facility fostering research. The following are the ongoing research projects undertaken by CHPC Centre.
 - ❖ Large Scale Visual Recognition - [aimed at developing a system that can identify 1000 different categories of objects from 2 million objects, using Deep Learning techniques in Artificial Intelligence]
 - ❖ Visual Simultaneous Localization and Mapping (VSLAM) [To develop a method to solve Simultaneous Localization and Mapping (SLAM), a new generation autonomous vehicle fusion techniques]
 - ❖ Deep Chess [To develop a chess game logic that utilizes deep reinforcement learning method to win the game against human opponent]
 - ❖ The Fluid Interface for Multi-floor Building Navigation
 - ❖ Centralized authentication and host control interface
 - ❖ KOHA implementation
 - ❖ Deep Driving (in collaboration with Industry Institute Partnership Cell)
 - ❖ Speech to Text Synthesis System (in collaboration with Industry Institute Partnership Cell)
 - ❖ University VPN Extension (in collaboration with Industry Institute Partnership Cell)
 - ❖ Development of Security extension and protocols for cloud computing and wireless communication. (in collaboration with Industry Institute Partnership Cell)

The following are other research centres in FISAT.

- Instrumentation Research and Consultancy Centre (IRACC)
- Centre for Research and Innovations in Signal Processing (CRISP)
- Centre for Advanced Research in Power Converters (CARPC)
- Centre for Earthquake Engineering Studies (CEES)
- Centre for Automotive Research (CAR)
- Centre for Entrepreneurial Development and Small Enterprises Management (CEDEM)
- Centre for Local Government and Resource Management (CLGRM)
- Project, Research and Consultancy House (PREACH)

To transform young talents into competent and socially committed professionals with global vision, workshops on specific software and skill development in specific technologies are conducted throughout the year in different departments

- ◆ Student Chapters of different professional bodies like the IEEE, ISA, ISTE and the ASME (American Society for Mechanical Engineers) are used as a means of promoting such activities.
- ◆ Societal sensitivity of students is developed by taking part in socially relevant activities like blood donation and organ donation drives, visits to orphanages and care homes, and activities involving the municipality and local governance under the leadership of NSS and SCOPE units of the college.

The following are the list of the certificate, diploma and skill development courses

Carried out by different departments:

- (i) A three-day workshop on CAM Software by EDS technologies during February 17-19, 2014.
- (ii) 'Pravega' workshop on practical aspects of car mechanics by IISc, Bangalore.
- (iii) NPTEL – National Program for Technology Enhanced Learning-supported by IISc, and IITs given across the second third and fifth semesters depending on student need and decision to enrol.
- (iv) *Ekalavya* program done with the support of IIT Mumbai for the entire college, but applicable to individual department- specific subjects and Research.
- (v) Android certificate from CCE (Centre for Continuing Education).
- (vi) Workshops were conducted in collaboration with Amrita Viswavidyapeetam Ettimadai, Coimbatore by various departments.
- (vii) Bentley certified course was conducted by Bentley Institution that offers certificate programmes on specific software like STAD and Primavera. This has helped students to deal with complex design of problems.
- (viii) FGPA- Field program for electronics hardware is a program organized by the Electrical and Electronics Engineering department to introduce technologies beyond syllabus topics. LaTeX, Arduino based Yobotic
- (ix) Experts from IITs and IISc have delivered talks in a one-day programme on advanced topics to understand how research culture is obtained and how the industrial sectors work.
- (x) EXCEL classes for a period of one semester were carried out during the first semester of MBA students.

1.2.2 Does the institution offer programmes that facilitate twinning/dual degree?

No, the institute does not offer dual degrees or twinning program with other universities.

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 skill development, academic mobility, progression to higher studies and improved potential for employability.

There are six B. Tech. programmes, six M. Tech. programmes, two MCA programmes and one MBA programme offered in FISAT. The College follows the syllabus and curriculum prescribed by the affiliating universities. From 2015, B. Tech. and M. Tech. programmes are affiliated to APJ Abdul Kalam Technological University and all the other programmes are affiliated to the Mahatma Gandhi University, Kottayam. However, the following enrichment programmes are conducted.

- (i) Enrichment programmes are taken up in several departments. Topics prescribed in the University are not included in the enrichment programmes. Latest technologies, new trends in industry etc., are discussed in these programmes.
- (ii) Computer Science department offers evening classes in latest software for a period of ten days, and it is engaged by faculty and students who are experts in specific topics.
- (iii) An EXCEL course with hands on laboratory training is offered to the first semester students of MBA, awarding certificate on successful completion of the programme.
- (iv) Faculty members present topics to students on specific software design or chip design areas. This is done to add to the university syllabi on the topic. A syllabus of 10-30 hours is prepared and delivered by faculty as evening classes.
- (v) In 2013, a tie up was formed with BSNL to get inputs on how the public sector operates in the engineering sector industries. This was done in the Computer Science department.
- (vi) International and National level conferences are conducted yearly by various departments with government funding from the CSIR and DST in some cases.
- (vii) The Centre for High Performance Computing is a research centre that houses a supercomputer. 10 students are selected from each semester, based on a written test on programming to carry out projects of social and general importance. The Judo Scoring System, which was an innovative contribution of this cell was promoted at the National Games held at Trivandrum. The Cell successfully developed a Traffic Signalling System in 2015.

- (viii) Clubs have been formed for specific interest areas like public speaking and debating, web design development, Mozilla club etc. These clubs are instrumental in holding workshops and organising events for students and in raising public awareness about specific events or persons of relevance in specific areas or topics. A case in point is the visit of Open Source guru Richard Stallman to the campus in 2012 to promote the use of free software. Students have been able to win state level, and national level competitions because of the specific inputs they received from these clubs and speakers.

1.2.4 Does the institution offer self - financed programs?

Yes. As the College is not an aided institution, all the programmes offered are in self-financing mode. However, the Management provides a good number of students with fee waiver and scholarships; and collects only the fees fixed by the government from time to time. There is no capitation fee or any form of deposits.

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

The Institute undertakes enrichment programmes to improve employability. This includes:

- (i) The Placement Cell of FISAT offers training through professional institutions and trainers who have been very successful in building up the competency of students. Training is offered in the 4th, 6th and 8th semesters for a twelve day period. A total of hundred hours of training is offered on a staggered basis that is more effective than a single effort in one semester.
- (ii) Training is also given to MBA students during the third and fourth semesters in the form of classes, interactive sessions and etiquette classes. This is in addition to the corporate interactions with business persons, middle managers, trainers, motivational speakers, subject experts and classroom case discussions.
- (iii) Many departments give CAD centre training for students. A training programme on ABACUS is delivered by EDS Technologies Bangalore, for teaching and training of M.Tech. students. This is done over a period of five days.
- (iv) An annual HR conclave which brings in HR managers from multinational companies across India, for panel discussions and student interactions is carried out on an annual basis for management students, so that students understand the pulse of the job market.
- (v) The MCA department conducts organisational training with the institutional support, for a period of 30 days in companies like TCS, Robert Bosch etc for software development besides the standard training of six months as

part of university curriculum. The department has also been successful in developing software for the college needs like inventory management and placement management.

- (vi) Most of the departments send students for industrial visits both within and outside the states where they are able to see the operations in companies and clarify their doubts. For the B.Tech. programmes, ten days of field training in any organisations is given where they take part in operations and learn on-the-job.

1.2.6 Does the university provide for the flexibility of combining the conventional face to face and distant mode of education for students to choose courses or combination of their choice?

Such a provision does not exist in the conventional Engineering and post graduate programmes of the affiliating Universities.

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 institutions goals and objectives are integrated.

The university curriculum is tailored to meet the needs of the academic and professional growth of students. However, in addition to the university curriculum, the institute takes various steps to mould the students and for their holistic development so as to let them become successful in the ever challenging world, as envisaged in the goals and objectives of the institute.

Thrust on curriculum enrichment in FISAT is multilayered, addressing the curricular, co-curricular and extra-curricular development. Students are motivated to emerge as socially committed and competent citizens, with right values and moral uprightness.

a) Curricular aspects

- The syllabi and curricula prescribed by the university are strictly followed in FISAT. Subjects are allotted to the faculty, based on their specialization, by the respective heads of the departments well in advance, as per the university scheme. Predefined college calendar and academic calendar, specifying expected monthly teaching days and dates of internal examinations, are given to the faculty and students. Time table is prepared as per the university norms and published in advance. Department meetings are conducted by the Heads of Departments on a monthly basis to discuss the progress of the topics in various subjects handled by the faculty and other activities of the department. Each member of the faculty maintains lesson plans and course files which are reviewed by the respective HODs, the Principal and Academic auditors.
- Class/course committee, consisting of the Head of department, Group Advisors and two student representatives, meet twice a semester to

discuss grievances of students and progress of classes. After each internal examination, result analysis is done in department meetings.

- The Academic Performance Monitoring Committee (APMC) evaluates the performance of students in the internal series tests and remedial measures are suggested to improve the results of the poor performers.
- Open House programme, with a one to one interaction with the parents of the students, is conducted every semester.
- FISAT follows a Group Advisor system where a group of 20 students is allotted to a teacher. This system facilitates a close mentoring of students.
- Besides mentoring, the services of two qualified counselors are available in the college. This helps the students to resolve many of their personal problems and to excel in their studies.
- Invited talks are regularly organized in the institute to update the faculty's and students' knowledge regarding the changing trends in Engineering and Technology.
- Student projects are geared towards addressing the socially relevant topics like environment protection, waste disposal, tapping renewable energy and the like.
- Memorandum of Understanding is signed between various industries and the institute; and the industry experience enhances the confidence level of the students to take up entrepreneurial tasks.
- Add on courses are designed in such a way that the students get value addition to the programmes and get equipped for their placements or academic progression.
- The college arranges interaction with the successful alumni who are working in reputed institutions to boost the morale of the students.
- Extra classes are carried out to fill the gaps in the curriculum proposed by the Universities.

b) Co-curricular, Extra-curricular aspects

Much importance is given to co-curricular and extra-curricular activities in the goals and objectives of the Institution.

- Various students' organizations – National Service Scheme (NSS), Society for Communication and Overall Personal Enhancement (SCOPE), FISAT Outreach Centre for Uplifting Science in Society (FOCUSS), Sanguine Workers and Admirers of Nature (SWAN), Rolling Stone - are functioning in the college for creating awareness on social service, environmental protection, ethical values, duties and responsibilities, engineering ethics etc.
- Value education classes are conducted for the students to imbibe the time tested Indian value system.

- Various skill development and certificate courses conducted in the college help the students to improve and adapt to the present job scenario.
- Student empowerment programmes are organized in the form of seminars and observation of days like National Education Day, World Environment Day etc.
- Rolling Stone (Literary association of FISAT), opens a platform for students to showcase their potential and to foster their literary debating skills.
- SWAN works for student-staff involvement in organic farming and cultivation.
- The College Students' Council is a platform for students to nurture their leadership and artistic talents. Annual arts festival *Arangu* and national level mega arts fiesta *Bharatham* (conducted once in three years) are platforms for students to nurture their innate leadership and artistic talents. Tech fests are organized at state and national levels for pooling and fermenting of ideas and knowledge as well as to augment creativity, leadership and organizational capabilities of students.
- Special placement training courses are provided to enhance the employability of students. Students are taken for on-site programs to familiarize them with industrial practices.

In order to achieve quality course delivery, the faculty members are encouraged to attend Faculty Development Programmes.

1.3.2 What are the efforts made by the institution to modify, enrich and organize the curriculum to explicitly reflect the experiences of the students and cater to needs of the dynamic employment market?

FISAT adheres to the syllabus and curriculum prescribed by the parent universities. However, the expertise and experience of the faculty are reflected in the course delivery and group advisory system. This practice helps students get moulded into better graduates. His or her value base gets enriched through realising the outcome based education system. The practical sessions included in the programme help students to get acquainted with the problems in Engineering. The institution has taken measures to cater to the needs of the global market based on the true assessment of services offered in the campus.

The faculty members discharge their duties of enriching and modifying the syllabus. This is achieved through:

- (i) Identifying and filling the gaps in the existing curriculum identified during discussions in DAC meetings and departmental meetings.
- (ii) Offering add on courses. The nature of the courses are decided by the interaction of placement and training officers with the HR managers of various companies. The students undergoing these add-on or ancillary courses definitely achieve more experience in their fields.

- (iii) Mini projects and main projects selected by the students are chosen as real time problems. Projects are guided by faculty and sometimes assisted by industries or research centres.
- (iv) Tech fests provide a unique opportunity for students to showcase their talents and creativity in technical field. Students from other colleges also participate in these types of programmes facilitating intellectual discourse.
- (v) The training and placement cell of the college regularly interacts with the HR managers of companies and collects information about the present demands and expectations of the corporates.
- (vi) FISAT conducts national / international conferences.
- (vii) Industrial visits / industrial training organized by the institute help the students to get exposure to the industry.

1.3.3 Enumerate the efforts made by the institution to integrate the cross cutting issues such as Gender, Climate change, Environmental Education, Human rights, ICT etc., the curriculum.

1. FISAT is a coeducational institution which is committed to practising gender equality. There is a Women Cell functioning in the college for empowering girls and addressing the issues related to women. The women staff members too are treated equally with male staff.
2. A stream of water flows through the middle of the college campus providing a cooling effect to the surroundings.
3. The college maintains a nearby pond owned by Mookkannoor Panchayat serving as a source of water reservoir for the public.
4. Rain water is harvested making the water table higher, thus helping the people in the close neighbourhood. There is no drinking water scarcity in the college; we have ample supply potable water from our own wells.
5. The location of the institution is privileged by the idyllic scenic and serene rural ambience. The class rooms around the two beautiful courtyards and the greenery around provide a refreshing ambience for the students.
6. The Institute is in the forefront in community service. FISAT has constructed a total of ten houses (construction cost approximately 3 lakhs per house) for the needy people around the campus, in connection with the decennial celebrations of the college. This mega project was executed with the physical involvement of students and staff spreading the message of social service and other ethical values.
7. FISAT offers financial support to the needy students and public.
8. Students of FISAT often visit old-age homes and orphanages and spend a day with them. They also visit regularly the schools where differently abled children study and interact with them.

9. Students take part in cleaning public places like Thommankuth, Wagamon etc.,
10. The Nature Club of FISAT, which was established ever since the inception of the college, gives awareness to students regarding habitat preservation, planting and maintaining nature garden. The Club frequently arranges fieldtrips; nature trekking and talks by naturalists. The Club has recently set up a herbal garden in the college campus in association with 'SREEDHAREEYAM', an ayurvedic eye hospital & research centre at Koothattukulam.
11. Vegetables are cultivated on the campus exclusively using vermi culture and without using any chemical pesticides, and are sold to students and staff at a subsidized rate.
12. There is a poly house farm with the assistance and guidance of the State Agriculture Department. There is also an aqua farm where fishes are grown and nurtured.
13. A sewage treatment plant is setup on the campus, where sewage is scientifically treated. This is a unique feature of the campus.
14. Anti- ragging cell is vibrant on the campus curtailing all forms of ragging.
15. Legal awareness classes are conducted to make students aware of their rights, duties and responsibilities.
16. A 'Day to Remember' programme provides opportunities to spend one day with differently abled and terminally ill children.
17. Invited talks on subjects like road safety, cyber laws, first aid etc., are conducted every year.
18. A bike rally is conducted with the theme of road safety.
19. The internet facility (100mbps), Wi-Fi connectivity, digital library and language lab enable students to improve their technical and communication skills.
20. Free Software is used as much as possible and ICT enabled teaching learning is promoted. Moodle, MTutor are available to students. All class rooms, seminar halls, conference room are provided with LCD projectors and there are smart class rooms.
21. The Software Cell of the Institute has the rare achievement of designing a software for third umpire in the Cricket game and accepted by the Sports Council. Smart Energy Meter in a contribution of the MCA students.

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

FISAT is committed to whole person education of students. The institute makes all efforts to mould students as socially committed, world class professionals and

technocrats to meet the demands of business, industry and research. Various activities are organized for the holistic development of students as listed below:

To the development of Moral and Ethical values

- 1) Value education classes are conducted
- 2) The NSS unit of the college organizes various programmes in the college and in the community around with the participation of the faculty members, to get a sense of involvement in the task of nation building.
- 3) Orientation programmes and Bridge courses are conducted at the beginning of every academic year by experts from outside.
- 4) College has a professional counselling centre, where practicing counsellors render service to students.
- 5) Every day classes begin with secular prayer, which is sung by students and recorded, played via the public address system.
- 6) Students are encouraged to visit orphanages, differently abled children and old - age homes along with the faculties to improve their social empathy and responsibility towards society.
- 7) Blood donation camps are conducted every year.
- 8) National education day and *Rashtriya Ekta Divas, Science Day, Independence Day, Republic Day etc.* are celebrated every year to foster commitment of students towards the nation.
- 9) Days of national importance including Engineers' day are celebrated to instill in students a sense of patriotism and respect for national leaders and eminent scientists.

To the development of life skills and employability

- (i) **Rolling Stone**, Literary Association of FISAT channelizes the literary and creative talents of students and provides them a platform to showcase their talents. A debate forum also functions in the institute. It helps the students to sharpen their critical thinking skills; to promote mental and emotional maturity; and to improve their communication skills. The student publication '*Shristi*' includes creative writings, paintings and cartoons of the students of the institution.
- (ii) **Arangu**, the college annual arts festival and **annual sports** events are conducted every year to showcase the talents of students. The winners of various events are selected for the competitions in the university and state levels.
- (iii) The students of FISAT developed a software for third umpire for JUDO competitions which was used in 35th National Games held in Kerala in 2015.
- (iv) **Forum**, an intercollegiate mega event is organized by FISAT Business School.

- (v) **Bharatham**, an inter collegiate arts fest is conducted once in a couple of years
- (vi) **Road Safety Club**, organizes road shows and rallies for promoting awareness on road safety.
- (vii) **Echo friendly campus: SWAN**, the nature club of FISAT was established to give awareness to students regarding habitat preservation, planting and maintaining nature garden. The club frequently arranges fieldtrips, trekking and talks by naturalists.
- (viii) **SCOPE (Society For Communication And Overall Personal Enhancement)**

The main objective of this association is the overall development of students. By conducting and organizing various literary and social activities, SCOPE helps in improving communicative skills and the enhancement of interpersonal relationship. SCOPE also conducts various events and competitions for school students and students in colleges elsewhere.

- (ix) **Career Development Programmes**

For the career development of students there are many cells, clubs and committees functioning in the Institute.

- (x) **Placement Cell:**

Campus placement is one of the major strengths of FISAT. The Placement and Training Cell (PTC) of FISAT is a team of staff members and nominated student coordinators from the final and pre-final year. This team is responsible for all the placement related activities of FISAT. Team PTC has commendable achievements in the past years. More than 90% of the eligible students are placed in multinational companies including Microsoft, IBM, Accenture, Tataelxi, Mphasis, Syntel, Infosys, Wipro, TCS, CTS, IBS, Subex, US Technology etc. In addition to organizing campus placement programmes for companies, the PTC also conducts personality development programmes for students in the second and pre-final years and prepares them for attending campus recruitments. Students are also given regular training in aptitude building, communication skills, group discussions, logical reasoning, quantitative aptitude etc.

Centre for High Performance Computing (CHPC):

The Centre for High Performance Computing (CHPC), an autonomous research centre under the Department of Computer Science, FISAT, focuses on research and consultancy work in cluster computing using free and open source software technologies. Through the indigenously built high performance computer - *Dhakshina*, which is created exclusively by the staff and students of FISAT, the Centre provides a much sought after computing resource to the student community in FISAT and elsewhere. The Centre provides facilities for doing B.Tech., M.Tech. and Ph.D. projects for

students of FISAT and other institutions. The Centre is in the process of collaborating with software industry promoting industry institute partnership.

FFSC-The FISAT Free Software Cell (FFSC):

The Cell was established in 2006 and promotes the development and use of free software, particularly the GNU operating system, used widely in its GNU/Linux variant. At present the cell extends its help on technical basis by doing need based projects for the visually challenged people. FFSC conducts classes in the Linux Operating System, Kernel Programming and Web Application Development. *The visit and lecture by the Free Software founder Richard Mathias Stallman was an event of prime importance for the Cell.*

The Central Computing Facility (CCF):

FISAT commissioned the new Central Computing facility in May 2009. The CCF has five labs and has a total of 250 computers all with Intel Core i3/Core i5 2033MHz/4GB RAM/ 18.5" TFT Monitor and Debian 7.0 GNU/Linux and Windows 7 Professional as Operating Systems. Intranet facility and cloud computing network also are available.

Instrumentation Research and Consultancy Centre (IRACC):

Realizing the growing importance of automation in process industries, IRACC was established under the Electronics and Instrumentation department for promoting research in process instrumentation. The Centre has facilities to simulate Process Plants, Distributed Computer Control Systems and implement control techniques. Facilities for doing projects are extended for the students in FISAT and other institutions.

Centre for Research and Innovations in Signal Processing (CRISP):

Signal processing techniques have come to occupy central place of importance in engineering and technology employing complex signal processing operations. This indicates the opportunities available for research in signal processing. The Centre has TMS kits, signal processing stations etc. and aims to become a research centre in signal processing with emphasis on digital signal processing.

Centre for Automotive Research (CAR):

The Centre provides ample opportunities for students to participate in various research achievements.

Centre for Continuing Education (CCE):

The Centre is five star rated by IIT Mumbai, organizes various short term training programmes for faculty, conducts curriculum development workshops, develops WEB based course materials, conducts Ekalavya programme of IIT Mumbai and IIT Kharagpur sponsored by NMEICT.

Centre for Entrepreneurial Development and Small Enterprises Management (CEDEM) – Research Centre of MBA

Centre for Local Government and Resource Management (CLGRM) – Research Centre of MBA

Project, Research and Consultancy House (PREACH) -Research Centre of MBA

Language lab

The Language Lab provides opportunities for students to enhance their skills in communication which is a prerequisite to spark their personality and get placement in reputed firms. We have a wellorganized language lab where students are trained on a regular basis.

Student chapters of professional bodies

Student chapters of various professional bodies provide for students, collaboration, knowledge sharing, career enrichment, and skill development across all engineering disciplines. Following are the various student chapters functioning in the college.

- (a) American Society of Mechanical Engineers (ASME)
- (b) Institute of Electrical and Electronics Engineers (IEEE)
- (c) Indian Concrete Institute.(ICI)
- (d) Instrumentation System Automation (ISA)
- (e) Indian Society for Technical Education (ISTE)

Department Associations:

Each department has association which aims at nurturing and developing the talents of youngmen and women in FISAT. These associations of various departments are listed below.

- (i) ACE (Departmet of Civil Engineering)
- (ii) SAME (Departmet of Electronics and Instrumentation Engineering)
- (iii) ELECTRA ((Departmet of Electrical and Electronics Engineering)
- (iv) FIESTA (Department of Computer Applications)
- (v) THYRA ((Departmet of Computer Science and Engineering)
- (vi) ECHO ((Departmet of Electronics and Communication)

The associations conduct seminars and talks by eminent personalities in the industries and academia. The associations organize technical discussions, intercollegiate technical events and competitions every year.

Departments also conduct

- (i) Workshops and conferences

- (ii) GATE coaching classes
- (iii) Industrial training
- (iv) Industrial visits
- (v) Personality development courses
- (vi) Remedial classes for weak students

Community orientation and social service

- (i) NSS units (two units)
- (ii) Constructing houses for poor people under the guidance of *Kazhcha*
- (iii) Conducting computer classes for local people/school children
- (iv) Giving financial support for poor needy public
- (v) SCOPE organizes programmes for differently abled people
- (vi) Arranges old age home and orphanage visits.
- (vii) Plastic and waste disposal programmes were conducted at Kochi and Wagamon

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

The curricula of different programmes in the institution are designed and defined by the affiliating universities. The feedback from stakeholders, regarding many aspects including the curriculum content, is collected in different ways:

- (i) Students give their feedback to faculty members in class committee meetings regarding the curriculum. Faculty members represent these views in appropriate forums.
- (ii) A programme outcome feedback is taken from the students at the end of each semester regarding the different aspects of the courses, including the curriculum.
- (iii) An exit-feedback is taken from students regarding the different aspects of the programme including the curriculum.
- (iv) Employer feedback and alumni feedback are taken to understand the industry demands. Based on this, necessary steps are taken to support the curriculum (eg: mini projects, seminars etc.).
- (v) The gaps in the syllabi are discussed in the Departmental Advisory Committee meetings and appropriate measures are taken.
- (vi) Some of faculty members participate in the process of curriculum revision of the University so that, the feedbacks taken from the stakeholders can be used as guidelines for the same.
- (vii) Spending a day with differently abled and terminally ill children.

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

Monitoring

- Feedback is taken after the conduct of every quality enrichment programme and suitable corrections are made wherever necessary.

Evaluation

- Formal and informal feedback from parents, industries and alumni helps to evaluate the outcome of enrichment programmes.
- Examination results and placement records thoroughly give the effectiveness of enrichment programmes.

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?

FISAT Contributes to the Design and Development of Curriculum prepared by the University Faculty members are deputed to attend the workshops/seminars on restructuring of syllabi conducted by the affiliating Universities. While developing the course curriculum, the feedback from different stake holders is also taken into consideration. The faculty members are sponsored for attending Faculty Development Programmes, seminars, lectures, etc., which help them in enriching the core curriculum. Department Advisory Committee meetings also help the faculty members to understand the gaps in the existing curriculum. The outcome of these meetings help the faculty members to give creative suggestions during the syllabus revision meetings. The faculty members of FISAT prepared the course curriculum for different M-Tech programmes under the APJ Abdul Kalam Technological University. Each department has expressed their opinion about the S1 and S2 course curriculum and some of them are taken into consideration by the University.

1.4.2 Is there a formal mechanism to obtain feedback 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?

FISAT is committed to acknowledge the feedback from the various stakeholders like students, alumni, industry, NGOs/agencies, academicians and parents. The feedback, score/remarks are discussed in the department review meetings, Management review meetings and Department Advisory Committee meetings. The essence of the feedback is well taken by the concerned person and follow up action is also initiated. The general areas covered in the feedback are (i) Curriculum (ii) Teaching, Learning and Evaluation (iii) Infrastructure facilities (iv) Student support (v) Governance and Leadership

✦ Students' feedback

Feedback from students are collected from the class committee meetings, interaction with students and parents, computerized feedback on courses

and teachers, exit surveys, class/course committee meetings and parent-teacher meetings. Faculty members are advised by the higher authorities based on the computerized students feedback and follow-up actions are suggested.

➤ **Alumni feedback**

Alumni feedback is collected through online surveys, e- group interactions, Facebook groups, alumni website interactions and during alumni meets. Printed feedback forms are also distributed and collected from the alumni.

➤ **Feedback from parents**

Regular feedback is collected from parents during Open House meetings which are held class wise and generally after the series test. Interactions during informal visits by the parents to the departments also give valuable insights.

➤ **Employability assessment from Industries/Companies**

Feedback from the employers of FISAT alumni is collected. This information is used to make necessary modification in the curriculum of the add-on courses.

➤ **Feedback from others**

Feedback from NGOs and other agencies are obtained in connection with student field work and other activities.

Format of the Students' feedback

Rate the following Parameters according to your assessment (5 being the highest score and 1 being the lowest)	
1. Faculty is able to create interest in the subject	1 2 3 4 5
2. Faculty is able to have control over the class	1 2 3 4 5
3. Faculty is able to communicate well	1 2 3 4 5
4. Faculty uses relevant examples, wherever possible, to reinforce understanding of concepts	1 2 3 4 5
5. Faculty encourages students' participation while teaching	1 2 3 4 5
6. Faculty is able to clarify concepts and doubts when needed	1 2 3 4 5
7. Faculty has clarity of presentation to support understanding	1 2 3 4 5
8. Speed at which the faculty teaches the subject is just right	1 2 3 4 5
9. Faculty has reasonable command over English and handles classes in English	1 2 3 4 5
10. I am satisfied with the faculty's overall teaching methodology	1 2 3 4 5

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?

New programmes and Courses at FISAT and their Rationale

The following table describes the various new programmes added to the University Curriculum at the behest of FISAT.

No	Year	Name of the Programme	Scheme	Intake
1	2009	Mechanical Engineering	B.Tech.	63
2	2010	Communication Engineering	M.Tech.	24
3	2010	Computer Science & Information Systems	M.Tech.	24
4	2011	Civil Engineering	B.Tech.	63
5	2011	Power Electronics and Power Systems	M.Tech.	24
6	2013	Computer Integrated Manufacturing	M.Tech.	18
7	2014	Structural Engineering and Construction Management	M.Tech.	24
8	2014	VLSI & Embedded Systems	M.Tech.	24

Table D1.1 – Details of Programmes Intake

Rationale

- (i) To meet the changing industry demands.
- (ii) To develop manpower with specialized skills in specialized fields of Engineering and Technology
- (iii) To encourage research and development among the younger generation in frontline is one of the unique features of all these programmes. Students are trained in real life products design. They can, therefore, make an immediate and impactful contribution to industry, academia, startups, research bodies, or any strata of society. The aim of the undergraduate programme is to produce students who are well prepared for Indian industry with necessary core competency to succeed long term in engineering/entrepreneurship careers and to undertake PG studies and research careers.
- (iv) The curriculum is adapted and improved every year in the pursuit of excellence. The first year of the curriculum consists of basic courses. The next three years are devoted to specializations in different areas of respective disciplines.
- (v) The need for post graduate programme has been felt in recent years and six PG programmes have been started.
- (vi) Further, there is increasing demand in industries for post graduate engineers unlike in the past. However, teaching positions seem to be stagnated these days.

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CRITERION II: TEACHING-LEARNING AND EVALUATION

2.1. Student Enrolment and Profile

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

All the programmes offered in FISAT are affiliated to Mahatma Gandhi University, Kottayam. From 2015 onwards, the B.Tech. and M.Tech. programmes are affiliated to the newly started Kerala Technological University (KTU), later renamed as APJ Abdul Kalam Technological University.

The College ensures publicity and transparency in admission process through the following measures.

i) Publicity:

- The prospectus and website of the Kerala Government Commissioner of Entrance Examination.
- College website : www.fisat.ac.in
- The College prospectus gives all relevant information about the course curriculum, fee structure, lab/library facilities and code of conduct of the institute.
- The admission notification is issued as advertisements on the college website as well as leading regional and national newspapers. The notification contains detailed information about the UG, PG programmes, intake of students, eligibility criteria, admission process, lab and library facilities, year wise campus placement records and individual student achievements like university ranks and other honours.
- Popular education portals like shiksha.com, collegedunia.com etc. provide details about the admission procedure.
- News and important updates about admissions are posted on social networking sites such as Facebook and Twitter.
- The College conducts various social service activities and technical exhibitions at various parts of the State. This facilitates publicity and popularity.
- The College arranges book exhibitions and visits various Book Fairs.
- Promotional programmes like flash mob, bike-rally etc are organized in connection with the technical and arts festivals from time to time at public places in order to attract the attention of the public.
- The 'Ask the Expert' programme on professional course counselling conducted at different places in the State gives publicity about the institution.
- Word of mouth publicity by Alumni, Parents and Benefactors.

- The news items appearing in the dailies with regard to the outstanding accomplishments of the college like the paper release by the Kerala Government Entrance Commissioner declaring that FISAT being the most sought after self -financing engineering college in Kerala filling all the seats first.

ii) Transparency:

- The College adheres strictly to the rules and regulations stipulated by the universities, AICTE and the State Government.
- The admissions to all programmes are as per state Government policy.
- There is an Admission Cell in the College, headed by the Vice- Principal, to monitor the admissions to all programmes. The admission process followed in FISAT is similar to the Central Allotment Process (CAP) followed by the State Government. Rank lists of candidates under Management and NRI quotas are prepared and published on the College website. Different slots are made as per the order of merit of the candidate and announced in advance. The candidates get opportunity to give options for selecting the branches of their interests. A digital display is exhibited in the admission hall so as to guarantee transparency in the whole process.
- All details regarding the admission procedure is readily available on the College Website **<http://admission.fisat.ac.in>**

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.

- The College offers undergraduate and postgraduate programmes viz. B.Tech. M.Tech., MBA and MCA.
- The selection process is purely on the basis of marks and rank obtained in the qualifying examinations.
- The admission procedure strictly adheres to rules and regulations stipulated by the affiliating universities and the State Government both for UG and PG programmes.
- The Admission Cell in the Institute helps candidates to make the choice of their branch.

B.Tech. Programme

The Institute offers four-year under graduate programmes in

- (1) Electronics and Communication Engineering,
- (2) Computer Science and Engineering
- (3) Electrical and Electronics Engineering
- (4) Electronics and Instrumentation Engineering

(5) Mechanical Engineering

(6) Civil Engineering.

Criteria and Process of admission for B.Tech.

- Admission is strictly on the basis of merit. Candidates seeking admission to all seats other than those in NRI quota shall be qualified in Kerala Engineering Entrance Examination.
- 50% of the total seats in B.Tech. programmes are set apart for centralised allotment by the Commissioner for Entrance Examinations. Candidates who have passed Higher Secondary Examination, Kerala or Examinations recognised as equivalent thereto, with 50% marks in Mathematics separately, and 50% marks in Mathematics, Physics and Chemistry put together are eligible for admission.
- 35% seats are Management seats. Candidates who have passed Higher Secondary Examination, Kerala or Examinations recognised as equivalent thereto, with 45% marks in Mathematics separately, and 45% marks in Mathematics, Physics and Chemistry put together are eligible for admission to Management quota.
- Seats are allotted on merit by ranking applicants on the basis of marks obtained for PCM in qualifying examinations and for Kerala Engineering Entrance Examination of the respective year, giving 50% weightage to each.
- 15% seats within the sanctioned intake is provided for NRI category and allotted to children and dependants of NRIs on the basis of marks obtained for PCM in qualifying examinations. However, average 70% marks for PCM is desirable.

M.Tech. Programme

- The Institute offers Postgraduate programmes in
 - (1) Communication Engineering
 - (2) Computer Science and Information Systems
 - (3) Computer Integrated Manufacturing
 - (4) Power Electronics and Power Systems
 - (5) Structural Engineering and Construction Management
 - (6) VLSI & Embedded Systems.

Criteria and Process of admission- M.Tech.

- Admission to M.Tech. programmes are based on the rank list prepared by the Director of Technical Education (DTE) by considering the candidates' GATE score / aggregate marks obtained up to 6th semester in the qualifying degree examination.

- The Institute publishes a merit list from the applications received, based on DTE rank list. 50% of the seats are filled on merit, observing the Reservation Rules as per G.O (P) 208/66/Edn. dated 02-05-1966. G O (MS) 95/08/SCSTDD dated 06-10-2008 and as modified from time to time by the Govt.
- The other 50% of seats are management seats and are filled by the Management based on merit.

MCA Programme

The Department of Computer Applications offers two programmes:

- (1) Master of Computer Applications (Three year programme)
- (2) Master of Computer Application (Two Year programme- Lateral Entry)

Criteria and Process of admission- MCA (Three year course)

- Candidates seeking admission to the programme must have qualified in the entrance examination for MCA conducted by the Commissioner of Entrance Examination or any other agencies authorized by the Govt. of Kerala
- The candidates should have completed an undergraduate degree course with minimum three years duration (after 10+2) with Mathematics /Statistics /Computer Science/ Computer Application /Engineering and Technology as a Main / Subsidiary /Core/ Complementary Subject at degree level. The candidates should have secured a minimum aggregate of 50% marks in their degree examinations.
- Subject to the regulation relating to prescribed minimum of the respective qualifying examination, the minimum marks of admission to the programme shall be a pass in the case of SC/ST candidates.
- SEBC candidates referred to GO (P) 208/66/Edn dt.2.5.1996 and subsequent amendments to this order shall be given a relaxation of 2% marks in the prescribed minimum for admission.
- A relaxation of 5% marks from the prescribed minimum shall be allowed for physically handicapped persons.
- Candidates who have passed the qualifying examination (excluding language subjects) in more than one chance will have their percentage marks derated at the rate of 5% for every additional appearance for the purpose of ranking.
- Reservation of seats shall be as per the rules prescribed by Govt. of Kerala.

Criteria and Process of admission- MCA (Two year course- Lateral Entry)

- Candidates seeking admission must have a pass with not less than 50% marks in recognized regular Bachelor of Science Degree course of

minimum three years duration in the discipline of Computer Science or Information Technology with Mathematics/Statistics as a subsidiary subject or a pass with not less than 50% marks in BCA degree of minimum three years duration from any recognized university.

- For SEBC and physically handicapped candidates, the aggregate marks required are 45%. For SC/ST candidates, a minimum pass in the degree examination is sufficient.
- Final Year regular Bachelor's Degree students are also eligible to apply on the condition that the original degree certificate and mark lists of all semesters of the qualifying examination shall be produced by the candidate at the time of admission.
- Candidates who have passed the qualifying examinations (excluding language subjects) will have their percentage of marks derated at the rate of 5% for every additional appearance for the purpose of ranking.
- Reservation of seats shall be as per the rules prescribed by Government of Kerala

MBA Programme

The Department of Business Administration of the Institute offers two-year MBA programme. Specialisation is offered during the second year in Marketing, HR, Finance and Operations.

Criteria and Process of admission- MBA

- Candidates who have passed degree examination with 50% marks in aggregate and qualifying score in CAT/MAT/XAT/CMAT are eligible to apply.
- The selection of candidates is purely on the basis of merit. Admission to the programme is based on the score obtained in the admission test, the academic score, group discussion, personal interview and work experience.

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.

The College offers 6 UG and 9 PG programmes. The following table gives the minimum and maximum percentage of marks for admission at entry level for the programmes offered.

B.Tech.

Year	Branch	First Rank	Last Rank
		Government Quota	Government Quota
2015	Electronics and Communication Engineering	3559	51933

	Computer Science and Engineering	2550	50912
	Electrical and Electronics Engineering	5390	33175
	Electronics and Instrumentation Engineering	10565	54092
	Mechanical Engineering	2717	41397
	Civil Engineering	4975	50993
2014	Electronics and Communication Engineering	3033	50380
	Computer Science and Engineering	4694	54123
	Electrical and Electronics Engineering	1625	50712
	Electronics and Instrumentation Engineering	9357	54042
	Mechanical Engineering	3567	36324
	Civil Engineering	4789	53248
2013	Electronics and Communication Engineering	4041	50240
	Computer Science and Engineering	4309	56685
	Electrical and Electronics Engineering	6028	52072
	Electronics and Instrumentation Engineering	9803	54301
	Mechanical Engineering	2368	57641
	Civil Engineering	4552	51812

Table D2.1 – B.Tech. Entry level Marks

M.Tech.

Year	Branch/ Specialisation	Maximum% of marks	Minimum % of marks
2015	Computer Science and Information Systems	78	60
	Structural Engineering and Construction Management	91	60
	Communication Engineering	80	61
	Power Electronics and Power Systems	82.5	65
	VLSI and Embedded System	85	66
2014	Computer Science and Information Systems	81.4	61.22
	Structural Engineering and Construction Management	2507(DTE)	18333(DTE)
	Communication Engineering	8.73(CGPA)	65.54
	Power Electronics and Power Systems	79.45	60
	VLSI and Embedded System	8.64(CGPA)	6.9(CGPA)
	Computer Integrated Manufacturing	7.4(CGPA)	6.17(CGPA)
2013	Computer Science and Information Systems	NA	NA

	CommunicationEngineering	NA	NA
	Power Electronics and Power Systems	NA	NA

Table D2.2 – M.Tech. Entry level Marks

MCA

Year	Maximum % of marks	Minimum % of marks
2015	84.5	47.75
2015 (Lateral Entry)	90.68	67
2014	77.8	52.25
2014 (Lateral Entry)	83.5	56
2013	89	63

Table D2.3 – MCA Entry level Marks

MBA

College	Maximum % of marks	Minimum % of marks
2015	8.84 CGPA out of 10	1.94 CGPA out of 4
2014	87.52%	2.13 CGPA out of 4
2013	76.51%	2.01CGPA out of 4

Table D2.4 – MBA Entry level Marks

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; Being an unaided professional institution, the Management has very little role in the preparation of rank list and admissions in the Government quota. However, for the admissions in the management quota, the Admission Cell in the College plays a substantial role in carrying out the admission process in the most transparent manner. The Cell reviews the process from time to time to make it more systematic and efficient. On the basis of reviews conducted, the College sets cut-off marks for admission.

- The Institution has well-planned, well-defined and well-designed mechanisms to deal with the profiles of the students.
- A ‘Student Record’ is maintained which includes students’ profile, attendance, marks scored, participation in sports and extracurricular activities and overall performance.
- Students’ profile and details are made available on the College Website.
- The administrative section regularly monitors and provides information to the academic heads for taking corrective measures.
- The Academic Heads and the HoDs identify the students who need financial help and special attention, and suggest various remedial measures.
- The profile also helps the group advisors in interacting with the students more effectively. Feedback from students helps the group advisors to know more of their basic needs and the area of their interests to pursue higher studies.

Outcome:

- The effective review process over the years has contributed, to a great extent, to the growth of the institution in terms of achieving the goals and objectives and realizing the mission and vision.
- Proper review of the profile of the students helps to identify the strength and weakness of the students and to tap the innate potential in them.
- Timely help and support are extended to the needy students.
- The quality of personal attention given to the students is one among the factors in making the institution most sought after and being rated the best private self financing engineering college in the state.

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

***SC/ST**

***OBC**

***Women**

***Differently abled**

***Economically weaker sections**

***Minority community**

***Any other**

The College strictly follows the reservation policy of the Government of Kerala for professional courses to provide equal opportunities to the students from economically weaker sections and minority communities to ensure social justice.

- The AICTE Tuition Fee Waiver Scheme for women, economically backward and physically handicapped meritorious students is

implemented in the College. Accordingly students with high academic performance hailing from economically backward families are granted full fee concession. The selection is made purely on the basis of Kerala Engineering Entrance Examination rank list and family income. As this is fully implemented, about 168 students get the benefit and the estimated financial support by the institution is over Rs. 2 crores.

- The Institute also provides FBOAES Scholarships, Merit Cum Means Scholarships, Central Scholarship for State Board, Central Scholarship for CBSE, FedBank Hormis Foundation Scholarship, SC/ST, OEC Students Scheme, GATE Scholarships, Indian Oil Corporation Scholarship and Fee Concession by Management in special cases.

SC/ST/OBC:

- Students from SC/ST/OBC are admitted as per State Government policies. Tuition Fees reimbursement, fees exemptions, and endowment benefits are also extended to these students in the Institution.
- The College Management also extends financial support to them.

Women:

- ❖ The women students are provided with equal opportunities in the College. Separate hostel facilities are available for women inside the campus.
- ❖ Separate rest rooms are provided in the College.
- ❖ The College has appointed a Clinical Psychologist to counsel girls.
- ❖ Separate seat are reserved for girls in the college buses.
- ❖ The Institution also gives special orientation and counselling for girls on women empowerment.
- ❖ A Women's Cell functions in the college for addressing issues of women and catering to their needs.
- ❖ Girls are encouraged to take up responsibilities in the Students' Council.

Differently-abled:

- The requirements and needs of the differently abled students are given a high importance with a special care and attention in the College.
- The College provides them with special toilet facilities on the ground floor. It is also ensured that their classes are held on the ground floor only.
- Wheel chairs and stretchers are available in the College.
- Separate ramps are provided for the differently abled for easy and safe movements.

Economically Weaker Sections of the Society:

- ✦ The Management provides special benefits like fee concessions, free books, free transport, special rewards and reservations for the benefit of the students who belong to economically weaker sections.

Minority:

- ✦ The Institution gives reservations to the students belonging to minority community under the direction of Central Government, State Government and the affiliating universities.
- ✦ The Institution offers all possible help like granting scholarships and concessions to the students belonging to minority communities. Special efforts are taken to tap financial assistance from external agencies as well.

Athletes and sports persons:

- ✦ The students who participate in sports activities at regional or national level are given admissions based on their excellence in athletics or sports.
- ✦ The College offers them fee concessions and scholarships.
- ✦ Excellent infrastructure for sports and games and additional coaching are also provided for them.

Male and Female Student Admission in various categories:

UG

Categories	Year 1 (2015-16)		Year 2 (2014-15)		Year 3 (2013-14)		Year 4 (2012-13)	
	Male	Female	Male	Female	Male	Female	Male	Female
SC	8	5	10	7	6	8	11	7
ST	0	0	0	0	0	1	0	1
OBC	114	46	83	51	76	51	45	57
General	277	110	91	63	91	75	71	57
Others	42	18	217	124	193	114	148	129
Total	441	179	401	245	366	249	275	251

Table D2.5 – UG Admissions Category details

PG

Categories	Year 1 (2015-16)		Year 2 (2014-15)		Year 3 (2013-14)		Year 4 (2012-13)	
	Male	Female	Male	Female	Male	Female	Male	Female
SC	0	1	0	5	0	3	2	2
ST	0	0	0	0	0	0	0	0
OBC	44	48	26	84	17	32	26	36
General	141	86	19	39	34	33	19	38
Others	1	11	69	108	54	84	55	68
Total	186	146	114	236	105	152	102	144

Table D2.6 – PG Admissions Category details

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.

Programme –wise trends in demand ratio:

Programmes	2015			2014			2013			2012		
	Applied	Seats	Demand Ratio	Applied	Seats	Demand Ratio	Applied	Seats	Demand Ratio	Applied	Seats	Demand Ratio
B.Tech.	1522	298	5.11	1527	304	5.02	1982	302	6.51	1587	242	6.56
M.Tech.	165	82	2.01	200	83	2.41	365	90	4.06	400	66	6.06
MBA	451	119	3.79	386	120	3.22	402	118	3.41	459	120	3.85
MCA	174	90	4.29	118	28	4.21	118	30	3.93	150	30	5.00

Table D2.7 – Programme –wise trends in demand ratio

* The above furnished data is of the admissions in the management quota.

* Details of the number of applications in the government quota for the each programme is not available as this admission is done by CEE Government of Kerala.

2.1.7. Was there an instance of the College discontinuing a programme during lastfour years? If yes, indicate the reasons.

No.

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 inthis regard?

The Institution shows positive attitude towards catering to the needs of differently-abled students as per the government policies, rules and regulations.

Facilities provided include:

- Provision of ramp facilities for the easy and safe movement of the physically challenged students.
- Allotment of classes for these students on the ground floor.
- Provision for separate seating arrangements during examinations.
- Scribes are allowed to write the examination as per the rules.
- Personal coaching and mentoring by teachers.
- If needed, they are helped by parents, teachers and peons.
- Special counselling sessions are given by the HRD department.

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.

- Students are admitted to the institution on the basis of the ranks obtained in the Kerala Entrance Examination and the marks scored in core subjects.
- The personal interviews by the faculty members during admission process help in assessing the students' needs in terms of knowledge and counsel the students about the course curriculum. Parents of students are also invited to join in the discussion with the counselling team.
- Bridge Courses are offered in Mathematics, Engineering Graphics, Engineering Mechanics, English, Accountancy etc., for the newly admitted students to meet the prerequisites required.
- Orientation is provided to the newly admitted students to make them familiar with rules and regulations of the institution.

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

- The Institution takes every possible effort to give the newly admitted students sound knowledge in the foundations. Short-term bridge courses in mathematics, engineering graphics, engineering mechanics, technical communication and accountancy are given to enable them to cope up with new system.
- Group Advisory System is implemented in the Institution. A group of 20 students is assigned to a teacher (advisor). The group advisors identify the weak students and slow learners and provide necessary support and guidance. Academically weak students are offered remedial classes after

the regular class hours on a regular basis. Extra lab sessions are also given to the weak and needy students. The Institution provides the transportation facility after the lab/remedial classes. The group advisor keeps the records of all academic and extra-curricular activities of the students.

- Add on courses like SAP, Students' Learning Hub Programme, Advanced Excel, and SPSS Essentials are given to the Management students. Foundations of Computing is an add-on course offered in the MCA department. Computational Fluid Dynamics, MIX design, STAAD, LaTeX, PSPICE, Embedded System, Networking Python Programming etc. are some of the add-on courses offered for B. Tech. and M. Tech. students.
- Placement and Training Cell of the Institution conducts regular enriching programmes and training in aptitude building, group discussions and personality development programmes. Various soft skill programmes like FACE, EMPOWER, TURNING POINT etc. are conducted regularly. Panel of teachers conducts mock interviews to build the confidence level and to boost the students to perform their best in the interviews.
- Students are also given exposure to industry through the Institute Industry Partnership programmes. Centre for Continuing Education (CCE) Cell of the institution organizes various short term training programmes on topics of interest to the industry and research for faculty and students.
- A Language Lab has been set up in the Institution for the students to enhance their skills in communication.
- As part of the efforts to inspire the next generation technology professionals, the Institution has signed Memorandum of Understanding (MOU) with KELTRON, ICT Academy, Oracle Academy for Advanced Computer Science Programme, BSNL etc.

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

The College is aware of the need of developing sensitivity among youth on social issues like gender, inclusive practices, habitat preservation, energy conservation, water and waste management and inclusion of less privileged groups. Following activities are organized in this regard:

- The various Associations like NSS, SCOPE, SWAN, ROLLING STONE, ANTI RAGGING CELL and FOCUS conduct several programmes to sensitize students on social issues.
- NSS volunteers in the College work for about 120 hours in an academic year in the nearby villages and slums in association with various voluntary agencies. They conduct social activities like cleanliness drive in nearby places with an objective of developing a rapport with the local community as well as creating social awareness among students and public.

- The College does not show any form of discrimination and inclusiveness is practised in its fullest form. The College upholds and advocates equity, harmony and tolerance.
- SWAN, the nature club of the institution organizes eco-friendly programmes such as planting and harvesting crops, environment awareness camp, etc. The club frequently arranges field trips, nature walks and talks by naturalists.

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

- ❖ Advanced learners are identified by the faculty members on the basis of their communication skills, vigour in classrooms and percentage of marks obtained in the examinations.
- ❖ The Institution provides opportunity for advanced learners to take up projects and to pursue higher studies and research. Selected students are awarded scholarships.
- ❖ Awards are given by the Departments to encourage the students with academic excellence.
- ❖ To cater to the needs of these advanced learners, 247 technical print journals and magazines including 50 IEEE publications and more than 5000 e-Journals are made available in the Library. *D'Space* digital library of the College helps them to access the digital archive of the library.
- ❖ The Institution has developed a High Performance Computing (CHPC) Lab to nurture the programming skills of the students. Institution also supports in getting their projects published.
- ❖ Students are encouraged by the Rolling Stone Cell in the Institution to take part in different activities like debates, group discussions, article writing etc. so as to sharpen their communication skills.
- ❖ Research centres like CHPC, IRACC, CARPC and CRISP are set up in the institution to help students undertake research projects.
- ❖ Students are encouraged to participate in technical seminars and conferences at leading research institutes as well as industries.
- ❖ Financial support is provided to students for participating in national and international conferences and also for publishing papers in peer reviewed journals.

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, physically challenged, slow learners, economically weaker sections etc.)?

The Institution has less number of dropouts. There are well developed procedures to identify and support weaker students. Academic, financial and emotional

supports are offered to the potential dropouts. Following are the measures taken in this regard:

- The Group Advisory System of the Institution enables the faculty to monitor the academic performance of the students from the disadvantaged sections of society, physically challenged, slow learners, economically weaker sections etc.
- Class committee meetings are conducted regularly in every semester to share the problems and feedback of the students with the HoDs. Frequent absentees are identified and their parents are informed by the group advisors.
- Tuition fee waiver scheme, various scholarships and facility to pay fees in instalments are provided to the deserving students.
- Remedial teaching, mentoring, counselling are provided by the faculty to help, encourage and motivate the slow learners.
- The Clinical Psychologist in the College counsels and motivates the slow learners and students who need counselling.
- The Institution helps the needy students in every possible way in order to reduce the number of dropouts.

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.)

Academic Calendar

The academic calendar is the basic document in which all the activities of the College are listed and scheduled. The calendar is prepared in compliance with academic calendars of the affiliating universities (M.G University and KTU (2015 admission onwards). The individual departments frame their semester plans in accordance with the college calendar. The College 'Handbook and Calendar' is distributed to all students and staff.

Teaching plan

- Subject allocations are made at least two months before the commencement of the semester. Hence the faculty members get adequate time for course preparation.
- The individual staff members plan their course in accordance with the department semester plan. The course plan is approved by the HOD and is given to the students before the commencement of the programmes. The course plan consists of the topics to be covered in each class, details of tutorial lessons, schedule of assignment, date of series and module tests and textbooks to be referred.
- Class timetables are prepared by the time table committee.

- The HODs convened department meetings before the commencement of the semester and finalize the various activities. The faculty are assigned charges of various events to be conducted during the semester in the meeting.
- Every faculty member maintains a course file for theory subjects and labs sessions.
- Laboratory manuals are prepared and distributed to the students at the beginning of the semester.
- Class committees are held twice a semester to review the progress of the course.
- The suggestions made by students in the class committee are incorporated.
- Review meetings are arranged periodically within the department to assess the coverage of syllabus and deviations, if any, are rectified.

Evaluation blue print

- 1) Two series examinations for every theory subject and one internal examination for the laboratories are conducted.
- 2) The laboratory working hours are extended beyond the college hours for the benefit of students.
- 3) Remedial classes are conducted to improve the performance of the academically weak students.
- 4) Open House meetings are conducted after every examination for the weak students, their problems are identified and remedial actions taken.
- 5) Continuous evaluation process such as viva for each experiment is adopted in lab sessions and internal marks awarded.
- 6) Evaluation of mini project and main project is done in accordance with the university guidelines.
- 7) Evening classes on latest software are conducted by the Departments of Electronics and Communication and Electronics and Instrumentation.
- 8) Evening labs are conducted by the Department of Computer Science and MCA.
- 9) The Centre For High-Performance Computing (CHPC), implements new projects in the areas of parallel computing, robotics, cloud computing, computer vision and artificial intelligence.

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

IQAC provides the development and application of quality benchmarks/parameters for the various academic and administrative activities of the Institution. IQAC contributes in the following ways to improve teaching learning process in the College.

- Sets standards for various processes and monitors the academic planning and implementation processes.
- Compilation and documentation of result analysis done by different Departments.
- Supports the management in task clarifications, timeline and quality measures.
- Plans and executes staff quality improvement programmes like trainings, workshops etc.
- Maintenance and periodic review of the documentation systems.

IQAC comprises of representatives from the different departments (teaching and non-teaching), representatives of Management, PTA, Alumni. IQAC sets an agenda regarding quality enhancement and sustenance measures, in the meetings of the Staff Council, Board of Management and Advisory Council, and the decisions are followed up.

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?

Interactive Learning

- The College has developed a student friendly ‘Campus Management’ software so that the students can easily view their academic progress. All details relevant to their academics like attendance, internal marks, assignment marks are updated here.
- The College has smart classrooms with audio visual aids.
- Classrooms, campus and hostels have Wi-Fi connectivity.
- Every course has group projects and assignments which help in fostering interactive learning and team work among students.
- Students organize tech fests, management fests and cultural events, which help them sharpen their leadership skills and event management talents.
- The parents can also access data in the campus management software and can update themselves with their wards’ performance.
- The digital library provides latest facilities so that students can keep abreast of the latest advancements in Management, Science and Technology.
- SMSs are sent to parents regarding their wards’ daily attendance.
- The institute provides a central library with all the latest books and journals which the faculty can use effectively and provide comprehensive latest information to students. Students are encouraged to use the library to promote independent learning. The College also organizes seminars, short term courses etc. to accentuate independent learning. The faculty members support and encourage students to make use of internet,

computers, video lectures and latest technologies to update their knowledge base.

Collaborative learning

- Industrial training is carried out by students in reputed industries.
- Online courses like NPTEL are available in the digital library.
- The College has a number of ICT enabled resources.
- There is central multimedia seminar hall with video conferencing facility, which is used for IIT-ISTE programmes conducted by MHRD, International and National Conferences, Seminars, Symposia etc.
- The College is chosen as an e-Outreach Remote Center-RCID 1077.
- All labs are fully equipped with the latest technology and LAN facilities.
- E-books from online libraries and high speed internet facility are also available on the campus in order to foster collaborative learning.

Independent learning

- The College Library has a large collection of latest books and journals, publications and project reports which serve as a rich reference for independent learning.
- Students can access the laboratories even outside the normal working days, so that they can test their innovations and projects.
- Evening classes on latest software are conducted by the ECE and EI departments.
- Language and soft skill training are provided to the students to improve their performance in communication.
- A number of journals on varied topics and fields are provided in the library so that the students can independently explore the subject area of their interest.

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

In tune with the vision and mission of FISAT conscious efforts are taken in the academic and allied activities of the college to nurture critical thinking, creativity and scientific temper among students. All such efforts are aimed to transform students into lifelong learners and innovators.

Programmes initiated in this regard though not mutually exclusive are enumerated below.

- The College strives for the holistic development of the students.
- The College encourages the students to do their mini and main projects in college itself by providing necessary technologies and software in the laboratories.

- Students are encouraged to participate in technical and non-technical events held in the campus and elsewhere. Cash awards and trophies are awarded to them.
- In 2015, three B.Tech. students won a prize money of 1.9 lakhs from the Kerala Road Transport Department for their innovative project idea.
- Project presentation competitions are held every year to encourage innovations.
- The College has a High Performance Computing Centre which facilitates Innovation, Entrepreneurship and Incubation where the students use their technical skill and develop various innovations
- Each Department has its own Association, which conducts various workshops with hands-on experience and seminars for the students.
- Clubs like SCOPE and SWAN take up various activities of social relevance providing social awareness among students.
- Sports activities are encouraged and various intercollegiate tournaments are conducted in the College. Annual sports meet is also conducted.
- To nurture critical thinking and creativity, residential workshops like EMPOWER are held, in which the students are engaged in various activities like group discussions and group activities.
- FORUM, a two-day residential programme conducted by the MBA department aims at inculcating socially relevant values in students
- Placement training is provided to all students to improve their employability.
- The College has two well-established NSS units which actively involve in social service activities.
- The Centre for High-Performance Computing (CHPC), implements new projects in the areas of parallel computing, robotics, cloud computing, computer vision and artificial intelligence.
- To improve the general awareness and business accesses of students, a business newspaper [The Economic Times/The Business Hive] is given to each student of MBA. Discussions on current affairs are conducted regularly. Eight-week summer internship is also compulsory for the MBA students which helps them gain corporate exposure and practical knowledge.
- Programmes like AGINITIO'14 is conducted by ECHO (ECE department Association) which kindles creativity in students
- Project exhibitions are conducted by B.Tech. students.
- Quiz Competitions like ExQuizIT organized by MCA Students improve the student's organization skills and technical knowledge.

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 uses modern ICT enabled teaching aids to make the teaching-learning process more effective. All classrooms have audio visual aids to facility. Following technologies and facilities are used by faculty:

- OHP Projectors
- LCD projectors
- Video lectures(Like NPTEL), M Tutor, MOODLE
- Virtual laboratories
- Laptops (The College has provided Laptops to all teachers at a subsidised rate)
- All labs are fully equipped with the latest technology and LAN facilities.
- E-books from online library, LAN and high speed internet facilities.
- There is a Central Multimedia Seminar Hall with video conferencing facility which is used for programmes of IITs, ISTE conducted by MHRD, Intentional and National Conferences, Seminars, symposia, etc. The College is an e-Outreach Remote Centre-RCID 1077.
- The College has a number of other ICT resources.

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

The College helps students and faculty members acquire advanced level of knowledge and skills in the following ways:-

- The College encourages faculty members for attending FDPs.
- The Institution conducts workshops and seminars by eminent personalities from the industry and academics.
- Industrial tours are organized for both students and staff.
- Students are directed to undergo industrial training during semester breaks in order to update themselves with the latest developments in the industry.
- Students and teachers are encouraged to participate/present research papers in different national and international conferences held in the College as well as outside.
- The students are given assignments on advanced topics to keep in pace with the current trends in the industry.

List of seminars and workshops organised by the College:

1. Invited talk by Mr. Hasum Jacob, Head, Artificial Intelligence Section, TCS, Cochin on 26.08.2014.
2. Technical competitions which include 'Tech charades', debate and resistorsorting conducted on 26.08.2014 as part of the inauguration of association activities of 2014-2015.
3. Workshop on Ansoft HFSS for M.Tech. students on 9.12. 2014.
4. ICHPC' 2014, the Fourth International Conference on "ADVANCED COMPUTING AND COMMUNICATION TECHNIQUES FOR HIGH PERFORMANCE APPLICATIONS" organised by the Dept. of CSE.
5. A three-day Robotic workshop conducted in association with Team DNA from 20.03.2015 to 22.03.2015.
6. A two-day workshop on 'FEM AND INTRODUCTION TO ABAQUS AND ANSYS' organised the Department of Mechanical Engineering during July 9 -10, 2015.
7. Talk on Ready Mix Concrete, Materials of Concrete, Testing of Materials and Safety at Construction Site by Shelly Fernandez and Alexy John from Ready mix Concrete (India) Ltd on 15.9.2015, organised by the Department of Civil Engineering, in connection with ICI.
8. National Conference on 'Alternate Building Materials and Construction Practices' (NABCP'15) organised by the Department of Civil Engineering on 18.9.2015.
9. Technical seminar on 'Lean Manufacturing' organized by the FISAT ASME Chapter on 26.9.2015 with Mr. Madhukar Sharma, President ASME, India as the resource person.
10. Seminar on "ENGINEERING EDUCATION & BEYOND" organised by the department of Civil Engineering in association with V T Memorial Trust, with Prof. Shashi Nambisan, University of Tennessee, Knoxville (UT) as the Resource person on 14.10.2015.
11. A two-day workshop on 'Remote Control Cars' organized by the Department of Mechanical Engineering in connection with the SLDC'15 Tech Fest during October 17 - 18, 2015.
12. TCS conducted an academic support Seminar for S6 CSE Students on the following Topics - Custom Application protocol: WSDL and SOAP, Generic Application Protocol: REST.
13. A seminar on 'Role and Scope of Instrumentation' conducted by Mr. Praveen Kumar, BPCL for EIE students.
14. Bentley Certified STAAD Training Course 'Inter CAD Systems' conducted for Civil engineering students.

15. One Day Workshop & Plant Visit at RMC Readymix India Ltd. Conducted for Civil engineering students.
16. Invited talk on “Maintenance Management and Reliability” with Mr. Deepak Prabhakar, DGM, MRPL Mangalore as the resource person.
17. Invited talk on “Supply Chain Management’ with Mr. Swapnesh Subramanian as the resource person.
18. A workshop on Offshore Engineering lead byPOUL Institute, Ernakulam organised by the Department of Mechanical Engineering.
19. MOU signed with KELTRON for conducting training programs, short term courses etc.
20. One day workshop on PCB fabrication and etching for first year B.Tech.Students.
21. A workshop on Open GL conducted by MCA department.
22. A workshop on Latex conducted by MCA department.
23. A one-day workshop on PSpice conducted by ECE department.
24. IIT Kharagpur conducts short term courses for the staff on various subjects as part of EKALAVYA.
25. ICT courses conducted by KTU aim to update the knowledge base of teachers.
26. One-day workshop on Introduction to Python and Latex organized by the Department of Science and Humanities on January 10, 2015.
27. One-day workshop on Introduction to Geogebra organized by the Department of Science and Humanities on July 24, 2015.
28. All Kerala intercollegiate math quiz contest organized by the Department of Science and Humanities on February 10, 2015.
29. National Conference on Applications of Discrete and Fuzzy Mathematics organized by the Department of Science and Humanities during July 15 – 17, 2013.

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

The Institute has a very efficient Group Advisory System in 1:20 ratio. The group advisors conduct counselling on a regular basis. Students share their problems with the group advisors and adequate help is provided

- The Institute also has a professional counsellor. The group advisor sends students who need extra psychological counselling to the counsellor. The counsellor strives to mitigate the problems of the students with proper assistance.

- In addition, all the first year students are compulsorily made to attend counselling.
- Students who are weak in academics are given remedial classes for all subjects beyond the college working hours.

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 faculty to adopt new and innovative approaches and the impact of such innovative practices on student learning?

- The Institute has Wi-Fi enabled zones.
- ICT enabled teaching aid technologies like LCD projectors are employed in class rooms.
- Staff members are provided with laptops in sufficient numbers.
- Online assignments are given to students through moodle.
- Lecture classes by eminent personalities from industries are conducted.
- Hands on training on latest software tools like LABVIEW are provided by the faculty. Students are encouraged to use computer software packages for analysis and experimental work.
- Seminars and group discussions by students are conducted regularly.
- Training is provided to the faculties whenever new tools/software are purchased.

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

- The Institute has a main library with a built-up area of 1652 sq.m, 62,500 volumes 247 journals and with all modern facilities like reprographic centre, stack room, technical section, video lecture hall, digital library, journal reference centre, book bank section, and periodicals and newspaper section
- The library has the following resources:

No of daily issues	700
Titles	15082
Reference Books	10455
E resources	7500
Print Journals	247
Computers with multimedia and Internet facility	65

Table D2.8 Library Resources

- Library network membership - DELNET
- Average no. of books added during the last three years - 4829

- No of library orientation programmes organized - 15
- The main library operates in three floors with separate Reference Section, Digital Library and Stack rooms.
- The Institute has a central library and separate reference libraries for MBA and MCA.
- Students are provided with a unique book bank scheme. Under this scheme, one book for each subject is issued to students in a semester. They can retain these books with them till the end of the semester by paying a nominal membership fee.
- Online Public Access Catalogue (OPAC) is part of FISAT intranet (library.fisat.edu)
- E-journal subscriptions include IEEE (ASPP), ASCE, ASME, Mc Graw Hill Access Engineering, Springer Link, India Business Insight (JET & JSMS), ASTM Digital Library, Proquest and Elsevier- Science Direct. *DSpace* Digital Library helps library users to access the digital archive of the library.
- *DSpace* is used in the library as an institutional repository. It includes previous years' question papers of University Examinations, students' projects, seminar reports etc. which can be used by students and faculty members.
- A reprographic centre is available in the library.
- Inter library loan facility is available through DELNET.
- FISAT Library conducts book exhibitions in association with renowned publishers. It provides a chance for the book lovers for purchasing world classics from their doorstep.
- A library orientation class is given to first year students every year.
- Every member can download articles from digital library free of cost.
- Library is open beyond the college working hours (8am -7pm) for the benefit of students.
- Each department is provided with a separate department library.
- An IEEE journal reference centre is also present in the College.
- The college library has also implemented the Feedback System so as to include suggestions for improvement.

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.

Generally, the institution is able to complete the curriculum within the planned time frame. However, there are instances where the working days are lost due to

unforeseen interruptions like statewide *hartal*, bandh and government declared special holidays. In such situations special classes are arranged on Saturdays to compensate for the lost hours.

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

- An inter semester feedback is taken from students on every subject.
- The feedback is analyzed and evaluated and every teacher is provided with copy of the feedback for making necessary corrections.
- The Course Outcome Feedback is taken from students to evaluate whether the course outcome of each subject is met.
- A class committee is held twice a semester and drawbacks of teaching methodologies are identified. Suggestions for improvements are collected and necessary changes are made.

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

Recruitment and Retention

FISAT has a definite recruitment policy for appointment of both teaching and non-teaching staff. Well before the commencement of the semester, the departments submit their faculty requirement to the Principal. Advertisement is given in national and regional newspapers and also displayed in the College website. The applications received are scrutinized and eligible candidates are called for interview. A committee comprising the Management representative, Principal, Dean, HOD, and Subject Expert is formed to conduct the interview. Selection is done purely based on merit, experience and teaching competence. The Institution has appointed faculty members with judicious mix of academic experience and industry exposure. The Same procedure is followed in the case of non-teaching staff.

The current status of teaching staff is given in the table below.

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent Teachers							
D.Sc./D.Litt,	0	0	0	0	0	0	0
Ph.D.	8	4	5	2	3	1	23
M.Phil.			0	0	2	6	8

PG	1	0	0	0	63	109	173
Temporary Teachers							
Ph.D.	0	0	0	0	0	0	0
M.Phil.	0	0	0	0	0	0	0
PG	0	0	0	0	2	12	14
Part-time Teachers							
Ph.D.	0	0	0	0	0	0	0
M.Phil.	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	0

Table D2.9 - Status of Teaching Staff

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.

FISAT is blessed with well qualified teachers on the faculty. The congenial working conditions in FISAT and the employee friendly attitude of the Management make the Institution a dream destination to work for the potential job seekers. Consequently, faculty members who join the Institution seldom quit unless there is any urgent exigency. This is evident in the retention details of staff.

Experience of Faculty in years in FISAT	Number of Faculty
Greater than 12	51
Greater than 10	73
Greater than 8	100
Greater than 6	129
Greater than 4	155
Greater than 2	186
Less than 2	18

Table D2.10 Years of Service (Teaching Staff)

Appointments are made considering the specialization of the faculty as per the requirement. In case any new topic is introduced or any specialization is changed in the syllabi, the existing teachers are given special training in the new area. Latest books and journals on the frontier areas are procured and necessary infrastructure is provided. Besides, invited lectures by experts are also arranged by the Institute.

The following table indicates the details of invited lectures conducted in this regard.

Date	Speaker	Event
2.4.2014	Dr. Krishnan Swaminathan, Former Professor, Department of Mathematics, IIT, Madras,	Lecture on Relevance of Mathematics in Engineering
18.8.2014	Dr. Rajeevan, IIST, Trivandrum	Lecture on Multilevel Inverter and its Modulation Strategies
18.8.2014	Mr. Deepak Prabhakar, Deputy Manager, MRPL, Mangalore	Lecture on Maintenance Management and Reliability
18.2.2015	Mr. Swapnesh Subrahmaniam Rajiv Gandhi Institute of Technology, Kottayam	Lecture on Supply Chain Management
22.7. 2011	Mr. Mahesh T, System Analyst	Workshop on Latex
24.1.2014	Dr. K. Bindu, Reader, UCAS	Workshop on Open GL(OPEN GRAPHICS LIBRARY

Table D2.11 - Invited Speakers

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

a) Deputing the faculty to staff development programmes

The Institute encourages the faculty to undergo FDPs and extends financial assistance to take part in national and international conferences. A good number of seminars/workshops are conducted on frontier areas so as to expose the faculty and students to the recent developments. The Management encourages the faculty members to pursue higher studies. After the completion of Ph. D. degrees, they are awarded cash incentives.

The following table gives the details of FDPs attended by the faculty.

Academic Staff Development Programmes	Number of faculty nominated
Refresher courses	94
HRD programmes	132
Orientation programmes	59
Staff training conducted by the university	7
Staff training conducted by other institutions	47
Summer/ winter schools, workshops, etc.	61

Table D2.12 - Details of FDP

b) Faculty Training programmes organized by the institution to empower and enable the use of various tools and technology for improved teaching-learning are as follows:

❖ **Teaching learning methods/approaches**

ICT enabled teaching method is adopted in the Institute. Programmes that encourage teachers to prepare computer aided teaching / learning materials are organised by the Institute. The Institute also supports the staff by providing necessary infrastructural support. Faculties are provided with individual laptops with partial financial assistance from the Management. Every class room is provided with an LCD projector. Each department has a smart board as well.

❖ **Handling new curriculum**

As and when the syllabi and curriculum are restructured and new topics are introduced, workshops/lecture series on the newly introduced topics are organized in the Institute. Teachers are also encouraged to undergo special training programmes conducted elsewhere.

For instance, when the APJ Abdul Kalam Technological University introduced *Geogebra* software this year, the Department of Basic Science and Humanities organized a workshop on 24.07. 2015. Besides the faculty members from FISAT, teachers from other colleges also attended the workshop.

Moreover, detailed discussions on the newly introduced course/topics are conducted within departments.

❖ **Content/knowledge management.**

FISAT conducts in house training programmes on the newly introduced courses/topics. The institution is also a centre of 'Ekalavya' programme organised by IIT Kharagpur and Mumbai. Faculty members are also deputed to attend National and International seminars and workshops on the newly introduced courses/topics conducted elsewhere.

❖ **Selection, development and use of enrichment materials**

Much ahead of the commencement of the semesters, text books, reference books and study materials as per the syllabi are procured and made available in the main library and department libraries. Detailed lecture notes are prepared well in advance by faculty members and checked by the Head of the Department. *Dspace* is a reference resource available on the intranet.

❖ **Assessment**

The affiliating universities have already given the continuous assessment tools for the performance evaluation of the students. Faculty members are trained to do the continuous assessment of the students' performance most transparently and honestly.

Feedback about the teacher from students and other stakeholders are taken systematically. Besides, self-appraisal reports also help the faculty to improve their quality.

❖ **Cross cutting issues**

Any issue related to academic or non-academic is resolved in best possible manner. Two qualified counsellors, an active discipline committee, anti-ragging committee, women cell, grievance redressal cell etc. are functioning in the Institute in order to solve all cross-cutting issues.

❖ **Audio Visual Aids/multimedia.**

The faculty members are given training to use latest audio visual aids, multimedia tools and other modern gadgets in classrooms/seminar halls. All class rooms are provided with LCD projectors. Lectures are taken using audio visual aids in classrooms/seminar halls. There is 90 mbps dedicated internet connection in the Institute.

❖ **OERs (Open Educational Resources)**

The Institute provides many open educational resources to the faculty. Teachers share their lecture notes and teaching material among their peers. Digital library with soft copies of complete course materials like text books, previous university question papers, video lectures and various journals enhances the knowledge base of faculty members.

❖ **Teaching learning material development, selection and use.**

Faculty members are given free access to internet which helps them to collect quality learning materials. The Institute has a well-stocked library containing books and journals on various subjects. The Institute also organizes seminars and conferences and the proceedings help as a learning source for the faculty. The video lectures and study materials prepared by NPTEL are also used.

Percentage of faculty

Invited as resource persons in Workshops / Seminars / Conferences organized by external professional agencies	: 7.9
Participated in external Workshops / Seminars / Conferences recognized by national/ international professional bodies	: 67
Presented papers in Workshops / Seminars / Conferences conducted or recognized by professional agencies	: 35

2.4.4. What policies/systems are in place to recharge teachers? (e.g.: providing research grants, study leave, support for research and academic publications teaching experience in other national institutions and specialized programmes industrial engagement etc.)

- The Institution extends full support for the professional development of the faculty members.
- The faculty members are encouraged to pursue higher studies through Quality Improvement Programmes.
- 9 teachers working in FISAT have more than 25 years of teaching and research experience at other institutions; 44 are with industrial experiences.
- Study leave is granted for faculties pursuing higher education.
- Those who complete Ph. D. are specially honoured and given Rs. 5000/- as incentive.
- Duty leave is granted to faculty for participating and presenting papers at national and international conferences and all technical activities.
- The Institute also extends financial support for participating in conferences and seminars.
- The College Research Committee helps teachers to apply for major and minor research projects.
- The College research journal facilitates research publication of the faculty.
- Staff members are motivated to participate in refresher courses, FDPs, Orientation Programmes, National, International Conferences/Seminars and In-service training.
- The Institute also conducts number of seminars, workshops & special lectures for the benefit of faculties.
- Industry-Institute partnership activities help faculty to get exposed to industry exposed to the industry experience and practices.

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 following faculty members have received award for their contribution in academics.

Sl.No	Name of the Faculty	Honor/Award Details
1	Mr. Basil K Jeemon	Best paper Award in IEEE 2013 International Conference on Emerging Trends in Computing, Communication and Nanotechnology, 25th, 26th March 2013
2	Ms. Archana R	Best paper Award in the Second International Conference on Computational Techniques and Artificial Intelligence(ICCTAI 2013)-organized by planetary Scientific Research Centre (PSRC)-March17-18,2013,

		Dubai,UAE.
3	Ms. Leena N	I st Rank M.E (Anna University).
4	Ms. Rakhee R	M.Tech. (CUSAT) I Rank.
5	Mr. Anil J Thomas	M.Tech. (CUSAT) II Rank
6	Ms. Sreeja E A	M.Tech. (CUSAT) III Rank
7	Ms. Deepa K	M.Tech. (IGNOU) II Rank
8	Ms. Riya Scaria	ME (Annamalai University) II Rank
9	Ms. Rinku Scaria	ME (Annamalai University) III Rank
10	Dr. Sreeraj M	Nominated for Kerala State Young Scientist Award in 2013 and 2014.
11	Mr. Paul P Mathai	Mission 10X Practitioner Award (By WIPRO)
12	Dr. Prasad J C	Best teacher Award of FISAT in the year 2014.
13	Dr. Prasad J C	Best paper Award at M.G University in 2012.
14	Dr. K.P Saraswathy Amma	A chapter in the book “International Hand book of Women and small business Entrepreneurship” published by Edward Elgas Publishing company U.K -2004.
15	Dr. Annu Anna Antony	Authored a book on “SME in Indian Textiles: The role of globalization in a developing market”. Published by Palgrave Macmillan UK 2014.
16	Dr. Dhanya Alex	A book on “Economic consequence of Corporate risk Disclosures” published by Scholars press Germany in year 2015
17	Dr. P.A Mathew	Attended a workshop on “Macro economic development for developing country conducted by academy for macroeconomic research”, National development and research commission China in Beijing March 2013.
18	Dr. C. Sheela	2003-Best teacher Award FISAT.
19	Mr. Antu P.J	2007-Best teacher Award FISAT.
20	Ms. Mini P.R	2009-Best teacher Award FISAT.
21	Ms. Archana R	2010-Best teacher Award FISAT.
22	Mr. Unni Kartha G	2011-Best teacher Award FISAT.
23	Mr. Jibi Varghese	2012-Best teacher Award FISAT.
24	Dr. Binimol Punoose	2013-Best teacher Award FISAT.
25	Dr. Prasad J.C	2014-Best teacher Award FISAT.
26	Ms Jiji Antony	2015-Best teacher Award FISAT.
27	Mr. Edwin Devassykutty	Best paper Award in CISCON 15 Conference at MIT, Manipal on 3 rd November 2015.

Table D2.13 - Awards / Honours Received by the Faculty

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?

Yes; evaluation of teachers is done periodically by feedback forms collected from students. The feedback forms are prepared in such a way that the qualities of teachers in teaching skills like punctuality, presentation, communication, knowledge, content covered, innovative practices, expertise in practical experiments etc., are taken into account. Based on the feedback necessary corrective measures, if required, are suggested by the HOD / Dean/ Principal.

During the Open House programme, informal feedback about the effectiveness of classes is collected from parents.

An external quality assurance body ISO, periodically evaluates the teaching learning process and ensures the quality as per the standards.

Teaching quality is also evaluated and discussed in class committee meetings.

2.5. Evaluation Process and Reforms

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

The Institute follows the evaluation scheme specified in the syllabi and curriculum of the affiliating universities.

- Faculty members are given general instructions regarding the evaluation methods by the principal through HODs at the beginning of every academic year.
- Evaluation scheme is communicated to the first year students and their parents on the induction day. Information about evaluation process is also made available to them through college handbook and calendar.
- University norms about internal examinations are strictly adhered to and absolute transparency is ensured. Besides, there is a grievance redressal mechanism for the students to redress all grievances with regard to the evaluation process of the internal examinations.
- Model examinations conducted provides a demonstration of the module-wise evaluation process.
- The changes and amendments of evaluation process and the rules and regulations of the examination issued by the university are promptly communicated to students by reading the instruction in the classrooms and displaying the same on the students' notice board.
- The college calendar and handbook given to each student contains the rules and regulations of university examinations, the dates of internal assessment exams and tentative dates of end semester (theory and practical) examinations.
- Printed copies of the syllabus which includes the details of programmes, hours, credits and components of end semester examination are given to students. Further, group advisors of each class remind the students on the rules and regulation of internal and university examinations and the evaluation process.
- Report cards are sent to the parents after the first internal examinations and their performances are discussed at the open house meeting.
- Examination Cell displays the time table for internal test and end semester examination on the department notice boards, well in advance.

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?

The Institution adheres to the norms and guidelines pronounced by the affiliating universities. The evaluation process is completely transparent and unbiased. For the B.Tech. and M. Tech. Programmes, out of 150 marks for a programme, 50 marks are allotted for internal evaluation and 100 marks for the external examination. For the MCA programme, out of 100 marks, 25 marks are allotted for internal evaluation and 75 marks for the external examination. For the MBA programme, out of 100 marks, 40 marks are allotted for internal evaluation and 60 marks for the external examination.

The division of marks of the internal evaluation stipulated by the affiliating universities is as follows:

Uty.	Programme	Series tests		Assignments		Attendance	
		(%)	Marks	(%)	Marks	(%)	Marks
MGU	B.Tech.	60	30	20	10	20	10
	M.Tech.	50	25	40 (Assignments + Seminar)	20	10	5
	MCA	60	15	30	7.5	10	2.5
	MBA	60	24	30 (Assignments + Seminar)	12	10	4
KTU	B.Tech.	80	40	20	10	0	-
	M.Tech.	40		20	10	0	-

Table D2.14 – Split-up of Internal Assessment

Reforms initiated by the Institution

The internal evaluation is a continuous assessment of the students' performance from the very beginning till the end of a semester.

- Besides the series tests, module tests are conducted after each module to evaluate the performance of students. Examinations in the pattern of university examinations are conducted.
- Assignments, mini projects, seminars, quizzes and group discussions are done as indirect evaluation.
- Remedial classes are conducted to improve the performance of the slow learners.
- Continuous evaluation process such as viva for each experiment is followed in laboratories and an internal evaluation of practical courses is conducted.

- After each exam the Academic Progress Monitoring Committee (APC) evaluates the students' performance and gives necessary suggestions for improvement. The Committee also monitors the academic performance of the students periodically.
- English language deficiency is identified and remedial programs through contact classes and language labs are conducted.

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?

- A centralized Examination Cell, monitored by the Principal, functions for the smooth and efficient conduct of the university and internal exams. Besides, individual departments conduct module tests as part of continuous assessment. The internal examination marks are sent to parents and open house programmes are conducted.
- The marks scored in the module/series tests are used to identify slow learners and special remedial classes are arranged for the poor performers.
- The weightage and division of marks are made transparent to the students. Solution sets are provided for reference. Question banks for both theory and practical examinations are made available to students.
- There is a grievance redressal mechanism for students to redress all grievances with regard to the evaluation process related to the internal examinations.
- An Academic Progress Monitoring Committee (APC) constituted by the Institution evaluates the students' performance and gives necessary suggestions for improvement.
- An external quality assurance body, ISO, periodically evaluates the teaching- learning process and ensures the quality as per the standards.
- Management Review (MR) meetings constituted by HODs of all departments and representatives from the Management are conducted after the results of every university examination are published to assess the academic performance of the students.

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

All reforms related to examinations are initiated by the affiliating universities. However, the Institute adopts both formative and summative methods of evaluation to make positive changes in the evaluation practices.

Monitoring student learning and improving the quality of teaching by receiving continuous feedback about the teaching from students are the main aspects of formative assessment. More specifically, formative assessment helps students identify their strengths and weaknesses and their target areas. The most important step taken by the Institution towards formative evaluation process is the introduction of assignments and tutorial sessions in their schedule. This provides ample opportunities for teachers to interact more vibrantly with students and to get feedback to identify the target areas. Each tutorial session is handled by two teachers. This facilitates better interaction between teachers and students. Assignments, seminars, mini projects and final projects are other activities where formative evaluation is exercised. Progress reports are handed directly to them. The group advisory system, where a group of 20 students are assigned to a teacher has made positive changes.

Summative evaluation involves making judgments about the efficacy of programmes or courses at its conclusion. This assessment that occurs at the end of the programme provides an overall evaluation of the programme effectiveness. Summative evaluation mainly includes the internal exams conducted by the college for theory as well as practical courses. Course Outcome Feedback conducted at the end of each semester is a method of summative evaluation which gives us an idea about the attainment of objectives of the programme and course outcomes and the overall impact of the programme. It also indicates the need of improvement and further modification of the overall program structure, and the resources needed to address the program's weakness.

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.

The academic output of a student is evaluated in two parts: internal assessment done internally and external evaluation done by the university according to the students' performance in the end semester university examinations.

The internal evaluation is based on continuous assessment. Out of 150 marks for a course, fifty marks are allotted for the internal assessment and 100 marks are allotted for the external assessment in the university examination.

The affiliating universities have given clear-cut guidelines for the award of internal assessment marks and it is given in table below.

Internal Marks Evaluation Guidelines:

M G University

Practical		Theory	
Criterion	Marks	Criterion	Marks
Performance	25	Series test-I	15
Lab test	15	Series test-II	15
Attendance	10	Assignment	10
Total	50	Attendance	10
		Total	50

Table D2.15 – Internal Marks Evaluation Guidelines (M.G.U)

APJ Abdul Kalam Technological University

Practical		Theory	
Criterion	Marks	Criterion	Marks
Practical Record/Output	60	Series test-I	20
Regular class viva	10	Series test-II	20
Final written test/quiz	30	Tut/MiniProj./Assgn	10
Total	100	Total	50

Table D2.16 – Internal Marks Evaluation Guidelines (APJ K.T.U)

Series tests and Module tests

- As part of the internal evaluation, two series tests are conducted centrally in every semester. Module tests and model examinations are also conducted by individual departments. The College ensures perfect rigor and absolute transparency in the conduct of series tests. The dates of the series tests are included in the college calendar and handbook. In addition, notices are read in classes and announcements are made through the public address system sufficiently early.
- The Examination Cell in the college is responsible for taking all necessary steps with regard to the conduct of internal examinations as per the direction of the Principal.
- Much ahead of the commencement of the series tests, the College Council, in its meeting, takes necessary decisions with regard to:
 - ❖ Quantum of portions to be included,
 - ❖ The dates of submission of question papers,
 - ❖ The structure of the question paper which is to be printed well in advance.
 - ❖ The duration of the tests.
 - ❖ The dates of submission of marks
- Accordingly, the teachers are asked to set the questions.
- Internal examinations are conducted just like the university examinations.

- Examination halls are arranged and students are seated in such a way that no two students of same classes sit next to next so as to avoid all kinds of malpractices.
- Teachers are assigned invigilation duty (one teacher for 30 students)
- In case a student is found guilty of indulging in any form of malpractice his or her entire examinations in that series are cancelled. His or her parents are asked to report to the Principal and assure the good conduct of their ward during the rest of his or her period of study.
- The answer scripts are returned to the students and the copies / originals of the answer scripts with the best, average and worst marks are kept in the course file.
- The marks of the series examinations are published and made accessible to students and their parents. Grievances (if any) are redressed through the grievance redressal mechanism available in the college.

Practical examinations/ Project evaluation

- For practical examinations, the internal marks are awarded based on continuous assessment, record submission, attendance and a model lab examination. A candidate is assessed on the basis of concept knowledge, skill, viva and final output and his/her performance.
- Apart from the mandatory main project, mini projects are also done by students. While doing the project, the students conduct regular discussions with the guide right from the initial stages of defining the problem, submit the progress reports periodically and also present the progress in the form of presentations. The final presentations are evaluated by the project in-charges, guide and the HOD.

Assignment / Seminar/Attendance

- ❖ Generally two assignments on suitable topics are given to the students and these are evaluated by the teachers concerned.
- ❖ Individual and group seminars on advanced topics are given and the performance is evaluated by a team of teachers.
- ❖ University guidelines for the award of marks for the attendance are strictly followed. If a student lacks the stipulated minimum attendance, he/she either applies for condonation or repeats the semester.

Parents are informed about the performance of their ward in the internal examination after every internal examination.

- Open house programmes are conducted in which parents personally meet the faculty and interact with them so as to explore the possibilities of improving the performance of their wards.

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?

Graduate Attributes specified by the affiliating university are as given below:

- a) Engineering Knowledge
- b) Problem Analysis
- c) Design & Development of Solutions
- d) Investigation of Complex Problem
- e) Modern Tools Usage
- f) Engineer and Society
- g) Environment & Sustainability
- h) Ethics
- i) Individual & Team work
- j) Communication
- k) Lifelong Learning
- l) Project management & Finance

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

The answer scripts are corrected and given back to students after every examination. The students can come up with any grievances associated with corrections as the valuation scheme is transparent. The sessional marks are published after tabulation in the notice board for a period of about a week so that the students can calculate the marks themselves and ask for any corrections. Students also have the provision for giving request for revaluation and scrutiny of their university answer scripts.

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?

Yes; the outcome based approach is adopted by the Institute. For the subjects taught under M G university syllabus, the teachers handling the respective subjects state the learning outcomes and it is included in the course plan for each subject. For the KTU syllabus, the expected learning outcomes are mentioned for each subject in the syllabus itself. At the commencement of each module/topic, the learning outcome is intimated to the students and a copy of the expected outcome is maintained by the teacher concerned in his/her course plan.

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 performance of each student is analysed after each module/series/university examination for all subjects.
- The report of the marks obtained in the series/module examination is given to the parents. For students who have passed in all subjects, the report is sent to the parents by post.

- Parents of the failed students are asked to visit the department and collect the report from the corresponding group advisor.
- The parent, student, group advisor and the concerned faculty analyse the reason for the poor performance of the student and suggestions for improvement are given.
- The attendance of the student is intimated to the parents daily by SMS. The attendance details of the student are also indicated in the report. Any short fall in the required attendance is indicated to the student and parent.
- Parent teacher meeting are also conducted on a regular basis.
- The Group Advisor System where a group of 20 students are assigned to a teacher is very effective in monitoring the performance of students.
- Regular communication between the parents and group advisors ensures that the parents are updated about their ward's performance.
- Weak students are identified and remedial classes are held for them.
- Parents are also encouraged to visit the department any time during the working hours of the institution to enquire about their ward's performance.

Pass percentage of last 4 years

MCA and MBA

Passing Year	Department	
	MCA	MBA
2015	Result awaiting	Result awaiting
2014	80.7%	83%
2013	90%	85%
2012	86%	89%

Table D2.17 – Pass Percentage (MCA and MBA)

B.Tech.

Year	Department					
	ME	ECE	EEE	CSE	EIE	CE
2011-2015	45.76	66.7	42.86	57.26	52.6	59.82
2010-2014	81	78.6	57.58	78.57	52.5	NA
2009-2013	85	68	68.18	74.61	60	NA
2008-2012	NA	89.2	71.21	92.3	52	NA

Table D2.18 – Pass Percentage (B.Tech.)

M.Tech.

Year	Programme		
	Computer Science & Information Systems	Communication Engineering	Power Electronics and Power Systems
2012-2014	100	95.83	100
2011-2013	94.44	100	94.44
2010-2012	100	100	NA

Table D2.19 – Pass Percentage (M.Tech.)

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 Institute encourages students to realize their maximum potential by providing them with a supportive, nurturing and challenging learning environment. Along with regular classroom interaction, a practical exposure to the concepts introduced is given to the students. Students are encouraged to implement their ideas as projects and mini projects. The classes are handled in a timely and structured manner and at an even pace.
- At the beginning of every academic year, a detailed academic calendar specifying the probable dates of the examinations, both internal and end semester, is prepared and circulated to the faculty.
- All the faculty members prepare a detailed course plan. This helps the faculty to handle their classes in a timely and structured manner.
- Periodic meetings are conducted by the academic council and the status of portions covered and the number of hours engaged for each subject are assessed.
- The students are continuously assessed by means of internal and end semester examinations. Class committee and course committee meetings are held to review whether the intended learning outcomes is achieved.
- The College library has a good collection of books, journals, publications etc.
- Digital library provides the facility to access various online courses like NPTEL.
- Extra lab facility is available for the students.
- Wi-Fi facility is provided to students.

2.6.4. What are the measures/initiatives taken up by the institution to enhance the social and economic relevance (quality Jobs, entrepreneurship, innovation and research aptitude) of the courses offered?

- The Institute conducts different levels of personality development, soft skill and aptitude training programmes for the students right from the first year. Personality development programs like MPOWER,

Turning Point etc. are conducted regularly. Aptitude and soft skills training are provided by reputed training agencies like FACE.

- Research centres like CHPC, IRACC, CARPC and CRISPhave been established in many departments to facilitate research.
- Students are encouraged to undergo internships and short training in reputed organizations like BSNL, Keltron, TCS during their semester breaks.
- Student participation in social service activities like blood donation camps, building houses for the poor, visiting orphanages, cleaning villages etc. are promoted.
- Two NSS units actively function in the college.
- The Placement Cell of the Institute is actively involved in bringing reputed organizations like TCS, Standard Chartered Bank, Federal Bank, SAP, UST Global, IBM etc. to visit the campus and recruit students and has successfully obtained campus placements for a large number of students. Students from the institution are also taken to pooled placement drives in other colleges.
- Students with special aptitude for research are identified and the teams formed undertake research projects in the research centres of the college like High Performance Computing Centre.
- CHPC research centre offers different training programmes to students so as to enhance their innovation and research aptitude. CHPC undertakes several projects under industry-institute partnership and institute - institute partnership.
- CHPC research team developed the software which was used as third umpire for JUDO in the 35th National Games held in Kerala in 2015.

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

The Institution has a system of continuous assessment such as internal examinations, assignments etc. in accordance with the university guidelines.

- The performance of the students is analyzed after each internal examination and the end semester examination.
- The students with poor performance are identified and remedial measures are incorporated to improve their performance.
- Class committee meetings are conducted regularly to identify difficulties faced by the students in academic matters and necessary corrective action is taken.

- Retests are given for weaker students after conducting the remedial classes.
- Evaluation of the staff members by students is also conducted regularly and this helps to improve learning outcome.
- Feedback on achievement of learning outcomes is collected from students after each course.
- Corrective actions like allotting more hours for subjects with higher difficulty level, conducting more tutorial sessions etc. are done.
- Feedback is collected also from parents during PTA interaction.
- The Academic Progress Monitoring Committee periodically monitors the academic performance of the students.
- Reviews are done periodically by the Management to analyze the results and understand the position of the Institute in the university in comparison with other institutes.

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

- ❖ The performance of each student in the internal and university examinations is closely monitored.
- ❖ The attendance of the students is sent to the parents daily.
- ❖ The consolidated attendance is checked periodically.
- ❖ Students requiring additional coaching are identified and extra classes are provided for them. The slow learners are counselled.
- ❖ Periodic meetings with the parents of the weak students are held.
- ❖ Regular staff meetings are held and feedback on status of portions covered is taken to ensure that the syllabus is completed on time and at an even pace.
- ❖ Feedback on the achievement of course outcome is collected from students after each course is completed.
- ❖ All the evaluations are made transparent through software.

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 few examples.

Yes; the institution and individual teachers use assessment/ evaluation outcomes as an indicator for evaluating student's performance, achievement of learning outcomes and planning.

- The students are subjected to periodic evaluation as per university guidelines in the form of assignments, tutorials, class tests, series tests and module tests. An exam cell has been set up for the smooth conduct of the examinations. The question paper is set as per the guidelines given by

the institution. The answer scripts are scrutinized and evaluated within a stipulated time.

- Results of the examination are analysed by each teacher for their subject and the performance of the students is assessed.
- The results of each class are further assessed by the group advisors of the class and a consolidated report is prepared and submitted to the HOD and Principal.
- An Academic Performance Monitoring Committee (APMC) also meets periodically to review the results and give suggestions for improvements.
- Management also periodically reviews the results of the examinations
- Based on the result analysis, necessary corrective action is taken.
- Students who have shown poor performance in the tests are identified and remedial classes are conducted. Group advisors and HOD interact with their parents to identify their problems and motivate them to improve their performance.
- If the performance of many students is poor in a particular subject, this matter is discussed with the concerned faculty and he/she will be advised to take corrective action like teaching that portion once again for the students, conducting more tutorial sessions, reducing the speed of course delivery etc.
- If the subject is vast and the teachers require many special classes to complete the portions then, more hours are allotted for that subject in the subject allotment plan.

Any other relevant information regarding Teaching-Learning and Evaluation which the college would like to include.

- The College aims to establish a world class professional institute with focus on excellence, shaping committed global professionals and technocrats to meet the demands of business, industry and research.
- The College strives for transforming the institution into an advanced centre in Technical Education, which in turn, will bring out professionals with superior skill and social commitment.
- The College has appointed qualified and competent teaching and non teaching staff to achieve academic competence, provides all the necessary infrastructure facilities like library, labs, well equipped class rooms etc to support a good learning environment.
- Support is given to conduct placement training and also for organising other technical training programmes for the students.

- Language lab is available to the students to help improve their communication skills
- Students are encouraged to participate in intercollegiate and intra collegiate technical and arts festivals and nurture their talents.
- Students are also encouraged to involve in socially committed activities like blood donation camps, building houses for the poor imparting computer skills to people etc under clubs and organisations like NSS, MAS club, SCOPE etc.
- Various student chapters like IEEE, CSI, ASME, ISTE and the Department Associations ensures great exposure to the students.
- In the Electronics labs, a box containing the required components, breadboards and wires for making the electronic circuits are given to each student. They can keep these items with them for the whole semester. They are encouraged to wire up the circuits and familiarize themselves with the circuit before coming to the lab.
- Book bank scheme is available to the students through which they can use textbooks for the subjects for the whole semester by paying a nominal amount.

CRITERION – III: RESEARCH, CONSULTANCY AND EXTENSION

3.1 Promotion and Research

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

FISAT has no recognised research centre of any university or agency. The Institute had applied for starting research centres, fulfilling all eligibility conditions, to the affiliating university and is waiting for sanction. However, Dr.K.S.M.Panicker, Dr. K. P. Saraswathi Amma, Dr. A. J. Joshua and Dr. Sunny Kuriakose A are approved research guides of various universities.

Besides, Dr.Arunkumar M.N. (Department of Computer Science) has applied for guide-ship in the Bharathiar University, Coimbatore.

As per the norms of the newly established APJ Abdul Kalam Technological University, we expect the sanctioning of research centres in FISAT.

One Ph.D by Dr. K.S.M.Panicker and Fourteen Ph.Ds by Dr.Sunny Kuriakose A were awarded so far.

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

Yes, the research committee named, College Research Committee (CRC) monitors and addresses issues related to research. The Committee has the following members
(2015 – 2016)

- Dr. George Issac, Principal,(Chairman)
- Dr. Anilkumar M.N. (Convenor)
- Dr. C. Sheela, Vice Principal (Member)
- Dr. K.S. M.Panicker, Director Academics(Member)
- Dr. Pailo Paul, Dean Engineering(Member)
- Dr. P. A.Mathew, Dean and Director MBA(Member)
- Dr. Sunny Kuriakose A, Dean, Student Affairs (Member)
- Dr. K.P. Saraswathy Amma (Member)
- Dr. Jose Cherian (Member)
- Dr. Praseeda K.I. (Member)
- Dr. Arunkumar M.N. (Member)
- Dr. Palson T.I. (Member)
- Mr. S Sundararajan (Member)
- Mr. Santhosh Kottam (Member)

Recommendation by the Committee

- 1) A series of lectures by researchers is to be conducted and the texts be compiled and released as an online proceedings.
- 2) Those who present papers in international/national research journals, may share their findings in the meetings conducted by Committee.
- 3) Those who submit the final thesis may conduct a pre submission seminar
- 4) Those who are awarded Ph.Ds may be felicitated.
- 5) Invited lectures be organized.
- 6) Conduct short term programmes on specific areas like LaTeX, SPSS etc.
- 7) Encourage the teachers to apply for guide-ship in as many universities as possible.
- 8) Publish a multidisciplinary research journal.
- 9) Encourage the faculty members for doing research and applying for research project proposals to different funding agencies.
- 10) Take all necessary steps to get sanction for research centres.
- 11) Motivate the faculty to register for Ph.D. and continue research activities in the College.

Impact

- There is a research culture in the Institution.
- The faculty and M.Tech.students benefit out of the series of lectures conducted by College Research Committee.
- New frontier areas are exposed to the faculty and students
- The research of the faculty becomes more vibrant
- The students get experience in documentation
- Effective utilization of infrastructural facilities

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

The Institution has taken the following measures to facilitate smooth progress and implementation of research schemes and projects.

- The Institution has a College Research Committee (CRC) for monitoring research and related activities.
- CRC scrutinizes all project proposals and monitors their progress.
- The Institute management grants study leave to the teachers for pursuing higher studies.

- The faculty members who are awarded Ph. D. are given financial incentives.
- A high performance computing facility (Super Computer) is provided in the Institute with free access to faculty members, researchers and students.
- The Institution grants a portion of the conference registration fee to the faculty/students.
- Financial incentives are provided to faculty and students for presenting research findings in conferences.
- Faculty members are encouraged and given financial assistance to publish their research work in reputed journals
- Incentives are also granted to faculty members who take consultancy project from industry/research organization.
- Additional facilities in terms of space and infrastructure are also provided for supporting the research and consultancy works.
- Those who complete their doctoral work successfully are felicitated by the College community and PTA.

The Institute offers financial assistance to organize seminars/conferences under each department. A few details are as follows.

- AICTE seminar grant of Rs.1,75,000/- for MBA department for conducting a conference in 2013 entitled “National Conference on Value Creation in Services- Issues and Challenges” in which 40 research papers were presented and an edited volume of selected research papers published.
- Rs. 2 lakhs to the Department of Computer Science and Engineering to biennial international conference on Advanced Computing Technologies and for High Performance Applications.
- Rs.21,000 is granted per issue for the Research Journal “FORUM” published by FISAT Business School.
- A grant of Rs.1,35,000/- for Civil Engineering department for conducting ‘National Conference on Alternate Building Materials and Construction Practices’ during September 2015.
- A grant of Rs. 2 lakhs is being given every year to the Department of Computer Science and Engineering to organize national conference ICE-FOSS.
- A grant of Rs. 3 lakhs to the Department of Science and Humanities for organizing International Conference during January 7-9, 2016.

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

FISAT realizes the importance of inculcating research interests in students. The following are the efforts made to nurture the scientific temper, research culture and aptitude in students.

- Invited lectures on frontier areas are arranged by individual departments or CRC to kindle research interest in students.
- The B.Tech. and M.Tech. projects done by students contain contents worthy of pursuing further investigation.
- As a part of the Research Methodology Course prescribed for PG students, projects on real life problems are suggested and done so as to inculcate research culture in them.
- The students are encouraged to publish their findings in reputed journals.
- The Department of Business Administration publishes a research journal.
- Financial incentives are provided to students for presenting research findings in conferences.
- Besides in house lectures, national and international seminars are conducted on frontier areas of Science, Technology and Management.
- Students are encouraged and financial help extended to take part in various university, state and international level programmes.
- Project exhibitions are organised every year. As part of this, a specific day is allotted for each department, during which students can exhibit the projects which they have undertaken as part of their curriculum. The best project is awarded after an evaluation by a team of faculty members and people from industry.
- The students of Master of Business Administration undergo a Summer Internship Project of two months over and above the requirement of Organisational Study by the affiliating University. Thereby students get involved in applied research to understand real life industrial problems and to come up with solutions for the same.
- Additional facilities are provide to student to do projects in house.

The following table lists the details of financial assistance provided to a few students for project work and research promotion.

Sl. No.	Name of Person	Activity	Grant received in Rs.
1	Emil Chacko, Malavika and Liya Chacko (ECE)	For project presentation in international conference	Rs.99,000/-
2	M. Tech. COEN students	For publishing paper in International Journal for Computer Applications	Rs.16,928/-
3	EEE Department	Research projects	Rs.1,06,000

Table D3.1 – Financial assistance to students for research promotion

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.)

The following data shows the faculty involvement in research

Name of Guide	Name of Scholars	Address	University
Dr.K.P.Saraswathy Amma (Business Administration)	Sonia Mathew	St.GITS Kottayam	Bharathiar University, Coimbatore
	Ajay George	LIC Development Officer	
	Anitha P	Sr.Manager, Federal Bank	
	Priaya Prasad	Carmel College	
	Preethy	Sr.Manager, Federal Bank	
	Gopalakrishnana K.	Manager CRISIL	
	Jayalakshmi		
	Rajesh M.G.	NSS College, Rajakumari	Mahatma Gandhi University, Kottayam
Dr.K.S.M.Panicker (Engineering)	Deepa Mary Mathews	FISAT Angamaly	Dr.M.G.R. University, Chennai
	Dileep Thomas	BSNL	
Dr.A.J.Joshua (Business Administration)	Bobby Varghese	Mar Thoma College, Perumbavoor	Bharathiar University, Coimbatore
	Vivek Venugopal	National Sales Manager, Tata AIG, Mumbai	
	Praveen V	FISAT Angamaly	
	Sonia Elizabeth Thomas	Kochi Business School, Kochi	
	Samoj M. Panicker	Vice President, Standard Chartered Bank, Chennai	
	Narasimha Prasad	Consultant, Bangalore	
	Santhosh Baby	Business Man, Chalakudy	
	Rajani Sunny	SNGCE Kadayirippu	
Dr. Sunny Kuriakose A (Mathematics)	Manjusha R.	Amrita Viswa Vidyapeet, Kollam	Mahatma Gandhi University, Kottayam
	Mily Mary Sreeba	U.C.College, Aluva	
	Eldo Varghese	U.C.College, Aluva	
	Murali T.K.	Maharajas College, Ernakulam	
	Jose Thomas	St.Stephen's College, Uzhavoor	
	Sheeja T.K.	Govt. College, Manimalakunnu	

Table D3.2 – Research Supervision of Faculty

The following scholars have been awarded Ph.D.

Under the supervision of Dr.K.S.M.Panicker

- Dr.Prasad J.C.(Department of Computer Science and Engineering, FISAT)

Under the supervision of Dr.Sunny Kuriakose A

- 1) Ms. Mary George (Mar Ivanios College, Trivandrum) – *Fuzzy Mathematical Approach to Economic Problems*, 2004.
- 2) Sr. Benedict Mary (St. Xavier’s College, Alwaye) - *Algorithmic Approach to Some Intersection Graphs*, 2006.
- 3) Ms. Binimol Punnoose (Federal Institute of Science & Technology, Angamaly) - *A Study on Fuzzy Topological Vector Spaces*, 2007.
- 4) Ms. Gigi George (Mar Thoma College for Women, Perumbavoor) – *Fuzzification of Decision Theory and Allied Areas*, 2007.
- 5) Ms. Vijayalakshmi Menon (Adisankara College of Engineering, Kalady) - *Fuzzy Mathematics & Medical Diagnosis*, 2008.
- 6) Ms. Sobhana Devi C.K. (D.B.College, Thalayolaparambu) - *Fuzziness in Operation Research & Game Theory*, 2009.
- 7) Ms. Philomina M.T. (St.Joseph’s College, Irinjalakuda) - *Some Problems in Topology and Frames*, 2009.
- 8) Ms. Lissy Cherian (Mar Thoma College for Women Perumbavoor) - *Optimization in Fuzzy Environment*, 2010.
- 9) Ms. Tutu John (Mar Thoma College, Tiruvalla) - *Some Problems in Fuzzy Economics*, 2013.
- 10) Annie Varghese (St. Peter’s College, Kolencherry) - *A Study of Economic Equilibria Using Fuzzy and Intuitionistic Fuzzy Mathematical Tools*, 2014.
- 11) J.P.Thavamani (M. E. S. College, Nedumkandam)-*Edge Product Graphs*, 2014.
- 12) Sr. Philomina C. F. (Little Flower College, Guruvayur) - *Study of Frames in Fuzzy Context*, 2015.
- 13) Ms. Shiney Jose (St. George’s College, Aruvithura) - *Some Problems in Intuitionistic Fuzzy Optimization and Decision Making*, 2015.
- 14) Mr. Rogi Jacob (M.L.Nkuna Higher Secondary School, Mpumalanga, South Africa) *A Study on Fuzzy Image Processing and Related Areas*, 2015

The following table shows the details of faculty doing Part Time Research at various universities

Sl. No.	Faculty	Dept.	Name of University	Topic of research
1	Paul P. Mathai	C S E	Noorul Islam University, Tamil Nadu	Data Mining
2	Siyamol Chirakkarottu	C S E	CUSAT	Bioinformatics
3	Jestin Joy	C S E	CUSAT	Natural Language Processing
4	Jyothish K. John	C S E	Noorul Islam University, Tamil Nadu	Computer Networks
5	Hema Krishnan	C S E	CUSAT	Big Data

6	Parvathy R.	E E E	CUSAT	Disturbance Rejection
7	Archana R.	E E E	CUSAT	Identification of Nonlinear Systems with Intelligent Computational Techniques
8	Surya Natarajan	E E E	CUSAT	Improvement of Solar Panel Efficiency
9	Rabhiya Rasheed	E E E	CUSAT	Multilevel Inverters
10	Leena N.	E E E	CUSAT	Robotics
11	Surya Susan Alex	E E E	CUSAT	Motor Control
12	S.Sundararajan	E I E	CUSAT	Sensor Linearization
13	Anil Johny	E I E	NIT Calicut	Image Processing
14	Anish Mathew K.	E I E	CUSAT	Process Control
15	P.R.Mini	E C E	CUSAT	Antenna Radiation Pattern Synthesis
16	Bejoy Varghese	E C E	M G U	Image Processing
17	Febina Ikbal	E C E	CUSAT	Signal Processing
18	Gayathri B.	E C E	IIT M	Fibre Laser for Ophthalmic Surgery
19	Sreejith K.	E C E	IIT M	Fibre Bragg Grating Based Sensing
20	Chithira P.R.	E C E	IIT M	Statistical Timing Analysis for Digital Circuits
21	Suma H.	E C E	IIT M	Fibre Bragg Grating Based Sensing
22	Unni Kartha G.	C E	CUSAT	Liquefaction Mitigation
23	Jiji Antony	C E	CUSAT	Potential of Construction and Demolition Waste as a Building Material
24	Beena B.R.	C E	NIT Calicut	Seismic Analysis of Shear Wall
25	Abin Thomas C. A.	C E	CUSAT	Corrosive Behaviour of Reinforcing Steel in Concrete Exposed to Elevated Temperature.
26	Asha Joseph	C E	CUSAT	Effect of Vertical Acceleration on Structures
27	Jill K.Mathew	S & H	NIT Calicut	Distances and Connexity in Weighted Graph Structures
28	Shinoy George	S & H	NIT Calicut	DEA Models
29	Ayswarya E.P.	S & H	CUSAT	Polymer Nanocomposites
30	Anand P.B.	S & H	CUSAT	Lithium Based Batteries and Solar Cells
31	Sreejesh P.R.	S & H	CUSAT	Bionano Composites
32	Santhosh Kottam	M C A	Bharathiyar University	Uncertain Data Handling in Data Mining Using Soft Set Theory
33	Sujesh P.Lal	M C A	Sathyabama	QoS Based Bandwidth

			University, Chennai	Allocation for Networks
34	Shidha M.V.	M C A	Bharathiyar University	Reusability and Agile Pattern Mining
35	Dileep G.	M E	CUSAT	Active Vibration Control Using Piezo – Electric Materials
36	Chinmaya Krishnan G.	M E	CUSAT	Non Linear Analysis of Flow Induced Vibrations Using Recurrence Quantification Analysis
37	Srijith Rajeev	M E	CUSAT	Vibration Analysis for Predictive Maintenance of Rotating Equipments
38	Rejeesh C.R.	M E	CUSAT	A Study in to Development of Coconut Fibre Based Composite Boards and its Properties
39	Jiju P.P.	M E	Karpagam University	Nanotribology
40	Devi Parvathy	M E	CUSAT	Solar Energy
41	Delma Thalian	M B A	Bharathiyar University	Employee’s Commitment and Intention to Stay
42	Sindhu George	M B A	CUSAT	Behavior and Perception of Mutual Fund Investors
43	Dhanya M. Rajeev	M B A	CUSAT	Reliability Estimation
44	K.Sreekumar	M B A	CUSAT	Corporate Cost Accounting Practices
45	Smarty P. Mukundan	M B A	CUSAT	Emotional Intelligence and Conflict Management
46	V.Praveen	M B A	CUSAT	Information Systems and e- governance
47	Jose Varghese	M B A	CUSAT	Modeling the Influences on Customer Orientation and Sales Performance – A Financial Services Industry Perspective
48	Krishnabhasker Mangalassery	M B A	CUSAT	Product Placement and Marketing Communication Strategy in Tamil Cinema

Table D3.3 –Faculty pursuing research

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.

Sl.No.	Events	Dates	Organizers
1	Seminar on 'Recent Developments in IT'	September 5, 2015	Department of Computer Applications

2	All Kerala Inter Collegiate Mathematics Quiz Competition	February 10, 2015	Department of Science and Humanities
3	One- day training programme on 'Concrete Mix Design'	July 25, 2015	M/s. Ultra Tech Cement Ltd.
4	Two-day workshop on 'Water Proofing'	August 20-21, 2015	Dr.Fixit Knowledge Centre.
5	One-day workshop on 'Ready Mix Concrete and Safe Construction Practices'	September 10, 2015	M/s. Ready Mix Concrete Ltd.
6	National Conference on 'Alternate Building Materials and Construction Practices'	September 18, 2015	Civil Engineering Department
7	Workshop on 'Open GL'	January 24, 2014	Department of MCA
8	Seminar on 'Big Data Analytic'	April 25 – 26, 2014	Department of MCA
9	Seminar on 'iPhone Operating System'	1/11/15	Department of Computer Applications
10	Seminar on 'Multimedia (Digital TV and Set Top)'	1/11/15	Department of Computer Applications
11	Seminar on E- Learning	1/11/15	Department of Computer Applications
12	Seminar on E- Learning	January 9, 2015	Department of Computer Applications
13	National Conference on 'Applications of Discrete and Fuzzy Mathematics'	July 7 – 9, 2015	Science and Humanities Department
14	Workshop on Bio-Informatics	February 8, 2015	Department of Computer Applications
15	Workshop on LATEX	July 22, 2015	Department of Computer Applications
16	NCACA(National Conference on Advancements in Computer Applications)	December 15-16, 2015	Department of Computer Science and Engineering
17	Workshop on Data Mining	24/3/ 2015	Department of Computer Applications

Table D3.4 –Details of workshops on capacity building

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

Sl.No.	Expertise	Research Area
1	Dr. K.S.M.Panicker	Microcomputer Application in Power System Control
2	Dr. George Issac	Operations Management
3	Dr. C.Sheela	Category Theory and Fuzzy Topology

4	Dr. Pailo Paul	High Voltage Engineering
5	Dr. Sunny Kuriakose	Fuzzy Mathematics
6	Dr. P.A.Mathew	Diaspora and Development, Corporate Social Responsibility and Business Ethics, Social Capital
7	Dr. J.C.Prasad	String Searching, High Performance Computing
8	Dr. Arun Kumar M.N.	Image Processing, Data Mining
9	Dr. Praseeda K.I.	Energy Studies in Buildings
10	Dr. Anoop C.K.	Surface Water and Ground Water Interaction.
11	Dr. S.Krishna Kumar	VLSI Testing
12	Dr. Anil Kumar M.N.	Cryptography
13	Dr. Jose Cherian	Micro-machining
14	Dr. Binimol Punnoose	Fuzzy Topological Vector Spaces
15	Dr. Reethamma Thomas	Laser Induced Fluorescence
16	Dr.Palson T.I.	Solid State Physics, Thin Films
17	Dr.Ajalesh B. Nair	Polymer Nano Composites and Polymer Blends
18	Dr.M.Molly Joseph	Post War American Poetry, English Literature and Communication
19	Dr. M.Sreeraj	Image Processing, Computer Vision, Data Mining, NLP, GIS, Machine Learning
20	Dr. K.P.Saraswathy Amma	Management
21	Dr. A.J.Joshua	Services Marketing, Retailing, Consumer Behavior and Product Management
22	Dr. Anoo Anna Antony	Value Chain Analysis, Economic Geography of International Trade, Cluster Development and International Market Strategy of Firms
23	Dr. Dhanya Alex	Corporate Disclosures, Firm Valuation, Security Analysis and Portfolio Management and Corporate Finance.

Table D3.5 –Details of research areas of faculty

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

The Institute conducts national conferences and seminars regularly. Experts from industry and academia are invited for delivering talks and thereby teachers and students get ample opportunity to interact with them. The teachers and students are encouraged to go for short term training programmes in every semester. The Institute is a nodal centre for Ekalavya Project launched by IIT Bombay which creates an interactive platform for teachers in various areas of specialization. Institute faculty members collaborate with professors of reputed institutions for their research activities.

Following is the list of resource persons who visited different departments to give talks/seminars.

Sl. No	Speakers
<i>Department of Civil Engineering</i>	
1	Prof. Sashi Nambisan, University of Tennessee, Knoxville (UT)
2	Mr. Renjith P. (Civil Aid technoclinic Pvt. Ltd)
3	Mr. Fabian Antony (Civil Aid technoclinic Pvt. Ltd)
4	Er. Suresh S., Associated Structural Consultants

5	Mr. Santhosh Nair (ACC Ltd)
6	Ms. Annie Joby (ACC Ltd)
7	Mr. Bineesh M. K. (ACC Ltd)
8	Dr. Jimmy Thomas (Geotechnical Consultant)
9	Mr. Santhosh Paul (Architect)
10	Mr. Dinesh C. P. (MD, FRBS, FACT, Cochin)
<i>Department of Electronics and Communication</i>	
<i>Sl. No</i>	<i>Speakers</i>
11	Dr. Rajeevan P.P., Assistant Professor, Dept. of Avionics, Indian Institute of Space Science And Technology, Trivandrum
12	Dr. Krishnan Swaminathan, Professor, Dept. of Mathematics, IIT Madras
13	Mr. Sreeji Nair, Faculty of National Institute of Electronics and Information Technology
14	Mr. Jayaraman C., Manager, Power Utilities (KRL)
15	Mr. Santhosh Warriar, Energy Consultant
16	Dr. P. A. Mathew
17	Dr. Rajeevan (IIST, Trivandrum)
18	Dr. Krishnan Swaminathan (IIT, Madras)
19	Mr. Sreeji Nair (National Institute of Electronics and Information Technology)
<i>Department of Electronics and Instrumentation Engineering</i>	
<i>Sl.No</i>	<i>Speakers</i>
20	Mr. Shaji, Plant Supervisor, FACT
21	Mr. Praveen Kumar, Senior Manager, BPCL, Kochi
22	Ms. R. Mahalakshmi, Yokogawa
23	Mr. Gopalakrishnan S. V., Grapheme Automation, Kochi.
24	Mr. Yasir Parambil, Green Infotech Kochi.
25	Ms. Maya Ramachandran, Manager, NTPC.
26	Dr. K. S. M. Panicker, FISAT
27	Mr. Edwin Devassykutty, FISAT
<i>Department of Mechanical Engineering</i>	
<i>Sl. No.</i>	<i>Speakers</i>
28	Dr. Biju Prasad, ISRO
29	Mr. Deepak Prabhakar DGM, MRPL, Mangalore
30	Mr. Swapnesh Balasubramaniam, RIT
31	Mr. S. Unnikrishnan, Scientist (SG), ISRO
32	Mr. Raju M.D., Assistant Professor, FISAT
33	Dr. Sadasivan, MNIT, Jaipur
<i>Department of Computer Applications</i>	
<i>Sl.No.</i>	<i>Speakers</i>
34	Dr. M. C. Dileep Kumar, Vice Chancellor, Sree Sankaracharya University, Kalady.
35	Dr. Poullose Jacob, Pro Vice Chancellor, CUSAT
36	Mr. Gigo Joseph, Chief Executive Officer, Infopark, Kochi
37	Dr. G. Raju, Head, Dept of IT, Kannur University
38	Dr. Naveen Sivadasan, Department of CSE, IIT Hyderabad
39	Dr. Ravindra Guravannavar, Department of CSE, IIT Hyderabad.
40	Dr. Judy M V, Amrita Vishwa Vidyapeetham University

41	Dr. Bindhu K, Reader, UCAS.
42	Ms. Minu Ullanat, Systems Manager, CUSAT
43	Ms. Bindiya M. Varghese, Asst. Prof, Rajagiri School of Computer Science
44	Mr. Mahesh C, Asst. Prof cum System Analyst, FISAT
45	Mr. Thomson Varghese, System Engineer, TCS, Infopark
46	Mr. Alan Leeweelyn Bivera, Software Engineer, Tata Elxi
47	Mr. Kiren Thomas, Software Engineer, Cordiant Technologies, Kochi
48	Mr. Pankaj Kumar C, Asst. Prof cum System Analyst, FISAT
<i>Department of Science and Humanities</i>	
<i>Sl.No.</i>	<i>Speakers</i>
49	Dr. G. Srivani, R V. College of Engineering, Bangalore
50	Dr. T. Thrivikraman, Kannur University
51	Dr. V. Kannan, University of Hyderabad
52	Dr. Parvathy Rangasamy, Vellalar College, Erode
53	Dr. A. Krishnamurthy, CUSAT
54	Dr. V. Kannan, University of Hyderabad
55	Dr. R. Parvathy Rangasami, Vellalar College for Women, Erode.
56	Dr. Arjun K Rathi, Central University of Kerala, Kasargod
56	Dr. Lakshmana Gomathi Nayakam, NIT Trichy
57	Dr. R. Roopkumar, Alagappa University, Karaikudy
<i>Department of Business Studies</i>	
<i>Sl.No.</i>	<i>Speakers</i>
58	Ms. Usha Thorat, Former Deputy Governor, RBI
59	Mr. N. Ravichandran, Director, IIM- Indore
60	Ms. Sudeepa S Nair, Business Development Manager- Cognizant
61	Dr. Stephen Mathews, Former Director, XIME Bangalore
62	Mr. Rakesh Seth, Fedders Lloyd Ltd
63	Mr. Ninan Thariyan, Vice-President, Times of India Group
64	Mr. V.K. Mathews, Chairman, IBS
65	Mr. Sankarankutty, MD, Cargomov Pvt Ltd
66	Mr. Rajeev Mukundan, TCS
67	Mr. Manoj Variyath, Marafiq
68	Mr. Vinu Varghese, Senior Vice-President, Idea Cellular
69	Prof. Saji Gopinath, IIM-K
70	Mr. Kochouseph Chittilappilly, Chairman, V-Guard Industries Ltd
71	Mr. Noble M Paul, Vice-President, Axis Bank
72	Mr. Rajesh Kumar, Head-HR, Synthite Industries Ltd
73	Ms. Anitha Menon, AGM, Aspinwall Ltd
74	Prof. P.J. Mathews, Western International College
75	Mr. M. A. S Menon, Corporate Trainer
76	Ms. C. Syamala, Consultant and Trainer
77	Mr. A.V. Vaman Kumar, Corporate Trainer
78	Mr. Alex K Babu, Hedge Equities Ltd
79	Ms. Resmi R, Dept. of History, Calicut University
80	Mr. Abraham Tharakan, Editor, FWD Life Magazine
81	Mr. Rahul Easwar, GM, Thought Academy
82	Mr. S.R. Nair, President, KMA
83	Mr. Sony Joy, Start-up Village
84	Mr. V.J. Kurien, MD, CIAL

85	Mr. Melbin Abraham, Regional Manager- Equity
86	Mr. Vivek Venugopal, Regional Head,TATA AIG
87	Mr. Vimal.M, Manager HR,Mahindra and Mahindra Financial Services Ltd
88	Mr. Johny Joseph, IDBI Federal Insurance
89	Mr. George Paul, Director,Synthite Industries Ltd
90	Mr. Mohammed Hanish, MD,RBDCK
91	Mr. Sanjit Ravi, AGM,ICICI Bank Ltd
92	Mr. Brijesh M Ommen, Consultant and Trainer
93	Mr. Joshi Paul, Circle Head,HDFC Bank Ltd
94	Mr. Anish Aravind, Arbitron India
95	Ms. Reema Kallingal, Cine Artist
96	Ms. Lekha M Namboothiri, Social Worker
97	Mr. John Eapen, Rotary Club of Cochin East
98	Mr. Prem Varghese, Rotary Club of Cochin East
99	Dr.K.N.Raghavan, Commissioner of Customs
100	Mr. C.N.Sathyanathan, Director,Lok Sabha Secretariat
101	Mr. M. S. A Kumar, MD,AVT Natural Products Ltd
102	Mr. Ganesh, Citi Bank
103	Mr. Balaji V, Speaker
104	Mr. Jaimon Antony, Speaker
105	Mr. Anish Philip, Speaker
106	Mr. Joseph Chowallur, Inside Edge Consulting
107	Prof.Nissim Mnnathukkaren, Dalhousie University
108	Mr. Anish Aravind, Nilesan India
109	Mr. Saji V Mathew, Chief Manager-HR,Sud Chemie Ltd
110	Mr. Oommen P Joshua, GM,TELK Ltd
111	Mr. Aju Jacob, Director,Synthite Industries Ltd
112	Mr. C.S.Kartha, President,Cochin Chamber of Commerce
113	Mr. Jacob Thomas, Former Chairman,Cochin Port Trust
114	Mr. Abraham Paul Vatakumcherry, Sr.Vice-President,Safe Software & Integrated Solutions Pvt Ltd.

Table D3.6 –List of Resource Persons visited the Institution

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?

There is no provision for sabbatical leave for research activities in the Institute as such. However, the faculty members are deputed to pursue research and higher studies. Three faculty members did their masters on deputation. Five faculty member are presently on deputation doing research. The additional expertise acquired by way of high studies has improved the quality of teaching and research and help the B. Tech. and M. Tech. students for doing their projects.

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 (lab to land)

The Institute encourages faculty and students to publish and share their research ideas by

- Participation in various national and international conferences
- Participation in conferences and workshops as resource persons
- Publishing in journal of national and international reputation
- Publishing FISAT research compilation
- Supervising research scholars in their doctoral studies.
- Guiding Students' projects of social relevance
- Other activities organized by NSS cell of FISAT
- Students from other institutions/universities are permitted to do research or project work make use of the facilities in the College.

3.2 Resource Mobilization for Research

3.2.1 What percentage of the total budget is earmarked for research? Give details of major heads of expenditure, financial allocation and actual utilization.

The major heads of expenditure are

Sl. No.	Major Heads	Financial Allocation in Lakhs of Rs.	Actual utilization
1	Research Equipments & Instruments	14.00	12.10
2	Guest Talks: Interaction with Eminent Scientists	5.00	3.20
3	Instrumentation Maintenance Facility	15.00	9.35
4	Construction/Extension/Renovation of Building	855.00	411.84
5	Improvement of Existing Facilities	10.00	6.25
6	Competence Building Initiatives in College	20.00	12.00
7	Educational Innovation	10.00	8.00
8	Field Work and Study Tours	10.00	7.25
9	Extension Activities	10.00	6.00
10	Consumables	5.00	7.93
11	Contingencies	15.00	-

Table D3.7 – Details of expenditure towards research

As and when required the institution makes funds available to the faculty members for research and development. Faculty members are encouraged to organize seminars and conferences and also attend the same.

Budget Allocation for Research

2010-11		2011-12		2012-13		2013-14	
Budget Expenses	Actual Expenses	Budget Expenses	Actual Expenses	Budget Expenses	Actual Expenses	Budget Expenses	Actual Expenses
Lab Equipment & Consumables							
30.00	25.84	100.00	141.55	70.00	65.10	62.85	58.86
Software used for Research							
5.00	4.57	5.50	5.15	6.00	5.85	6.50	6.80

Table D3.8 – Budget allocation for research

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?

The Institution provides seed money to the faculty on request for pursuing research and attending research oriented programmes.

Rs. 5000/- per month was given to 4 faculty members. The Institution extends all possible supports including the super computing facility and all other labs and equipment for carrying out research of the faculty.

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

The Institute encourages students to obtain student fellowships offered by agencies for project work. Departments encourage students to attend seminars and conferences and present papers of their research work. Financial assistance like registration fees and travel allowances are incurred by the Institute. To strengthen research infrastructure and to create healthy research atmosphere, the Institute has library journals and internet facility, for which substantial provisions are made in the annual budget. The Institution arranges money for training programmes every year. In some case funds are also made available to students to complete projects which are a part of their curriculum.

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.

One of the objectives of the Institute Research Committee is to encourage inter-disciplinary research activities in the Institute. Major initiatives in this direction are designing of interdisciplinary projects and setting up of centralized research lab to facilitate interdisciplinary research. The Institution provides opportunities for interdisciplinary research in form of cross departmental paper presentations where students and staff of one department participate and present papers in other departments' programmes. No major challenges are faced in organizing the interdisciplinary research in the institute. Minor challenges faced in the form of

timely submission of reports. Electronics and Instrumentation, being an interdisciplinary area, interacts with other department to undertake projects.

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

The Institution has come out with several strategies to ensure the optimal use of various research equipment and facilities. The Principal and the Heads of the departments ensure that the equipments, internet and research material are fully and properly utilized. The library provides research material as per the need of teachers and students. The college library is well equipped with books, journals, e-journals, periodicals and magazines and staff and students are given easy access to it. Computational labs and availability of research journals are centralized. It ensures the optimal use of various equipments and journals by research students and staff from different departments. Different software packages are also available in the Institute for regular use. The Institute has inventory lists of various equipments and other materials which are provided as and when they are needed for any research related work. Log books are maintained for most of the equipment in the departments which records the use of such equipment. Free laptops have been provided to the heads and most of the faculty of each department. The rules regarding the use of these resources are flexible and in favour of the users for utilization of these resources for research work. CRC coordinates the optimal use of equipments when required by other departments.

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.

The Institution has received special grants from AICTE for a few project ventures. Dr.K.S.M. Panicker, Dept. of CSE and Dr.Rajeesh Cherian Roy, Dept. of ECE have received these grants. The Department of EEE has received a research grant from All India Council for Technical Education (AICTE) under the Research Promotion Scheme, of a sum of five lakhs for a period of 3 years from 2013 to 2016.

3.3 Research Facilities

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

The Institute has well established library with open access, online public access catalogue, fully computerized services, digital library, internet access to electronic full text journals etc. To enhance the research amenities, there is sufficient work space in laboratories, well-appointed reading rooms, and enhanced library and lab hours. Specialized softwares like MATLAB, Labview etc. are available to support research.

High Performance Computing Centre (HPCC)

In order to inspire the young vibrant researchers Computer Science and Engineering Department has developed High Performance Computing Centre (HPCC). High Performance Computing Centre aims at building a

supercomputing lab working at several gigaflops of speed. With focus on high-load applications involving 3D rendering and heavy calculations, this state-of-the-art Lab encourages students and staff interested in research-oriented activities. This project is one of the first of its kind in the State of Kerala. In association with HPCC, the FISAT Free Software Cell has developed a High Performance Computing System named Dhakshina Cluster Series II by using the Beowulf Architecture. Dhakshina started as a simple desire for improved performance of applications over that provided by a single computer. Typically much more cost-effective than single computers of sing applications, Dhakshina is benchmarked at a top speed of 180 Gflops. HPCC is augmented by developing envidia based systems.

Centre for Research and Innovations in Signal Processing (CRISP)

Signal Processing techniques have come to occupy central place of importance in engineering and technology as evidenced by the plethora of electronic devices available in the market and which employ simple to complex signal processing operations. This points to the opportunities available for research in signal processing. To utilize these opportunities, the department of Electronics and Communication Engineering has set up a centre for research in signal processing. The Centre for Research & Innovation in Signal Processing (CRISP) aims to be a host to research in signal processing with particular emphasis in digital signal processing. Its mission is to translate in-house research into innovation in electronic devices and methods. The Centre is equipped with the latest signal processing software. DSP trainer kits and add on cards for audio, video processing etc. are also available for hardware execution of projects. The undergraduate and postgraduate students interested in research are encouraged to utilize the facilities available in the research centre.

Centre for Entrepreneurial Development and Small Enterprises Management (CEDEM)

The objective of CEDEM is to initiate and advance studies and action research in the areas of local entrepreneurship, which is the pivot of `local development, envisaged now through the `Panchayati Raj Institution and Decentralized Planning` in the country. In the present globalized scenario, the local entrepreneurs have the difficult task of `thinking globally and acting locally`, for which they should have a good networking with the global entrepreneurs. It is imperative, therefore, that new generation MBAs, who have to operate in a globalized local village, should have the opportunities to know and learn local entrepreneurs as a node in the global network of entrepreneurs.

Centre for Local Government and Resources Management (CLGRM)

The CLGRM aims at establishing a strong and healthy link between FBS and the local governments in Kerala, particularly with those in Ernakulam and Thrissur districts, to start with, through studies and consultancy projects in the areas of local resources management and the management of these local governments. These studies and consultancy projects are for mutual benefits. The CLGRM gets an opportunity to learn local level resources and management issues of local

governments on the one side and to offer suggestion for improvement on the other. The local governments gets assistance and advice at nominal cost to meet the managerial challenges they face in their resources management and in the present administrative system, which will help them to improve their efficiency in governance and delivery of services to people. The success of this venture, of course, depends on the intensity of participation of CLGRM and the local governments.

Project, Research & Consultancy House (PREACH)

The PREACH plans and organizes externally aided research and project activities, in addition to taking up management consultancy assignments. This provides opportunities to the faculty for applying their academic expertise to study real world industry and business situations, and the lessons they draw from such studies will, in turn, enrich their classroom lectures. The interaction of the Faculty with companies in the consultancy process will enhance the visibility of the Business School. The interests and efforts a faculty member takes in this direction are evidenced by `outputs` in the form of research papers, reports, monographs or books. As a preliminary to these final expected outputs, the faculty members prepares research materials in the form of Discussion Paper for generating discussions in the academic circles and getting comments which one can use for revising the preliminary version into final form. The PREACH aims at bringing out periodically an FBS Discussion Paper Series for general circulation among the academics, Management Institutions and selected industry/business counterparts for their remarks and comments.

Instrumentation Research and Consultancy Centre

Instrumentation Research and Consultancy Centre (IRACC) is a research and consultancy centre run by the Department of Electronics & Instrumentation Engineering. IRACC conducts various research activities in the field of Applied Sciences and Instrumentation. Research team includes staff members and students. IRACC publishes a monthly research bulletin named "*Instron*". The intention of this bulletin is to improve the technical writing skills of the staff and students of the department. The bulletin is also intended to transfer the output of research that is being carried out under IRACC. It also works as an effective medium for knowledge transfer.

The Centre for Earthquake Engineering Studies (CEES)

The Centre for Earthquake Engineering Studies (CEES) under the Department of Civil Engineering envisages to promote research in the areas of analysis of structures under earthquake, geotechnical earthquake engineering and related areas. The other research facilities include the Strength of Materials lab, Concrete lab, Geotechnical lab, Transportation Engineering Lab, Survey Lab and Environmental Engineering lab.

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 Institution encourages the faculty to upgrade their knowledge in their field and face the challenges of emerging areas of research. The Institution spends enough money for research activities and improve the infrastructure facilities in the form of computer lab and internet facilities. FISAT has started Centre for Innovation and Incubation for promoting research and entrepreneurship among students right from first year.

3.3.3 Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facilities?? If 'yes', what are the instruments / facilities created during the last four years.

- AICTE Grant for an amount of Rs. 2,00,000 was received by Computer Science Department of FISAT on 09/12/2011 for purchasing facilities for Centre for High Performance Computing.
- AICTE Grant for an amount of Rs. 4,75,000 was received by Electronics and Communication Engineering Department of FISAT on 15/02/2012 for developing in-house lab facilities and purchasing accessories for Centre for Research Innovation in Signal Processing.
- AICTE Grant for an amount of Rs. 4,90,000 was received by Electrical and Electronics Engineering Department of FISAT on 15/07/2013. The department utilized the amount for procuring development boards for the design and development of motor drive controllers for Special Electrical Machines.

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

Online Courses and Certification of IIT for FISAT staff by NPTEL

NPTEL(National Programme on Technology Enhanced Learning) is a joint initiative of the IITs and IISc. Through this initiative, online courses and certification in Programming, Data structures & Algorithms are offered. Online course is free for all, which is funded by MHRD(Ministry for Human Resource Department) and powered by NASCOM and Google.

Further, the Institute encourages and permits sharing its lab and research facilities for external students for their project works.

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

The library, laboratory and supercomputing facilities in the Institute are shared by the students and faculties for project as well as research works. The supercomputing facility is mainly used for research purpose.

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 Centre for Continuing Education, in collaboration with IITs, organizes training programmes and workshops, and develops WEB based course materials and courses on topics of interest for research for faculty and students. The Institute is also a resource centre for 'Ekalavya' project, an initiative of IIT Bombay and IIT Kharagpur, sponsored by NMEICT, for various advanced courses for research for faculty.

3.4 Research Publications and Awards

3.4.1 Highlight the major research achievements of the staff and students in terms of;

- **Patents obtained/filed**

Sl. No.	Name of the faculty	Product/Process	Patent No.
1	Mr. Anoop Jose (ME)	TAC 4 (Air Compressor)	2183CHE/2008
2	Mr. Sreejith K. R. (EIE)	3 Axis Micropipette Puller	Filed (Pending)

Table D3.9 – Patents obtained

- **Original research contributing to product improvement**

The Institute has a few original research contributions towards product improvement. Details of a few efforts are given below:

- *A Writer Identification System for Handwritten Malayalam Documents. (2007-2013)*

This thesis primarily addressed the problem of automatic writer identification of handwritten Malayalam documents. Malayalam language, through its inherent scripting technique, presented many challenges, which resulted in a detailed analysis and experimentation with different types of feature vectors. The features which were experimented with were at grapheme, character and document levels. The features identified at these three levels were analyzed using different classifiers. The prominent decisive features thus identified were utilized to develop an online character recognition system for recognizing the Malayalam characters and Grantha script.

- *WebGEIs. (2006-2007)*

The project consisted of creation of digital spatial data base of Educational facilities of Trivandrum district. Using Geographic Information Systems, spatial data pertaining to various aspects of educational information can be presented to planners and decision makers, enabling them to access and assess the present facilities of educational sector in Kerala and also help them make speedy decisions. Extensive survey was conducted to collect data and this was integrated into the database.

- **Research studies or surveys benefiting the community or improving the services**

Students of FISAT have undertaken various projects during the course which have high social relevance. Following is the list of a few such projects.

- Autonomous Car - It can reach the destination without driver. It helps in healthcare services without relying on family members or a car service
- Gesture to voice conversion for deaf and dumb people-Helps the dumb people to communicate with others
- Voice Controlled Robot - It can be used by the differently abled people
- Object Identifying Robot - It can be used for disaster management
- Eye monitored wheel chair - It helps Eye movement controlled wheel chair for physically challenged
- Interactive Braille - Tutor that helps in self-learning of Braille to blind students
- Blind Man Navigation System
- Automated self - cleaning solar panel
- Railway crack detection using IR sensor
- Two stage DC converter with isolation for LED lighting applications
- High voltage boosting DC converter for fuel cell powered residential power generation system
- Hybrid energy storage system with a special battery charger for wind power system
- Grid tied an autonomous operation of micro grid
- Grid inter connection of PV module for three phase four wire distribution system with power quality improvement
- KSCSTE sponsored project on 'Design and development of a two level expert system for recommending appropriate Computer accessibility technology for the physically challenged' at Department of Computer Science, Cochin University of Science and Technology(CUSAT) (2009-2010)
- Automatic cladding cleaning
- Power generation from an automobile using Piezoelectric materials
- Rubber tapping machine
- Paper recycling and management

- Self stabilizing boat
- Bio-diesel from waste cooking oil
- Automatic coconut dehusking machine
- **Research inputs contributing to new initiatives and social development**

The Institute encourages participation of faculty members as resource persons in external workshops/seminars aiming at the contribution of research ideas for new initiatives and social development. Following list summarizes the efforts from faculty for research contribution to society being served as resources persons in national and interenational seminars on frontier areas.

Dr. K. S. M. Panicker (Director, Academics)

- 1) *Challenges of Modern Electrical Power System*, at the fifth international symposium on Electrical and Computer Engineering, European University Lefke, TRNC, Turkey, November 27, 2008.
- 2) *Technological Challenges in Open Access Power Systems*, at NSS College of Engineering, Palakkad. August 6, 2010.
- 3) *Service Oriented Software Engineering*, at the National Conference on Computing and Communication, M. G. University, Kottayam, May 26-27, 2011.
- 4) *Open Access in Power Systems*, at the National Conference in Viswajyothi College of Engineering and Technology, Vazhakkulam, August 17, 2010,
- 5) *Smart Power Grid* at the National Conference at St. Joseph's College of Engineering and Technology, Palai, January 15, 2011,
- 6) *Future Power Systems*, at Institution of Engineers, Palakkad, November 23, 2010,
- 7) *Power System Control Centers of Future*, at the National Conference, FISAT, March 18, 2011.

Mr. Sajan S. (Department of Mechanical Engineering)

- 8) *'Effective Teaching Methodology on Engineering Mechanics'* FDP conducted at Ilahia College of Engineering, Muvattupuzha, Kerala.

Mr. Renjith R. (Department of Mechanical Engineering)

- 9) *Computational Fluid Dynamics using Ansys Fluent* National Workshop conducted at M.A. College of Engineering, Kothamangalam, Kerala.
- 10) *Advanced Technologies in Engineering Design* at the FDP conducted at SaintGits College, Pathamuttom, Kerala.

Dr. Praseeda K.I. (Department of Civil Engineering)

- 11) *Innovation in Mass Housing*'National Workshop conducted by TKM College of Engineering, Kollam, Kerala, January 8 – 10, 2015.

Dr.Binimol Punnoose (Department of Science and Humanities)

- 12) *Fuzzy Sets versus Crisp Sets–An Introduction* at Nirmala College, Muvattupuzha, Kerala.
- 13) *Advances in Applicable Mathematics* at Bharathmatha College, Thrikkakara, Kerala.

Dr. C. Sheela (Vice Principal)

- 14) *Fuzzy Lattices – an Introduction*, at Nirmala College, Muvattupuzha, Kerala.
- 15) *Image Processing – A New Approach* at BPC College, Piravam, Kerala.
- 16) *Recent Advances in Fuzzy Topology* at SNM College, Maliankara, Kerala.
- 17) *Fuzzy Topology and Category Theory*, at St. Mary's College, Thrissur.

Dr. Reethamma Thomas (Department of Science and Humanities)

- 18) *Wonder World of Optics* at Govt. Polytechnic College, Kalamassery
- 19) *Optics World*, at Govt.H.S.S.Aluva, Kerala.
- 20) *World of Lasers*, at St. Xavier's College for Women, Aluva, Kerala.

Dr.P.A.Mathew (Dean and Director FBS)

- 21) *Comparative Nature of Indian and Chinese Diaspora-School of International Studies'*, Academy of Overseas Chinese Studies, Jinan University, Guangzhou, April 2013.

Dr.A.J.Joshua (Department of Business Administration)

- 22) *Service Sector*, at National Seminar at Maharajas College, Dept. of Commerce & Economics in 2013.

Dr.Dhanya Alex (Department of Business Administration)

- 23) Research Methodology training at Sacred Heart College, Chalakudy, November, 2015.

Dr. Sunny Kuriakose A (Dean Student Affairs)

- 24) *Fuzziness*, on January 11, 2012 at a regional seminar held at Nehru Arts and Science College, Kanhangad, Kannur.
- 25) *Ordered Spaces*, on January 12, 2012 at the two day UGC sponsored National Seminar on Topology and Geometry held during January 12 - 13, 2012 at NAM College, Kallikandi, Thalasserry.
- 26) *Intuitionistic Decision Making* on February 6, 2012 at the three-day UGC sponsored National Seminar on Discrete Mathematics and its

Applications, held during February 6 - 8, 2012 at MES College, Nedumkandam.

- 27) *Exponential Function* on February 13, 2012 at the three-day UGC sponsored National Seminar on Analysis and Geometry, held during February 13 - 14, 2012 at Sree Narayana College, Alathur.
- 28) *Fuzzy Mathematics*, on February 15, 2012 at PKR College for Women, Gobichettipalayam, Erode (District).
- 29) *Intuitionistic Decision Making* on March 1, 2012 at the three-day UGC sponsored National Seminar on Discrete Mathematics and its Applications, held during March 1 – 3, 2012 at Assumption College, Changanassery.
- 30) *Intuitionistic Fuzzy Sets in Medical Applications* on March 2, 2012 at the National Seminar on Intuitionistic Fuzzy in Image Processing sponsored by CSIR held during March 2 – 3, 2012 at Kongu Engineering College, Erode, Perundurai.
- 31) *Decision Making using Intuitionistic Fuzzy set* on March 3, 2012 at the National Level Seminar on “Recent Trends in Applications of Mathematics” at Sourashtra College, Madurai – 625 004.
- 32) *Decision Making* on March 15, 2012 at the three-day UGC sponsored National Seminar on Stochastic Finance and Fuzzy Decision Theory, held during March 15 - 17, 2012 at St. Peter’s College, Kolenchery.
- 33) *Exponential Function* on March 23, 2012 at the three-day UGC sponsored National Seminar on Modern Analysis and its Applications, held during March 23, 26, 2012 at N.S.S. Hindu College, Changanassery.
- 34) *Fuzzy Mathematics* on March 15, 2012 at the three-day UGC sponsored National Seminar on Stochastic Finance and Fuzzy Decision Theory, held during March 15 - 17, 2012 at St. Peter’s College, Kolenchery.
- 35) *Fuzzy Logic and Application* on May 17, 2012 at the Staff Development Programme conducted by MCA Department of Union Christian College, Aluva.
- 36) *Decision Making, a new approach*, on December 7, 2012 at a three-day UGC Sponsored National Seminar on Discrete Mathematics and Applications at Mar Thoma College, Tiruvalla.
- 37) *Decision Making, a new approach* on December 10, 2012 at a three-day UGC Sponsored National Seminar at KKTU College, Kodungalloor.
- 38) *Fuzzy Mathematics*, on February 14, 2013 at a two-day UGC sponsored National Seminar on Fuzzy Logic & Fuzzy Logic with its Applications held during February 14 – 15, 2013 at KNM Government Arts and Science College, Kanjiramkulam, Thiruvananthapuram.
- 39) *Some issues in Data Communication* on February 16, at a three-day UGC Sponsored National Seminar on Mathematics in Space Technology held during February 14 – 16, 2013 at Little Flower College, Guruvayur.

- 40) *Application of Mathematics in real life* at a one day seminar organized on by Nirmala College, Muvattupuzha.
- 41) *From Discrete to Continuous* on March 9, 2013 at a two day UGC sponsored National Seminar at Jamal Muhammed College, (Autonomous) Trichy.
- 42) *Mathematics learning – a new perspective* on March 9, 2013 at Cavery College, Trichy.
- 43) *Formal Language and Automata* on March 12, 2013 at UGC sponsored lecture series at Mar Ivanios College, Thiruvananthapuram.
- 44) *Fuzzy ordered fuzzy topological spaces* on March 16, 2013 at a one-day UGC sponsored National Seminar on ‘Advances in Mathematical Sciences’ at Erode Arts and Science College (Autonomous).
- 45) *Modelling using Fuzzy Mathematical tool* on April 5, 2013 at a two-day UGC sponsored National Conference on ‘Modelling Optimization & Computational Techniques’ held during April 5 – 6, 2013 at S.N.M College, Malinakara.
- 46) *Learning Mathematics – a Different Perspective* at the DST Sponsored *INSPIRE SCIENCE CAMP* held during May 27-31, 2013 organized by the Department of MCA, Union Christian College, Aluva.
- 47) *Fuzzy and Intuitionistic Fuzzy Logic and Applications* on May 29, 2013 at a Five- day workshop on ‘Fuzzy Logic and ANN, Applications in Engineering’ organized by Departments of Electrical and Electronics Engineering Computer Science & Engineering Electronics & Communication Engineering Telecommunication Engineering Instrumentation Technology Information Science & Engineering during May 27 – 31, 2013 at R. V. College of Engineering, Bangalore, Karnataka.
- 48) *Challenges and New Perspectives in Student Support* on June 12, 2013 at a NAAC sponsored National Conference on Education for Sustainability: Challenges & Opportunities organized during June 12 – 13, 2013 by M. E. S. College, Marampally.
- 49) *Fuzzy Logic and Applications* on August 24, 2013 at T.K.M. Engineering College, Kollam
- 50) *Introduction to Evidence Theory* on September 4, 2013 at the UGC sponsored National Seminar on Fuzzy Mathematics and Fuzzy Semigroup held during September 4-5, 2013 at S. N. College, Punalur.
- 51) *Introduction to Evidence Theory* on September 7, 2013 at the NBHM, DST sponsored National Conference on Mathematical Analysis held during September 6 - 7, 2013 at K. S. Rangasamy College of Arts and Science, Thiruchencode, Erode.
- 52) *Introduction to Differential Geometry* on October 22, 2013 at the UGC Sponsored National Seminar on Differential Geometry held during

October 22 – 23, at Panampilly Memorial Government College, Chalakudy.

- 53) *Modeling Using Fuzzy Mathematical Tools on Decision Theory* on January 9, 2014 at a one-day regional seminar at Devamatha College Kuravilangad.
- 54) *Fuzzy Decision Theory*, on January 14, 2014 at the International Conference on Advances in Applied Probability, Graph Theory and Fuzzy Mathematics, held during January 11-14 2014 at St Peters College, Kolencherry.
- 55) *Exponential Function* on January 23, 2014 in the UGC sponsored National Seminar on Advanced Mathematical Analysis and Operator Theory held at Aquinas College, Edacochin.
- 56) *Modeling Using Fuzzy Mathematical Tools* on February 7, 2014 at the one day National Level seminar on Modern Scenario of Applied Mathematical Sciences at Nandha Arts and Science College, Pitchandapalayam Post, Erode, Tamilnadu.
- 57) *Information Retrieval – a New Paradigm*, on February 14, 2014 at the international conference on Mathematical Methods and Computation organized by the PG & Research Department of Mathematics, Jamal Mohamed College (Autonomous) Thiruchirappalli, Tamilnadu.
- 58) *Introduction to Fuzzy Mathematics* on February 18, 2014 at UGC sponsored lecture series at Mar Ivanios College, Thiruvananthapuram.
- 59) *Modelling using Fuzzy Mathematical Tools* on February 25, 2014 at the UGC sponsored National Seminar at PSMO College, Tirurangadi.
- 60) *Platonic Solids* on March 13, 2014 at a two-day UGC Sponsored National Seminar at Sree Sankara Vidyapeetom College, Valayanchirangara.
- 61) *Formal Language and Automata Theory*, on June 20, 2014 in the Faculty Development Programme conducted at Adi Sankara Institute of Science and Technology.

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?

Yes; the Institute publishes a research journal. The members of the Editorial Board are:

- 1) Dr. George Issac (Principal)
- 2) Dr. K. S. M. Panicker, Director Academics (Chief Editor)
- 3) Dr. C. Sheela (Vice Principal)
- 4) Dr. Anil Kumar (Executive Editor)
- 5) Dr. Sunny Kuriakose (Dean, Student Affairs)

- 6) Dr. Arun Kumar M. N.
- 7) Dr. Praseeda K.I.
- 8) Dr. Anoo Anna Antony
- 9) Mr. Sundararajan
- 10) Mr. Jithin Babu
- 11) Dr. Ajalesh B Nair
- 12) Dr. Dhanya Alex
- 13) Ms. Archana R.
- 14) Ms. Jeslin P. Jo
- 15) Ms. Deepa Mary Mathews.

3.4.3 Give details of publications by the faculty and students:

Details provided in Appendix

3.4.4 Provide details (if any) of Research awards received by the faculty

Faculty of the Institute have bagged best research paper awards in various conferences. Following is the list of awards.

- Archana R. (EEE) received Best Paper Award in 2nd International Conference on Computational Techniques and Artificial Intelligence (ICCTAI'2013) March 17-18, 2013 at Dubai (UAE) organised by Planetary Scientific Research Centre - 'Bifurcation Analysis of Chaotic Systems Using a Model Built on Artificial Neural Networks'.
- Archana R. (EEE) received Best Paper Award in 24th Swadeshi Science Congress November 6-8, 2014 at Thunchath Ezhuthachan Malayalam University, organised by Swadeshi Science Movement (A unit of VijnanBharathi). 'Analysis and Modeling of Chaotic Systems in Nature with a Neural Network Based Training Algorithm'
- Prof. Sindhu George (MBA) was awarded the best paper award in 2014 at the national seminar on 'Innovations and Strategic Business Practices' hosted by Sree narayana Guru Institute of Science and Technology.

3.5 Consultancy

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

With the aim of enhancing institute–industry interaction, various departments of the Institute holds training programmes/workshops/seminars involving resource persons from industries. Academic Advisory Councils of various departments include members from the industry to establish institute–industry interface.

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

The Institute encourages and extends financial assistance to faculty and students for presenting their project and research works in seminars and conferences for publicizing their work. Further, research publications in journal and books are highly appreciated and rewarded. The papers presented during internal conferences are published as conference proceedings and research papers are compiled as research journals from the Institute and made openly available.

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

The Institute permits the use of in-house lab facilities and the assistance of lab staff and extends all possible support, including financial incentives for consultancy services. Students are also encouraged to involve in consultancy projects. The Department of Civil Engineering offers consultancy in testing of materials like cement, steel and wood.

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

Following is the list of consultancy work offered by the Department of Civil Engineering of the Institute.

Sl. No.	Area of Consultancy	Income generated
1	Compressive strength test on concrete cubes, tensile on tor steel bars and grading of fine aggregates	Rs.30000/-
2	Work for Indian Railways for testing ballast for crushing strength	Rs.500/-
3	Design of overhead water tank for IIP Colony, Angamaly.	Rs. 3000/-
4	Structural Consultancy work for CEMEC Trading & Services LLC, Oman	Not Billed

Table D3.10 – Details of income generated from consultancy

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?

The income generated through consultancy is utilized for developing the collaborative research centres in the Institute and as Institute fund for faculty and students for publishing their research and project works.

3.6 Extension Activities and Institutional Social Responsibility (ISR)

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

FISAT aims to mould socially committed visionaries. The Institute is situated in a rural village and as such the upliftment of the community is the primary responsibility of the Institution. For this, community outreach programmes are often organized. Orientation programmes are conducted to instill social commitment among students and therefore the outreach programs carried out by

the students are unique. Anti alcohol, anti drugs and road safety campaigns are conducted in the campus and outside with the support of various Govt. departments and NGOs to create awareness among the students and the public. English literacy programmes and computer literacy programmes are also regularly conducted by the students among the rural village population. Awareness on water born diseases, fund raising for charity programmes, treatment of persons with terminal illness, blood donation programmes, social visits to orphanages and special schools, are also conducted with much enthusiasm among students. Rehabilitation of the differently abled students is a major challenge undertaken by the Institute. Students are encouraged to do project works in developing assistive devices for differently abled students. Electronic walking system which was developed recently the visually challenged is a project work undertaken by group students. *Kazcha*, Home for Homeless, A Day to Remember, *Sneha Sangamam* are few of the star programmes carried out by the students demonstrating their social commitment.

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

Student forums like NSS, SCOPE, FOCUSS, SWAN, Road Safety Club and Class Committees are in the forefront in carrying out the vision of the Management. Staff co-ordinators are appointed to guide students in these activities. A Social Service Cell itself is formed to steer the social activities of the institute. Further, all departments carry out various orientation programmes, outreach programmes, literacy programmes, awareness programmes and social visits on their own. The Social service activities of the Institute are Co-ordinated by Mr. Jiby Varghese (Asst.Prof.), Dr.Molly Joseph and Mr. Jacob Peter (P.R.O)

The Management has appointed a Dean for Student Affairs and a Student Co-ordinator for the planning and execution of student activities.

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

The Institute collects regular feedback from students, staff, parents and alumni regarding the quality and effectiveness of different curricular and extra/co-curricular activities.

The Institute mandates periodic stakeholders' meetings such as PTA meetings, Academic Advisory Council meetings, Faculty meetings, Student Council meetings. Besides the formal feedback from the stake holders, direct and indirect suggestions and criticisms are well received so as to assure quality in every event organized in the Institute

3.6.4 How does the institution plan and organize its extension and outreach programmes? Providing the budgetary details for last four years, list the major extension and outreach programmes and their impact on the overall development of students.

The Institute plans and organizes outreach programmes that improve the quality of the life of the rural public. FISAT used to be a part of all the social activities like sanitation, health care etc. organized by local Govt.bodies. Local Grama

Panchayath actively interacts with the Institute in identifying priority projects. These programmes are executed in association with various youth clubs of the locality. Govt. departments like Health Department, Agriculture Dept., Motor vehicle Dept. and Social Welfare Dept. associate with the Institute for carrying out the community development programmes.

KAZCHA

KAZCHA is a charity programme of SCOPE and NSS mobilizing funds through voluntary collections from students. Charity boxes are placed in class rooms and contributions are collected once in every month. Funds raised are distributed for treatment of patients with long term illness. Around Rupees 30 lakhs were collected and distributed among the needy. A committee formed with the staff, students, PTA, Management monitors the flow and disbursement of the fund.

FOCUSS

FISAT Outreach Centre for Uplifting Science in Society (FOCUSS) was inaugurated October 9, 2012 by Shri. Kapil Sibal (Union H R D Minister). FOCUSS organized District Bala Sasthra Congress on 30th April and 1st May 2013. FOCUSS also organized a programme for school students named *Fisatlileku Oru Padana Yathra* on 3rd May 2013.

HOMES FOR HOMELESS

Decennial Home Project is a prestigious project of SOPE & NSS launched on 9th Oct 2012 as part of Decennial celebrations. The project is to construct 10 houses for homeless people in and around Angamaly. The funds were raised from students, staff members, alumni, PTA and Management. Applications were invited through write-ups in media and beneficiaries were selected on merit after visiting the places for assessment. Students and staff members voluntarily worked for the completion of the work. Ten houses are already constructed. Ms. P.K.Jayalekshmi, Hon. Minister for Youth Affairs handed over the keys of Decennial Homes. The project is an ongoing programme of FISAT's social commitment. Around Rupees 25 lakh was spent for the programme. A decennial Home Committee with Dr.C.Sheela as Convenor and Mr. Jiby Varghese as Project coordinator, co-ordinated the project.

A DAY TO REMEMBER and SNEHA SANGAMAM

'A Day to Remember' was hosted by FISATians for differently abled children on 28th Sept 2013 and in 20th Sept 2014. 100 Students from 20 special schools gathered at AELI Hills, Aluva. 25 students from 5 regular schools and 30 FISATians under the leadership of Mr. Jiby Varghese and Mr. Jacob Peter spent a full day with these children, engaging them in group activities, music and dance practicing. Handful of presents was given to all student. The programme was organized in association with Stallions International, Aluva Chapter. *Sneha Sangamam* was another programme hosted by FISATians for patients with terminal illness in association with 'Solace' at Choice School Thripunithura.

INSIGHT Road Safety Club

The Road Safety Club 'INSIGHT' works to create awareness among students regarding road safety measures and traffic rules. Road shows were held at

Angamaly and Alwaye in association with Motor Vehicle Dept. and seminars were also held to generate awareness among the public on road safety.

SWAN - Nature club

The nature club SWAN aims at creating a new generation of youth, that recognizes the importance of preserving nature and creates eco-friendly and green solutions. A high Tech Green House farming project with central and state subsidies is implemented on the campus to inculcate and propagate the modern pollution and chemical free agriculture in society. Sri. K.P. Mohanan, Hon. Minister for Agriculture, Govt. of Kerala inaugurated the Green House at FISAT campus on 12th April 2013. A blood donation cum grouping camp was also conducted. Many volunteers donated their blood and lists of students were prepared as prospective donors. Student volunteers of SWAN conducted a clean-up campaign at the picturesque spot Vagamon in Idukki. The SCOPE & NSS team also conducted blood donation camp on 14th Jan 2015.

SOCIAL VISITS

Social visits are conducted regularly by various branches of students. The students are given a week long orientation in social service programmes. The theme of the orientation was named 'Adopt' and students are urged to adopt a special child, a special school or institution for their social project prescribed in the curriculum. The Social Outreach Programme of students were organized on 26/6/2014, 30/6/2014, 2/7/2014, 2/7/2014, 1/7/2014 and 27/6/2014. About 600 students participated in the programmes organized at Josepuram, E Colony, Mookkannor 6 cent colony, different schools in and around Angamaly, Mookkannor, Blind School Aluva, oldage homes etc. These visits are organised to inculcate a social outlook towards the society. Science promotional Activities were conducted at Azhakam Govt. School, St. Sebastain School Kanjoor, St. Joseph School Angamaly, Holy Family School Angamaly, Govt. School Vattekadu. A group named *Chegatikkuttam* regularly visits tribal and other under privileged areas to have a cultural exchange and conducts various programmes to uplift them to the main stream community.

SCOPE organizes gender justice, anti-alcohol, and anti-tobacco campaigns.

Social Responsibility Club of FISAT Business School spent a full day with the inmates of Bethseida Old age Home, at Vengola and donated Rs. 10000/-. CSE students and staff members also visited Bethseida Old age Home and donated Rs. 15000/-. The MCA students visited Anughragha Sadan, Chalakudy and hosted Onam Sadhya for the inmates. *Akashparavakal* near Mookkannoor is visited by the students on special occasions.

IT Vision 2012 was a joint venture of CSE dept, FISAT and MAS Club, Mookkannoor to bring computer awareness to rural areas of Angamaly. The beneficiaries of the programme includes students, social workers, house wives, labourers and local community. Goal of this training programme is to make Mookkannoor a completely computer literate village. FISAT Management provides all the resources for this project. So far 5400 people have completed their training. As a continuation of the massive IT literacy campaign, CSE dept

organized IT training for inmates of SOS Children's Village, Alwaye in FISAT campus during summer vacation.

TECHNICAL EXHIBITIONS

CSE students conducted 'IT to School' exhibition at Mar. Athanasius High School, Nedumbassery for imparting computer skills to students in and around Nedumbassery. M.Tech students organized an exhibition at St. Joseph College Irinjalakuda. Technical Expo was organized in association with Malayala Manorama at CSA auditorium, Angamaly. Mangal Yatra, a mobile exhibition, was conducted by FOCUSS.

The Alumni association 'FISTAA' is very active in the college. *Preveshnolsavam* was organized in Azhakom Govt.L.P.School. FISTAA supplied uniforms and learning materials to students.

FISAT Business School, in association with nearby Grama Panchayaths, organized a seminar on rain water harvesting *Neerthullikal* on 12th September 2013. Mr. Anoop Jacob, Hon. Minister, Govt. of Kerala was the chief guest

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 Management is very keen in promoting the social face of the institute through various programmes. The staff and students whole heartedly plan and execute various community service programmes. Necessary funds are sanctioned/raised from time to time to carry out the outreach programmes. The Chairman and Governing Body members, Principal, Vice principal, Deans and HoDs attend all the social activities to inspire the students.

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?

Surveys are conducted on the socio economic conditions of the village population by students and house visits are conducted for sanitation and health care programmes.

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.

Many of the students coming from high income groups are often met with real world living conditions especially of the less privileged class. Social visits to rehabilitation centres and special schools empower them to be good leaders and enlighten them to have a value-based life and contribute to the societal needs. Leadership qualities developed through these programmes enable them to convert challenges into opportunities. The research centre of the institute encourages students to do projects to alleviate poverty and contribute to the economic development of the country.

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?

The Institution is unique in its nature as it is managed by a Trade Union. The Institute works on a 'Not for Profit' basis and has great repute in the professional education sector and among local public. Meritorious students from the rural village are admitted in the Institute on a reservation basis and are given scholarships and financial assistance. Elected members of the local bodies are active members of the Parent Teacher Association. Workshops are conducted to empower Grama Panchayath members, Kudumbasree workers and other women organizations. As such the institute enjoys the good will and support of the village population.

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.

Local Govt. bodies and various Govt. departments actively supports the community outreach programmes of the Institute. Social visits to the wards of the Grama Panchayath are conducted with the participation of the Grama Panchayath. Computer Literacy programmes are carried out with the support of local youth clubs. Career Guidance programmes and Technical exhibitions are organized with the support of Kerala State Council for Science And Technology, Angamaly Municipality and Govt. Higher secondary schools in and around Angamaly. Rehabilitation programmes for the disabled are carried out in association with NGOs like Stallions International, School for Blind, Rotary Club and Solace.

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.

Stallions International has selected FISAT as best social worker (Institution) in 2013-14. Solace has selected FISAT as the best social worker in 2014-15. Several appreciations and mementos were also received for blood donation campaigns and Decennial Home project.

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 Centre for Continuing Education, in collaboration with IITs, organizes training programmes and workshops, and develops WEB based course materials and courses on topics of interest for research for faculty and students. The Institute is also a resource centre for 'Ekalavya' project, an initiative of IIT Bombay and IIT Kharagpur, sponsored by NMEICT, for various advanced

courses for research for faculty. Students are encouraged and assisted to do project works outside the campus.

The in-house lab facilities and the assistance lab staff are shared for consultancy services from Industries as well as for project works of students from other Institute.

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.

The Institute has MoUs with the following organizations of national importance and other universities.

Sl.No.	Name of the Organisation	Details of MoUs
1	ICT Academy, Kerala	Training and Other activities with recognized partners
2	BSNL	Collaboration for conducting seminars, workshops, research development
3	Reubro International	Joint project development and internships
4	Texas Instruments	Collaboration for conducting LabVIEW workshops
5	KELTRON,Trivandrum	MoU was signed between Dr.George Issac, Principal and Mr. C. Prassanna Kumar, Director Keltron on 6 th October 2015

Table D3.11 – Details of MoU

MoUs have facilitated frequent workshops, venues for student internships, faculty development programmes etc. for academic development of the Institute.

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 consultancy services by the Institute provide great support for developing in-house lab facilities and support students and faculty for research activities. The activities of various student chapters and technical forums such as Thyra, Echo, Electra, Idea, Matrix, ACE, Fiesta, Forum, MBA Association, the tech fests, panel discussions etc. organized by these forums provide industry– institute–community interactions.

3.7.4 Highlighting the names of eminent scientists/participants, who contributed to the events, provide details of national and international conferences organized by the college during the last four years.

2014-15

1. International Conference on Advanced Computing and Communication Technologies for High Performance Applications'[ACCTHPA] organized by the Department of Computer Science and Engineering during June 19 – 21, 2014

Eminent scientists / participants who contributed to the events

1. Prof. V.N. Rajasekharan Pillai (Executive Vice- President and Principal Secretary, Science & Technology Department)
 2. Mr. S. P.Soman (Regional Vice- President, Computer Society of India)
 3. Dr. G.Santhosh Kumar (School of Computer Science, and Engineering, Cochin University of Science and Technology, CUSAT)
 4. Dr. Vijayakumar (School of Computer Science, M.G.University, Kottayam)
 5. Mr. Deva Joseph (Delivery Center Head of Digital Enterprise Services and Solutions -TCS Kochi)
2. National Conference on ICEFOSS-15 organized by the Department of Computer Science and Engineering during January 15-16, 2015
6. Dr. M. P. Sebastian (IIM Kozhikkod)
 7. Mr. Praveen A. (Debian Developer and Free Software Activist)
 8. Mr. Pramod C.E. (Free Software Consultant)
 9. Mr. Naufel Ibrahim (Free Software Consultant)
 10. Ms. Meera Chandran (Programmer and consultant on Free and Open Source Software Based Technologies)
3. National Seminar organized by the Department of Civil Engineering during September 18-19, 2015
11. Mr. Shreeganesh V.Nair (Green Building Consultant)
 12. Dr. Arun C.O. (Indian Institute of Space Science and Technology)
 13. Dr. Meril George (SCMS School of Engineering and Technology)

2013-2014

4. National Conference on ICEFOSS-14 organized by the Department of Computer Science and Engineering during January 6 - 7, 2014
14. Dr. Nagarjuna G. (Chairman, Free Software Foundation of India)
 15. Mr. Santhosh Thottingal (Language Engineering, Wikimedia foundation)
 16. Mr. Sahir K. (IBM India)
 17. Mr. Pramode C.E. (Programmer and consultant on Free and Open Source Software Based Technologies)
 18. Ms. Uma M.N. (Technical Head, TCS)
 19. Mr. V.K. Adarsh (Free Software Activist)

2012-13

5. International Conference on Advanced Computing and Communication Technologies for High Performance Applications' [ACCTHPA] organized by the Department of Computer Science and Engineering during June 21 – 23, 2012
 20. Dr. M.N. Bandyopadhyay (Director, National Institute of Technology, Calicut)
 21. Dr. U. Krishnakumar (Director, Amrita School of Arts & Sciences, Cochin)
 22. Dr. Y.S. Kumara Swamy (Dayananda Sagar College of Engineering, Bangalore)
 23. Dr. V. Muruges (Keimyung University)
 24. Dr. B. Ramadoss (NIT Trichy)
6. National Seminar on Current Advancements in Communication, Control and Instrumentation Engineering organized by the Department of Electronics and Instrumentation during May 17 – 18, 2012
 25. Dr.A.Unnikrishnan (Associate Director, NPOL, Kochi)
 26. Dr.Koshi George (Professor, PESIT, Bangalore)
 27. Mr. R.Sreeram Kumar (Professor & HOD, Dept. Of EE, NIT, Calicut)
 28. Dr.Jacob Philip (Director, STIC, CUSAT)
 29. Dr.V.P. N.Nampoori (Professor Emeritus, CUSAT)

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 that enhanced and/or facilitated -

- a) Curriculum development/enrichment
 - b) Internship/ On-the-job training
- Summer placement
Faculty exchange and professional development
Research
Consultancy
Extension
Publication
Student Placement
Twinning programmes
Introduction of new courses
Student exchange
Any other

There are Five MoU's already signed. The MoUs with organization/research institutes attract consultancy offers. Further, the MoUs have enabled representatives from the organization/research institutes to be members of

academic Advisory Council of various departments of the Institute. The Council meets regularly for assessing the academic and co-curricular activities of the departments and suggests improvements in the syllabus, add-on programmes/courses to be included for curriculum improvement. The Council provides suggestions regarding organizing seminars/conferences/workshops etc. involving faculty and students' thereby encouraging publication of the research works. The Council also provides rovide valuable suggestions regarding student's research and project works and their involvement in consultancy services, thereby enhancing student placement.

The Institute organizes Faculty Development Programmes (FDPs) in association with ICT Academy of Kerala.

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

The Institute envisages and plans for converting various in-house research centres to high profile research laboratories in collaboration with the national and international research institutes. Presently, the Institute expects the sanction for a research centre of APJ Abdul Kalam Technological University within the campus. With this perspective, the Institute encouraging the existing faculty for doctoral qualification. With respect to recruitment of new faculty, the Institute attracts candidates with Ph.D, by means of high financial incentives and research facilities.

The Institute has taken strong effort in streamlining its budgetary guidelines to include funds for seminars/conferences/workshops etc. as initiated by the MoUs.

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

Nil

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CRITERIA IV: INFRASTRUCTURE FACILITIES

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

FISAT envisions becoming a world class professional institute with state-of-the-art infrastructure facilities. Facility management is an integral component of the operation of the Institution, which impacts the quality education delivery to a great extent. In addition to efficient faculty, clean, quiet, safe, comfortable and healthy college environments are important components of successful teaching and learning process. The policy of the Institute on infrastructure management consists of

- (a) Creation of physical facilities like well-designed buildings for conducting classes and lab sessions.
- (b) Modern lab equipment with proper calibration.
- (c) Developing ICT related infrastructure.
- (d) Generation of Electrical/Solar/Bio-gas Power.
- (e) Library books and related infrastructure.
- (f) Creation of other facilities and efforts towards keeping the campus eco-friendly and the environment protected.

Various Committees are appointed to take appropriate decisions about the construction of new buildings based on requirement. The suggestions and views of the staff, students and other stakeholders are also considered in this regard.

Specific policies related to Infrastructure of the Buildings and Maintenance

Good infrastructure facilities, as per the AICTE norms, are available on the campus. Before the construction of any building, meticulous planning is done. The location and nature of every new addition is decided strictly in accordance with the Master Plan. An architect is appointed and the Management in consultation with the Governing Board invites sealed tenders and the work is placed. There is a Construction Committee which meets weekly to assess the progress of the construction. Special care is taken to get the work done in the best possible manner.

The maintenance of the entire infrastructure is done very systematically and there is a separate department under the Chief Administrative Officer to carry out all maintenance work.

ICT and Power Infrastructure Policies.

The Institute provides ample Information and Communication Technology infrastructure to enhance the educational, administrative, communicative and operational efficiency. The system manager takes care of the creation, upgradation and monitoring of the ICT infrastructure. Log books are maintained for the use of ICT equipment such as LCDs, common laptops and smart boards. High-speed Internet and Wi-Fi access are made available to all students and faculty. The Website of the Institute is maintained periodically.

Power Facilities

The Institute receives power from Kerala State Electricity Board through one 11kV/415V transformer having 400kVA capacity. We also have three stand-by AC generators; which can be connected to the sub-station bus bars through interlocking switches.

A total of 160kVA power supply with different UPS ensures uninterrupted power supply to sensitive equipment such as computer systems, servers for computer systems, cameras, and sophisticated instruments in the laboratories and workshops. Besides, there are DC power supply units, including two 22kW large DC power supply units.

Library

The Institute has a fully automated Main Library with modern software and OPAC system. It provides excellent learning resources catering to the ever growing intellectual requirements of the students, faculty, and researchers. It is also equipped with a repository of learning materials of NPTEL. The association with DELNET enables access to various journals from 5002 libraries in South Asia. Besides the Main Library, there are separate department libraries.

The Library procures and ensures effective use of the latest hard/soft copies of books, journals, documents, reports and other learning resources regularly.

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.

Every department has necessary infrastructure facilities for healthy and effective teaching and learning process.

A. Infrastructure facilities for academic activities

Sl. No.	Items	No of Rooms	Area (sq.m)
1	Class Rooms	48	4025.28
2	Tutorial Rooms	25	1070.00
3	Laboratory	71	5595.51
4	Research Lab	6	444.00
5	Workshops	2	1084.50
6	Main Library	1	794.00
7	Drawing Hall	1	229.50
8	Dept. Library (CSE, EEE, EIE, CE, ME, ECE)	6	503.16
9	Dept. Library (MBA)	1	172.17
10	Dept. Library (MCA)	1	83.86
11	Seminar Hall 1	1	235.39
12	Seminar Hall 2	1	146.15
13	Seminar Hall 3	1	146.15

14	Seminar Hall 4	1	420.00
Total			14949.67

Table D4.1 – Details of infrastructure for academic activities

B. Lab facilities available theDepartments

(i) Department of Mechanical Engineering

Sl.No	Name of Lab/Workshop	Area (sq.m)
1	Carpentry & Fitting	182.16
2	Smithy & Foundry	194.08
3	Hydraulics Lab	222.36
4	Heat Engine Lab	377.62
5	Mechanical Measurement Lab	116.75
6	Machine tool Lab	405.26
7	Mechanical systems Lab	116.75

Table D4.2 – Lab facilities (Mechanical Engineering)

(ii) Department of Civil Engineering

Sl.No	Name of Lab/Workshop	Area (sq.m)
1	Civil Engineering Workshop	93.6
2	Strength of Materials Lab	160
3	Surveying lab	93.6
4	Geotechnical Engineering Lab	140
5	Concrete Lab	150
6	CAD Lab(Shared with ME Dept)	115.09
7	Transportation Engineering Lab	150
8	Environmental Engineering Lab	111.36

Table D4.3 – Lab facilities (Civil Engineering)

(iii) Department of Electronics and Instrumentation Engineering

Sl.No	Name of Lab/Workshop	Area (sq.m)
1	Transducers and Measurement Lab	96.348
2	Process Control Lab	96.57
3	Virtual Instrumentation Lab	40

Table D4.4 – Lab facilities (Electronics and Instrumentation Engineering)

(iv) Department of Electronics and Communication Engineering

Sl.No	Name of Lab/Workshop	Area (sq.m)
1	Basic Electronics Lab	103.8

2	Integrated Circuits Lab	96.2
3	Microprocessor Lab	96.57
4	Systems lab	71.965
5	Communication Lab	103.8
6	Electronic Circuit Lab	96.57
7	PG Lab	112.23
8	Research lab	83.85

Table D4.5 – Lab facilities (Electronics and Communication Engineering)

(v) Department of Electrical and Communication Engineering

Sl. No.	Name of Lab/Workshop	Area (sq.m)
1	Electrical and Electronics Workshop	112.52
2	Electrical Machines Lab	26.248
3	Electronic Circuits Lab	112.52
4	Electrical Measurements Lab	112.52
5	Control and Simulation Lab	96.57
6	Advanced Electrical Simulation Lab	54.61
7	Microprocessor and Microcontroller Lab	93.496
8	Power Electronics Lab	96.57
9	Advanced Power Electronics Lab	96.57
10	Research Lab	96.57

Table D4.6 – Lab facilities (Electrical Engineering)

(vi) Department of Computer Science and Engineering

Sl. No.	Name of Lab/Workshop	Area (sq.m)
1	Programming Lab(L1)	68.13
2	Lab(L2)	68.13
3	Open Source Technologies Lab(L3)	136.26
4	Lab(L5)Shared with MBA Department	68.13
5	Database Lab	145.4
6	Hardware Lab	72.15
7	PG Research Lab	36
8	Internet Lab/NPTEL Lab/Language Lab/MOOCs Lab	120.88
9	Multimedia Lab(New Lab to be constructed)	136.26
10	High Performance Computing -Research Lab	21.38
11	Networking Lab	72.15
12	Python Lab(New Lab to be constructed)	68.13
13	Web Technology & Graphics Lab(New Lab to be constructed)	68.13

Table D4.7 – Lab facilities (Computer Science Engineering)

(vii) Department of Computer Applications

Sl. No.	Name of Lab/Workshop	Area (sq.m)
1	MCA Programming Lab L4	136.26
2	Lab(L5)Shared with MBA Dept	68.13
3	Hardware Lab(shared with CSE)	72.15
4	Open GL Lab(to be constructed)	136.26

Table D4.8 – Lab facilities (MCA)

(viii) Department of Business Administration

Sl. No.	Name of Lab/Workshop	Area (sq.m)
1	SPSS and Office Training Lab(L5, Shared with MCA)	136.26

Table D4.9 – Lab facilities (MBA)

C. Administration Related Facilities

Sl.No.	Administration Rooms	Area (sq.m)	Location
1	Placement office	56.76	NB(North Block)
2	Chairman s Room	85.5	AB(Administrative Block)
3	Principal Room	57.28	AB
4	Board Room	60.86	AB
5	Boy's Common Room	1.1	Men's Hostel
6	Department Office Dean	33.04	NB(North Block)
7	Department office EIE	22.94	SB
8	Department office ECE	23.8	SB
9	Department office ECE	23.8	SB
10	Department office CSE	23.8	SB
11	Department office Electrical	23.8	SB
12	Instrumentation Lab (EIE)	68.44	Mechanical Lab Block
13	Department office MECH	27.52	Mechanical Lab Block
14	Cabin for Head of Department (ECE)	10.23	SB
15	HOD MCA	10.22	NB
16	HOD MBA	22	NB
17	HOD Civil	23.8	SB
18	HOD Civil Staff Room	23.8	SB
19	Mechanical Lab	76.27	Mechanical LAB Block
20	HOD Civil	36.2	Mechanical LAB Block
21	Store	10.23	NB
22	Bank	71.965	SB
23	Faculty Room (Maths)	72.15	SB
24	Faculty Room (CSE)	29.68	SB
25	Seminar Hall Civil	135	NB
26	Faculty Room (EEE)	72.15	SB
27	Faculty room Civil	72	AB

28	Tutorial Hall (ME)	58.18	AB
29	Guest Faculty (EC Mechanical)	10.22	NB
30	Seminar Hall	133.3	NB
31	Faculty Room (Basic Science)	27.3	NB
32	MCA Staff Room	83.42	NB
33	Faculty Room (CSE)	104.99	SB
34	Faculty Room (ECE)	47.545	SB
35	Faculty Room (ECE)	71.965	SB
36	MECH Staff Room	84.28	NB
37	HOD Mech	18.81	Mechanical Lab Block
38	Additional work Shop	200	Mechanical Lab Block
39	Exam Control Office	58.175	Admin Block
40	Central Store	30	NB
41	Medical Centre	55.9	NB
42	Girls Common Room	1.1	Ladies Hostel
43	House Keeping	58.29	HK
44	(Electrical Room)	15.687	SB
45	Office All inclusive) Strong Room	30	Admin Block
46	Office (All inclusive) Strong Room	15.687	Admin Block
47	Store	9.6	Admin Block
48	Store	6.2	SB
49	Store	10	SB
50	Generator Room	25.87	Sub station
51	Chief Administrative office	23.4	Admin Block
52	Office	14.26	Admin Block
53	PRO	15.28	Admin Block
54	Conference room	57.28	Admin Block
55	Language Lab	94	SB
56	Reception	15.28	Admin Block
57	Security Cabin	30	Security

Table D4.10 – Administration Related Facilities

D. Details of other facilities available

Sl.No	Description	Room No	Total Area
1	First aid cum Sick Room	145	66.04
2	Stationery Store	110	15.84
3	Computer Centre	341	200
4	Placement Office	153	56.76
5	Cafeteria	CAN	590
6	Substation	GR	25.87
7	Security	SC	30
8	Bank	Bank	14.38
9	Parking	P	89

10	Parking	TP	235
11	Canteen	C1	25
12	Principal Quarters	Q1	262
13	Sports Club	HC	145
14	Language Lab		
15	Toilet Facilities in campus	Total Count	
	For Girls	15	
	For Boys	24	
	For Girls in hostel	110	
	For Boys in hostel	138	
	For Staff members	17	

Table D4.10 – Detail of other facilities

E. Curricular and Co-Curricular Activities

a) IEEE

The FISAT Student Branch of Institute of Electrical and Electronics Engineers was started in November 2003. It was initiated by Shri S. Gopakumar, the Students Activities Chairman and IEEE GOLD MEMBER Shri. Varghese Cherian. Various programmes are conducted at the FISAT campus by the IEEE Student Branch, which includes Tech Talk, Management Sessions. Now there are around 890 members in this chapter. This chapter has been rated among the top 5 active student branches in Kerala section. Three of our students bagged IEEE recognition as outstanding student volunteer for 2004. The chapter organizes intercollegiate technical programs NAUTILUS - THE PRAYANA every year. This chapter won the Best Student Chapter Kerala Section Award for the year 2007 and outstanding leadership award from IEEE, USA.

Achievements- 2013

- Vishakha Khona serves as the Hub SR for the year 2013.
- Vishakha Khona is representing Kerala Section for the Working Committee at WIC IEEE computer Society, India Council.
- Anjali Hariharan got selected into the technical committee of Women in Computing, IEEE Computer Society, India Council.
- Emil Jose, Malavika Menon and Lia Chacko participated in 4th international conference on intelligent system modelling and simulation held at Bangkok on January 29th, 30th and 31st 2013.

Achievements- 2012

- Hosted AKSC-IndustryUs12 and WIE Forum for the year 2012 for which a participation of 350 students from 37 colleges were reported.

Achievements- 2011

- Ms. Neethu T P and Ms. Sera Selvin participated in the R10 SC 2011 at the University of Auckland, New Zealand.

- Ms. Sera Selvin, Mr. Parameswaran S, Mr. T M Augustine adorned the posts of WIE Representative, Technical wing Head and Asst. Hub driver in Hub 3 during 2011-2012 execom.
- Ms. Neethu T P was elected as a Link Volunteer Pool member in the year 2011.

b) CSI

The CSI branch of FISAT was started in April 2006. Within a short span of time it has become one of the most active branches in the state. It has been organizing a number of workshops, seminars and other technical activities to promote IT knowledge among other students. FISAT has been awarded CSI Best Student Branch for the year 2009, 2010 and 2011.

It's for the first time that a student branch in Kerala receives this National Award consecutively for three years. CSI branch conduct international conference and technical seminar regularly.

c) ISTE

The college became an Institution member of ISTE [Indian Society for Technical Education] on October 2004. Subsequently, a Student Chapter was also formed in the college. Now this chapter has 790 active members. The activities of this chapter include technical workshops, invited lectures etc. This student chapter has been identified as the Best Student Chapter of ISTE Kerala Section in the year 2006.

d) ISA

The student branch of ISA FISAT started in the year 2008. The objective of the society is to advance the technology and science connected with the theory, design, manufacture, and use of various instruments in the engineering applications.

e) Students Associations in each Department

Thyra-CSE Students Association: The students association of Computer Science Engineering department - THYRA, was established in 2003-04. The association is aimed at bringing out the blooming talents of students. It conducts regular monthly activities in different aspects of the new age technology. Our Regular activities: Seminars, Workshops, Quiz, Web site Design, Poster design, Brochure design, students' project work exhibition, etc. Thyra-Association regularly publish annual newsletter of the-CSE department.

ELECTRA - EEE Students Association: The Electrical and Electronics Association embodies sparks of creativity, the rays of originality, the colours of imagination and the genuine expressions of the electrical students of FISAT. Electra aims at nurturing and developing the talents of young men and women of FISAT. Electra was formed officially in 2004 and is the first of its kind. Electra looks for the manifestation of perfection within each electrical student of FISAT. It is not a purely technical association; it also promotes academic, technological, managerial, cultural and artistic skills of the electrical students of FISAT. The

association conducts seminars and talks by eminent personalities in the industrial and academic society. Industrial visits are also organized to give a practical exposure to the students.

IDEA - EIE Students Association: Instrumentation's Dextrous Etudiant's Association started by the Electronics and Instrumentation Department of FISAT has been aiming at the development of technical and non-technical skills of each and every student of the department. With the introduction of Reader's Forum we hope to develop the reading skills of the students and impart them the latest advancements in the field of instrumentation, along with this we have also started an Electronics Hobby Club which focuses on developing the basic laboratory skills of the students and their ideas by providing an appropriate platform and giving them practical exposure. Also by publishing INSTRON we aim at bringing out the writing skills and also the technical knowledge of the students and also to provide encouragement to them. We hope that the aims and objectives of IDEA will be fulfilled by the co-operation and support of every student and staff member of the Department.

ECHO - ECE Students Association: Electronic and Communication Heuristics Organization (ECHO) is an in-house organization under the guidance and support of Electronics and communication department. It is the forum for technical discussions and has been actively organizing various technical events and competitions every year, which has received good participation. It has conducted various talks on Electronics Product Design, Embedded System and Robotics, Communication Engineering etc. It has organized a Car Race 'TWEELZ' for students and it was well received. Echo is planning to organize seminars in Robotics and PCB design. It is also planning to conduct circuit debugging competitions in the forthcoming semesters.

ACE (Civil Engineering Students Association): ACE was inaugurated on 14th April 2013 by Mr. Santhosh Paul, Chief Architect of FISAT. The association periodically conducts invited talks (Njaana Lecture Series), Quiz competitions, Industrial visits etc. Association proves to be of constant support and motivation to the students of Civil Engg. Dept.

Various training programs were conducted by civil department.

- One day training by Dr.Fixit Institute on water proofing techniques on 21st March 2015
- Training Course on STAAD & PRIMAVERA by InterCAD Systems(06-11-2014 to 07-11-2014;10-11-2014 to 11-11-2014)
- Bentley Certified STAAD Training Course by InterCAD Systems (21-08-2014 to 22-08-2014;28-08-2014 to 30-08-2014)
- One day hands on training on practical construction by ACC Ltd.(6th March 2015)
- One Day Workshop & Plant Visit by RMC Readymix India Ltd. 05-04-2013
- Two Day Workshop on Cement and Concrete by RMC Readymix India Ltd.(15-01-2014 to 16-01-2014)

Njaana lecture series comprises of various talks handled by various professionals from industries.

- Talk on Structural Design and Professional Ethics – By Er.Suresh S on 17-06-2014
- Talk on earthquake resistant building design by Er.Suresh.S, Associated structural consultants on 13th March 2015.
- Talk on errors in construction and nondestructive testing by Mr.Ranjith and Mr.Fabian Antony from Civil Aid techno ClinicPvt Ltd on 13th March 2015.
- ‘Being a Civil Engineering Professional’ by Dr.Jimmy Thomas, geotechnical consultants on 25th Sep 2013.
- Talk on project planning by Mrs. Anitha. P, Vice-Chairman, the Governing Body of FISAT on 13th March 2015.

SAME (M.E. Students Association)

Mechanical Engineering Department of FISAT strive to create a dynamic environment for teaching learning process and set the stage for student achievement and success. Each day, students of varying abilities, talents, interests, and backgrounds work together. We encourage the students to challenge themselves, celebrating their creativity, initiative and individuality, through their daily interactions in the classroom, as well as, through their participation in many co- curricular programmes. Our students are provided with the foundation for a lifelong love of learning.

Student Association of Mechanical Engineering is a platform for students to perform their co-curricular as well as extra-curricular activities. All the graduate and post graduate students enrolled in the Mechanical Engineering department are the members of SAME. The formal inauguration was done collectively by Sri. A. S. Girish (Apollo tyres) and Dr. S Unnikrishnan Nair (ISRO) on 20th March, 2015.

FIESTA [MCA ASSOCIATION]

FIESTA (FISAT ENTHUSIASTIC SOFTWARE TECHIES ASSOCIATION), the students association of MCA department is active to enhance the soft skills and also to expose the students to the recent trends and developments in technology. Association regularly organizes in house training programmes for the students to improve their soft skills and the problem solving skills essentially required for the profession. AlgoRhythm – a Techno Cultural Fest, Scientia – Paper Presentation Contest, ExQuizIT – Quiz competition, Socially Committed activities, MCA Cricket Cup, invited talks and more – the association regularly conducts many programmes with tons of learning and excitement. The students are encouraged to participate in extracurricular activities.

FISAT Free Software Cell (FFSC)

The FISAT Free Software Cell (FFSC), established in 2006, is dedicated to promote computer users` rights to use, study, copy, modify, and redistribute

computer programs. The FFSC promotes the development and use of free software, particularly the GNU operating system, used widely in its GNU/Linux variant. At present the cell extends its help on technical basis by doing need based projects for the visually challenged people. The Free Software Cell is one of the most active student organisations operating in FISAT. FFSC now conducts classes in the Linux operating system, kernel programming and Web application development. Every year FFSC conducts national level conference and mini project exhibition in FISAT campus.

Mozilla Club

Keeping pace with evolving technologies has now become our necessity and responsibility.

FISAT has always supported the use of free software and innovation. One such place that has both is the Mozilla community. Mozilla, is a global community of technologists, thinkers and builders working together to keep the Internet alive and accessible, so people worldwide can be informed contributors and creators of the Web. Internet is a global public resource and must remain open and accessible. FISAT Mozilla Club intends to bring about the introduction of Open Web to FISAT. It has aim in bringing together enthusiasts in Firefox OS app, extension development and other community activities. Mozilla Clubs are a key grouping of Student Ambassadors at FISAT which function as Mozilla's liaison with FISAT. As a Mozilla Club, it will give students a chance to meet new friends and work as a team to help others learn about Mozilla's products etc.

Centre for High Performance Computing (CHPC)

The centre for high Performance Computing assures significant contribution in computer technology as per the changing needs of researchers and industrialists. The system offers value added services in the field of variety and large data processing like Bioinformatics, Oceanography, Nanotechnology, Image Rendering, etc, which demands powerful and complex computation. The High Performance Cluster Computing System, `Dakshina Cluster Series-1 & 2` in the centre, is developed with 40 nodes and two IBM servers exclusively for the study of parallel searching on Cluster Computing System. The system built using free software, is based on Beowulf Architecture. Free software group of FISAT provides open source codes for the development of HPC. The CHPC often conducts popularization programs in the field of science and technology. It offers industry and research projects for interested students. The continuous hard work and dedication of students and faculty members of FISAT helped in making this centre a reality.

Third High Performance Computing system with the financial support of AICTE has installed, which is based on Tesla. Many academic projects are offered in this system for students of different universities.

More details are available at <http://chpc.fisat.ac.in/>

Instrumentation Research and Consultancy Centre (IRACC)

Instrumentation Research and Consultancy Centre is a research and consultancy centre run by the Department of Electronics & Instrumentation Engineering. IRACC is conducting various research activities in the field of applied sciences and Instrumentation. Research team includes staff members and students. The intention of this bulletin is to improve the technical writing skills of the staff and students of the department. The bulletin is also intended to transfer the output of research that is being carried out under IRACC. It is also working as an effective medium for knowledge transfer.

Centre for Research and Innovations in Signal Processing (CRISP)

The Centre for Research and Innovations in Signal Processing is under Design and Implementation Phase. This lab is to cater in advance research requirements of the staff and students in the field of Signal Processing.

Centre for Entrepreneurial Development and Small Enterprises Management (CEDEM)

The objective of CEDEM is to initiate and advance studies and action research in the areas of local entrepreneurship, which is the pivot of `local development`, envisaging now through the `Panchayati Raj Institution and Decentralized Planning` in the country. In the present globalized scenario, the local entrepreneurs have the difficult task of `thinking globally and acting locally`, for which they should have a good networking with the global entrepreneurs. It is imperative, therefore, that new generation MBAs, who have to operate in a globalized local village, should have the opportunities to know and learn local entrepreneurs as a node in the global network of entrepreneurs.

Centre for Local Government and Resources Management (CLGRM)

The CLGRM aims at establishing a strong and healthy link between FBS and the local governments in Kerala, particularly with those in Ernakulam and Thrissur districts, to start with, through studies and consultancy projects in the areas of local resources management and the management to these local governments. These studies and consultancy projects are for mutual benefits. The CLGRM will get an opportunity to learn local level resources and management issues of local governments on one side and to offer suggestion for improvements on the other. The local governments will get assistance and advice at nominal cost to meet the managerial challenges they face in their resources management and in the present administrative system, which will help them to improve their efficiency in governance and delivery of services to people. The success of this venture, of course, depends on the intensity of participation of CLGRM and the local governments.

Project, Research & Consultancy House (PREACH)

The PREACH will plan and organize externally aided research and project activities, in addition to taking up management consultancy assignments. This provides opportunities for the Faculty for applying their academic expertise to study real world industry and business situations, and the lessons they draw from

such studies will, in turn, enrich their class room lectures. The interaction of the Faculty with companies in the consultancy process will enhance the visibility of the Business School. The interests and efforts a faculty member takes in this direction should be evidenced by `outputs` in the form of research papers, reports, monographs or books. As a preliminary to these final expected outputs, the faculty members could prepare research materials in the form of Discussion Paper for generating discussions in the academic circles and getting comments which one can use for revising the preliminary version into final form. The PREACH aims at bringing out periodically a FBS Discussion Paper Series for general circulation among the academics, Management Institutions and selected industry / business counterparts for their remarks and comments.

Online Courses and Certification of IITs by NPTEL

NPTEL (National Programme on Technology Enhanced Learning) is a joint initiative of the IITs and IISc. Through this, we offer online courses and certification in Programming, Data structures & Algorithms. Online course is free for all, which is funded by MHRD (Ministry for Human Resource Department) and powered by NASCOM and Google.

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.

A. Sports

FISAT has state of the art sports facilities in the following area:

- Fitness Center
- Basketball Court (International standard Acrylic)
- Volleyball Court (International standard Acrylic)
- Table Tennis
- Football Field
- Indoor Shuttle badminton courts
- Cricket Nets

Indoor games

Table tennis - 4 nos

Shuttle Badminton 2 nos

Outdoor games

Cricket field

Football Ground

Acrylic Basketball Court

Acrylic Volleyball Court

Cricket practice Nets - 2 nos

Fitness Centre

Aerobic equipments- 14 nos

Weight Training equipments- 10 nos

B. Arts Club

The purpose of the Arts Club is to encourage fine art awareness to provide opportunities for students in Arts activities. FISAT conduct intra-collegiate event 'Arangu' every year to encourage youth talents and has won many prizes in University level. FISAT student 'Saranya' has become Kalaprathibha of Mahatma Gandhi University and has represented India for the SAARC Arts Festival Programme. In addition to this, FISAT conduct inter-collegiate arts festival-Bharatham once in two year.

C. NSS

NSS Technical Cell of FISAT was inaugurated on 23rd July 2015 by Mr, Benny Moonjely, Chairman, Angamaly Municipality. NSS Technical Cell Programme Officers' Annual Conference was held on 24th to 26th July 2015. Dr. Kuncheriah P Issac, Vice Chancellor, Kerala Technological University inaugurated the conference. Mr. Samuel P Chelliah presided. Mr. Paul Mundadan, Chairman, FISAT Governing body, Dr. George Issac, Principal, Mr. Jiby Varghese, Mr. Abdul Jabbar Ahmed, Mr. Jose V Chakiyath and Dr. Nizam Ahamed spoke on the occasion.

D. SCOPE (Society For Communication And Overall Personal Enhancement)

The main objective of this association is the overall & personal development of students. By conducting and organizing various literary and social activities, SCOPE aims at improving communicative skills and the enhancement of person to person relationship within and outside the campus. SCOPE also conducts various events and competitions for schools & colleges. What started off as a small debate club is now the very representation of FISAT's Social responsibility. SCOPE has always managed to come out the most appreciated outcomes ever recorded in every field it has ventured. All of this made possible with the sheer hard work put in by our dedicated members.

E. SWAN (Sanguine Workers and Admirers of Nature) - Nature Club of FISAT

The Nature Club of FISAT was established in the year 2002 and its main objective is to give awareness to the students regarding habitat preservation, planting and maintaining nature garden. The club frequently arranges fieldtrips; nature walks and also arranges talks by naturalists. The Club has recently set up a herbal garden in the college campus in association with 'SREEDHAREEYAM' Ayurvedic Eye Hospital & Research Centre at Koothattukulam.

Cultural Celebrations

Cultural Celebrations like Onam, Holy are celebrated in FISAT campus every year. In addition, we conduct various competitions such as Pookkala Malsaram, tug of war, etc as part of these cultural celebrations.

Communication Development programme

There are multiple training programs spread across the whole course and focus on Life Skills, Communication, Aptitude, GD and Interview Skills. The induction program in the first year is conducted by Mr. P R Chandramohanam, HR Counselor, FISAT.

In the second year, the student undergoes a 40 hour communication development workshop, mPower conducted by Mr. Krishakumar & Ms. Mridula, accredited trainers. Two training programs are conducted in the third year. "Turning Point" is a 90 hour, 6 day intensive workshop conducted by Mr. Thomas George and his team. In addition to training the students in confidence building, goal setting, leadership qualities, these trainings also help the student to identify their latent capacities & strengths. Training programs which focus on preparing the students for campus recruitment, like aptitude, group discussion, personal interview are also conducted in the pre-final year.

In addition to the above, one hour placement orientation and career guidance classes for all branches are conducted for the benefit of the students during the sixth and seventh semesters, every week.

Rolling Stone

Literary Association of FISAT channelises the literary, creative talents of students and provides them a platform to showcase their talents. By giving an outlet to their artistic and literary potential, many tech-savy students find this venue a very fulfilling experience. Competitions are held in various literary items (essay writing, poetry writing, painting, poster designing, film review and the like) to pick out the best to represent FISAT at Inter-collegiate competitions. More over effective Event Management training is given to student by organizing various functions.

Debate Club

Debate Club members meet every week during Tuesday- noon- break. Students air and share their opinions. This is the venue for self-expression, in a venue uninhibited by peer competition and pressure. Within the short time schedule debates and discussions take place. Information on inter collegiate avenues of competition is given and delegates and participants selected.

The Debate Forum conducted Debates on:

- Corruption- measures effective or in effective.
- Social networking- Bane or Boon.
- Freedom- the borderline of control and letting go.

- Population- Control or regulation.
- The reducing food belts and urbanization.
- The effectiveness of apolitical ideologies.
- The role of FBI in Indian economy.

HR training programme

The objective of providing the HR training to the students is to enhance their day to day working procedures and also empower them for better decision making. The college organises many training programs for the students. As part of such program, the college organises induction and orientation classes for the first year students. By attending such programs, the students are able to understand the curriculum and get the better knowledge of engineering field. The placement cell organizes different training programs to the students such as empower, personality development training, aptitude training, soft skill workshop etc. Such programs will motivate the students and enhance the leadership qualities. They become optimistic and confident while attending campus selection.

Hygiene practices

The Institute is very keen to keep every knook and corner most hygienic. There is good ground water available in the wells on the campus. The purity of the portable water is ensured periodically. Water samples are tested once in three months. A personal with long experience in the Health Department, Mr.Yacob (Retired Health Inspector), is appointed to supervise the hygienic aspects in the College. Special attention is given to ensure hygiene and cleanliness in the kitchens, mess hall, canteen and toilets.

Recycling of waste water

The College has its own sewage treatment plant (STP). It is situated at the north side of the College. It is implemented in the year 2009. The process taking place in the plant is the removal of solid particles and impurities and finally the clear water is used for other purposes such as irrigation with in the college. It is 24 hrs functioning system. Mr.Shibumon, Mr. Benny K. M., Mr Alias and Mr. BipinPauly are the in-charges to run the system .The treated effluent water from the STP are checked regularly to ensure the purity of the water.

FRAMES - Photography & Multimedia Club

‘FRAMES’ is a newly formed photography and multimedia club in FISAT. The main objective of frames is to encourage the art of Photography and Multimedia among students. ‘FRAMES’ is planning to organise professional training programs in these fields.

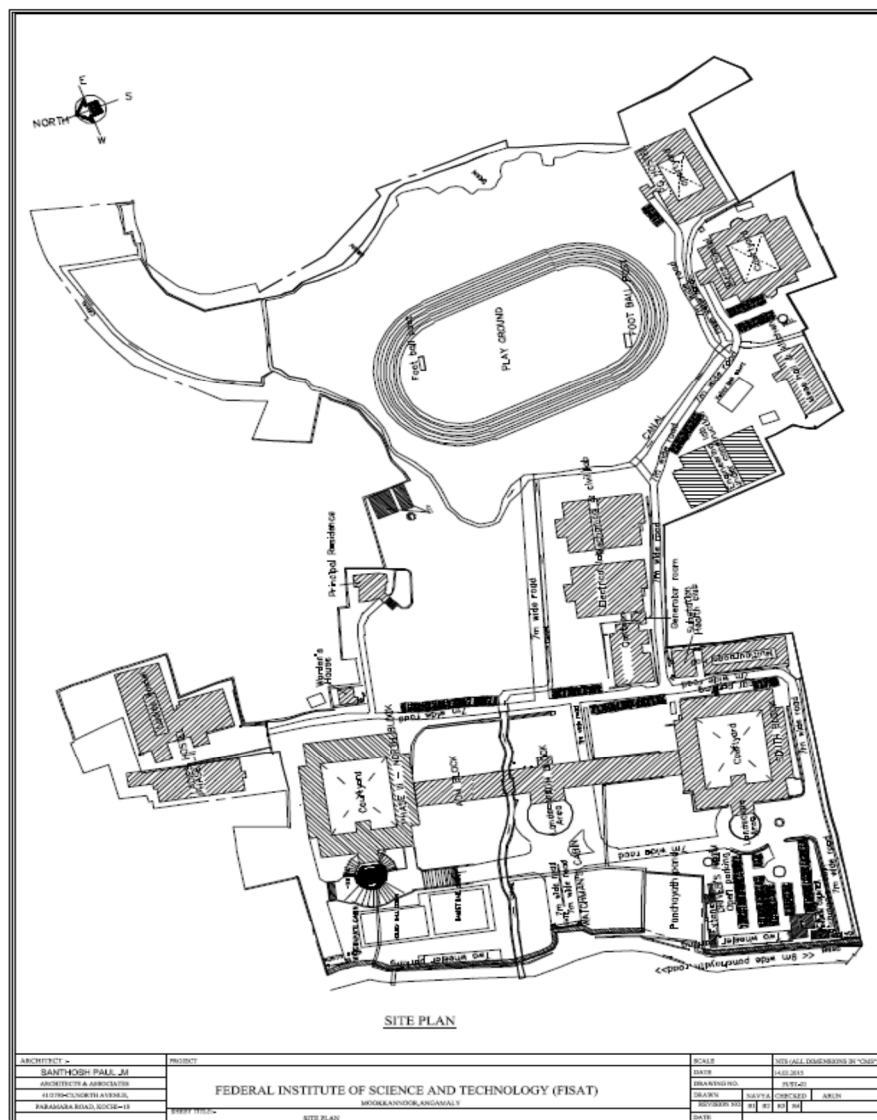
Language Lab

The Language Lab provides opportunities for students to enhance their skills in communication which is a prerequisite to speak their personality and get placed in reputed firms.

4.1.3 How does the institution plan and ensure that the available infrastructure is in line with the academic growth and is optimally used?

The institution is approved by AICTE and Affiliated to Mahatma Gandhi University, Kottayam and Kerala Technological University. The Institution ensures facilities in terms of infrastructure and qualified faculty for the new courses as per the requirement of AICTE and University. In addition to this, institution is an ISO 9001:2008 certified institution. An ISO audit is conducted in every semester to confirm that the standards are maintained by all Departments, Hostels, Top Management, Canteen, and Transport.

For meeting the demands of the academic growth in the institution, we have developed facilities such as room for new courses, faculty rooms for new faculty, the Internet and Wi-Fi connectivity, upgraded ICT infrastructure, well-stocked library, spacious and well- furnished canteen, alternative power supply, etc.



FISAT Master Plan

4.1.4. How does the institution ensures that infrastructure facilities meet the requirements of students with physical disabilities.

- We have ramp to Ground/First Floor classrooms. Lift facility is available.
- Medical Room with presence of doctor and nurse is available in campus(two days in a week)
- Wheel Chair is available in campus for students with physical disabilities.
- Computer systems can be used by visually challenged students with head phone, for lab/internet facility.
- Faculty members give special attention and extra classes for required students with physical disabilities, when required.
- Students can access Land Phone and ATM facility from the campus itself.

4.1.5. Give the details on residential facilities and various provisions available with them.

Description	Girls Hostel	Boys Hostel
Location	Inside College Campus	Inside College Campus
Number of Building	2(Main Hostel, P.G.Hostel)	2(Mens Hostel, P.G.Hostel)
Number of Floors	Main Hostel with Four Floors, P.G.Hostel with Five Floors	3(Mens Hostel, 4P.G.Hostel)
Features of Ground Floor	Guest Room, Computer Facility, Office Room, TV Room, Reading Room, Wardens Room, Store Room, Mess Hall, Kitchen	Guest Room, Computer Facility, Office Room, TV Room, Reading Room, Wardens Room, Store Room, Separated Mess Hall, Kitchen
Tutors& Wardens Room	5(Main Hostel)+3 (P.G. Hostel)	11(Men Hostel) + 8 P.G. Hostel)
Total Rooms for students	88(Main Hostel)+ 79(P.G.Hostel)	91 (Main Hostel), 116 (P.G. Hostel)
Total Area	4289.48 Sq.m ² (Main H)+ 3424 Sq.m ² (P.G.H)	434.76 Sq.m ² (MenH),3788 Sq.m ² (P.G.Hostel)
Total Number of Students	266(MainHostel), 239(P.G. Hostel)	270+290
Whether Internet is provided	Yes, Optical Fibre Connectivity(OFC)	Yes, Optical Fibre Connectivity(OFC)
Whether Wi-Fi is provided	Yes, two WiFi accent points in Gents Hostel, each accent point can support 250 concurrent users.	Yes, two WiFi accent points in Ladies Hostel, each accent point can support 250 concurrent users.

Table D4.12 - Residential facilities

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?

Yes, we have a LAC consisting of 27 members which includes Chairman, Principal, Vice-Principal, Deans, HODs of all departments, Library Staff in-charges of all departments, Librarian and elected students members from UG and PG. Following are the significant initiatives implemented by LAC

- Enrichment of Department Libraries.
- Library Newsletter/Brochure
- Various competitions for students
- Suggestion box and feedback system
- Notice board to display all the activities of the college
- E mail alert about the arrival of new Books/Journals

4.2.2 Provide details of the following:

- * Total area of the Library (in Sq. Mts.) : 1652 Sqm
- * Total seating capacity : 250
- * Working hours (on working days) : 8 am - 7 pm
- * Working days : 8am - 7pm
- * During vacation/Saturdays : 9am - 5pm
- * **Layout of the library (individual reading carrels, lounge area for browsing and relaxed reading, IT zone for accessing e-resources)**

Basement Floor	Stack Room, Periodicals and Newspapers, Book- Bank Section, New Arrival Display, Technical Section, Reading room, Library store, Security Check point, Librarian's cabin	805.8 m ²
Ground Floor	Digital Library & OPAC, Reprographic Centre	216.436m ²
First Floor	Reference Section, Reading Rooms, Journals Reference Centre, Video Lecture Hall	630.114m ²

Table D4.13 – Library lay out

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

Library holdings	Year-1 2014-2015		Year-2 2013-2014		Year-3 2012-2013		Year-4 2011-2012	
	Number	Cost	Number	Cost	Number	Cost	Number	Cost
Textbooks	3630	14,35,474	6678	29,21,000	4202	18,91,000	5265	10,64,000
Reference Books	984		1049		850		1646	
Journals Periodias	237	10,30,335	194	8,45,000	189	6,24,000	208	9,32,000
e-resources	7500	22,42,402	7000	23,63,866	5000	20,09,163	5000	17,63,716
Anyother (specify)	-	-	-	-	-	-	-	-

Table D4.14 – Details of Library resources

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

OPAC: Online Public Access Catalogue (OPAC) is the part of FISAT intranet (library.fisat.edu.)

*Electronic Resource Management package for e-journals.

Sl.No.	Publisher	Subject	E-Content
1	IEEE	CSE, EEE, ECE, EIE	IEEE-ASPP Package (161 E-Journals, Back file access since 2005)
2	ASME	Mechanical Engineering	ASME E-Journals (27 e-journals, Back file access since 2000)
3	McGraw Hill	General Engineering	Access Engineering Library
4	Springer	EE, EC, CS	149 E-Journals
5	JET	J-Gate Engg. & Tech.	7470 Indexed, Full text 3818
6	ELSEVIER'S Science Direct	Engineering, CSE, EEE, ECE, ME, CE, SE, AE	Science Direct (275 Journals, Backfile access since 2000)
7	ASTM Digital Library	Online Dictionary of E&T, EEE, ECE, ME, CE, EIE	ASTM DL (8 e- journals & 1560 Symposia Papers & STPs, 169- Manuals, Monographs, & Data Series)
8	ASCE	Civil Engineering	ASCE- 35 E-Journals, Backfile access since 1983)
9	India Business Insight	Management	A compilation of vital information on Indian business and industry from various business magazines and newspapers
10	ProQuest	Management	7856 Indexed, Full text 6487
11	JSMS	J-Gate Management Science	10075 Indexed, Full text 4159
12	NPTEL	Engineering	E-learning through online Web and Video courses in Engineering, Science and humanities streams.
13	D Space Digital Library	Engineering & management	Previous question papers, Project Reports and Copies of Faculty Publications and Theses

Table D4.15 – List of journals

- Federated searching tools to search articles in multiple databases
- Library Website: www.library.fisat.ac.in
- In-house/remote access to e-publications:
E - publications are IP Authenticated. So all the Staff and students can access it through intranet.
- Library automation:

FISAT Library is fully automated. And it uses Library software for transactions. Barcode is given to all books. Students are given a smart card with a chip and by using that they can do all library transactions. Online Public Access Catalogue (OPAC) is the part of FISAT intranet. They can also reserve and cancel reservation through online. Besides these, students can check the attendance, university exam marks, internal exam marks, syllabus etc. A discussion forum is there, for the students to put their suggestions and feedback. Previous question papers of University Examinations are available through digital library.

- Total number of computers for public access : 65
- Total numbers of printers for public access : 2
- Internet band width/ speed: 60 Mbps and 20 Mbps
- Institutional Repository :
D-Space is used in the library for Institutional Repository. It includes Previous question papers of University Examinations, Students' project reports etc.
- Content management system for e-learning :
D Space is used which is institutional repository
- Participation in Resource sharing Networks/consortia (like INFLIBNET) :
FISAT Library provides DELNET. DELNET has emerged as the first major operational Library network in South Asia. It provides access to more than Two Crore Bibliographic records of Books, Journals, Articles, CD's etc. The Inter Library Loan/Document Delivery Services are one of the most popular services of DELNET. The ILL facility allows a library to get the Books on loan and also the photocopies of the journal articles

4.2.5 Provide details on the following items

- * Average number of walk-ins : 500 Per Day
- * Average number of books issued/returned : 700 Per Day
- * Ratio of library books to students enrolled : 1:10
- * Average number of books added during last 3 years : 4829
- * Average number of login to OPAC : 50
- * Average number of login to e-resources : 100
- * Average number of e-resources downloaded/printed : 50
- * Number of information literacy trainings organized : 15
- * Details of "weeding out" of books and other materials : Not yet started

4.2.6 Give details of the specialized services provided by the library

- * Manuscripts : Nil
- * Reference : A separate library is setup for Reference. A copy of all the books is kept in the reference section.
- * Reprography : A reprographic centre is available in the library. Students and staff can take print outs and Xerox from the centre
- * ILL (Inter Library Loan Service) : Inter library loan facility available through DELNET

Information deployment and notification

- * Download : Every member can download Articles from digital library. This facility is free of cost.
- * Printing : Staff and students can take printouts from the library. An e-mailid is created for the printing facility. (print@fisat.ac.in)
- * Reading list/ Bibliography compilation : Nil
- * In-house/remote access to e-resources : Dspace, NPTEL, Digital Library
- * User Orientation and awareness : A Library orientation class is given to first year students every year (2 hour programme)
- * Assistance in searching Databases : students and Staff for searching and reserving the books and help to retrieve the data from e- resources (e- journals)
- * INFLIBNET/IUC facilities : Nil

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

1. Regular Issue and Return of Books
2. Open Access
3. Fully computerized services
4. Smart Card for members
5. Online, search, reservation, cancellation
6. Reservation, renewal through Telephone
7. Overnight issue of Reference Text Books

8. Display of New arrivals
 9. E Books
 10. E- Journals
 11. Print Journals
 12. Book Bank Scheme
 13. User Education Programme (UEP)
 14. Library Advisory Committee (LAC)
 15. Training for E- Journal use
 16. Reprographic Unit
 17. Scanning and Printing Facility for users
 18. Resource sharing through e-Mail
 19. Digitized Projects
 20. Digitized Previous University Question papers
 21. Feed Back/ Suggestion Box
 22. Technical help for information retrieval
 23. Email alert for Teachers/Students
 24. Free internet facility for users
 25. Display for Speciality of the Day
 26. DELNET
 27. Digital Check in-Check out system
 28. Online Public Access catalogue (OPAC):
- Online Public Access Catalogue (OPAC) is the part of FISAT intranet (library.fisat.edu).

Section	Number of systems in		Total
	Lab	Rooms	
Office		12	12
Accounts		4	4
Placement		2	2
Library		32	32
HPC Lab	40		40
Hostel		10	10
Language Lab	65		65
Software Development Centre		8	8
Conference Room		2	2
Management Office		5	5
Civil Engineering	33	6	39
Mechanical Engineering	33	6	39
Electrical and	52	5	57

Electronics Engineering			
Electronics and Communication Engineering	84	5	89
Computer Science and Engineering	369	22	384
Electronics and Instrumentation Engineering	38	2	40
Science and Humanities		6	6
MBA	63	18	81
MCA	159	8	167
Physical Education		1	1
Grand Total			1083

Table D4.16 – Details of computers placed

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

1. Entrance to the library at the ground floor facilitates easy access for the physically challenged students.
2. Through computer, students can reserve or renew their book.
3. Ramp and Lift is under construction.
4. Wheel chairs are available.

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?)

We have provided library feedback form through intranet. The feedback got is used for the further improvement of the library. Most of the issues will be discussed in Library Advisory board and make necessary actions soon based on feedback.

4.3. IT Infrastructure

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

Number of computers with in the Institution: 1083

Computer-student ratio: 1:3

Network facility

- Maintain an internet work in the whole campus. All computer systems – Labs, Office, Library, staff room and Hostel- are networked and connected (10/100/1000 Mbps speed) to the server room.
- Local area network is available in all computer labs.
- Protecting all computers using advanced antivirus softwares.

Wi-Fi facility

Maximum number of laptops connects to Wi-Fi : 1200

Access points

Outdoor access point : 5

Indoor access point : 35

Wi-Fi Security

- Connection to Wi-Fi networks is authenticated by the Authentication server. Wi-Fi network protected with username, password and security key

Power supply

1. Power Sources

- (a). We receive power from Kerala State Electricity Board through one 11kV/415V transformer having 400 kVA capacity. We are HT power consumer who receives power at 11 kV. Power is distributed to various buildings including hostels, laboratories, workshops, pumping stations sewage treatment plants etc. from a sub-station through cables. The sub-station have various protections such as over voltage/under voltage, over current, earth leakage etc. besides fire -safety protections. Operators are present in the sub-station day and night.
- (b). We have two stand by Alternating Current generators, one 415V, 320kVA and the other 415V, 62.5kVA, both can be connected to the sub-station bus bars through interlocking switches. These generators are available always.

2. Uninterrupted Power Supplies (UPS)

Uninterrupted power is supplied to sensitive equipment such as computer systems, servers for computer systems, cameras, and sophisticated instruments in the laboratories and work shop. We have one 40kVA, three 30kVA, one 20kVA and one 10kVA UPS systems for the above purpose.

3. Direct Current Power Supplies

Where Direct Current power supplies are required in the laboratories or other places the same is given from various DC power supply units including two numbers of 22kW large DC power supply units

4. Connected Load

Our connected load is as follows

- a) 676 kW (Various buildings, Laboratories, etc.)
- b) 55 H.P. (Sewage treatment plants, various pumping stations, etc.)
- c) 160 kVA (Various uninterrupted Power supplies)
- d) 55 kVAR (Power factor correction capacitors)

Campus automation software

- Developed & implemented a new web based Campus Automation Software, “Campus Online”, which satisfies all the demands of Campus in the areas of Academic, Accounts, Fee Module, HRM and Intranet.
- The latest technology has been used for the development of software. By using open source development tools (PHP, JQUERY, HTML, POSTGRESQL), we could limit the cost of development in a good level.
- This help user to get all information with minimal mouse click instead of rounding up all areas of software. All the modules are integrated, minimizing the data entry.
- Intranet module enables students, teachers and parents to view the related data.

Centre for high performance computing (CHPC)

- The Centre for High Performance Computing (CHPC) is an autonomous research centre in cluster computing using free and open source technologies.
- Through the indigenously built high performance computer - Dhakshina, the Centre provides a much sought after computing resource to the student community.
- Apart from creating an environment of continuous learning, the Centre provides facilities for doing B.Tech., M.Tech. and Ph.D. projects for students in FISAT as well as other institutions

Complaint Tracking System

Developed an online complaint tracking system for registering hardware/software complaints from all parts institution. Ulr is <http://support.fisat.edu>

Licensed software

Department	Software
Civil Engineering.	STAAD Pro (50 user), Primavera, AutoCAD 2015, Ansys (25 user), Sap (24 user), MS Project (120 user), Contractor (5 user), Etaps (24 user)
Electronics and Communication Engineering.	CCS (2 user), Modelsimxe3 6.1e, MatLab 2011G(10 user), Xilinxise 9.2i, Mp Lab X 2.00, MatLab 7.1 (5 user), ride
Computer Science and Engineering, MCA.	Microsoft Campus Agreement
Electrical and Electronics Engineering.	PS cad (25 user), Etap (5 user), Matlab (5 user), Electrical cad, PSpice(5 user)
Mechanical Engineering.	Creover 2, Abaqus 6.13, AutoCAD 2014
Electronics and Instrumentation Engineering.	Lab view 2012 (50 user), PLC software
MBA.	SPSS (10 user)

Table D4.17 – Details of Software

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

Internet connection

There are three internet connections in the campus.

Provider	Speed	Type	Project
Asianet	60 Mbps	1:1	Self
BSNL	20 Mbps	1:1	Self
BSNL	10 Mbps	1:1	NMICT-MHRD

Table D4.18 – Details of internet connection

- Internet connection is available in all systems. Staff and students are supporting with internet facility to browse e-textbooks, journals and study materials.
- All labs have internet connection, which help students to access online tutorial, project works and programs.
- Wi-Fi facility covers whole college - Class rooms, Hostels, Library and Labs. It facilitates students to access internet in their laptops.
- Management office, Principal's office, Administrative section, Placement cell, staff rooms and senior faculty member's cabin equipped with internet connection.

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

- Computer systems are upgraded with up-to-date hardware and software according to the requirements.
- Protect all computers in the institution with advanced antivirus software
- All the computer related hardwires in the campus are regularly monitored by experienced technical staffs in the computer department.
- Internet can be accessed securely from anywhere in the campus with the implementation of dedicated firewall which enables all the labs ready with internet facility enabling the students to utilize the possibilities of web-based learning.
- Enough provision is made available in the annual budgets for the procurement of the computer systems.
- Maintenance activities are performed by the trained technicians in the department.
- Major defects are solved by external service persons.
- Data centre has multiple blade servers running on Debian Operating system to cater to the system and network administration.
- Central Computing Facility Lab has a backup of two Online UPS (30 kVA and 20 kVA) and the Tubular batteries can give a backup of 3 hours on peak load.

- The interiors and layout of laboratories are planned in most modern way for maximum utility for space and aesthetics.
- The High Performance Computing Centre (HPC) with Dakshina Cluster Series-II, the new Sun servers and Storage arrays are housed in the Central Computing Facility.
- Our High Performance Computing Centre, which aims at building a supercomputing lab working at several gigaflops of speed is nearing completion. With focus on high-load applications involving 3D rendering and heavy calculations, this state-of-the-art Lab encourages students and staff interested in research-oriented activities.
- Third High Performance Computing system with the financial support of AICTE has installed, which is based on Tesla. Many academic projects are offered in this system for students of different universities.
- The Campus Dimension Software Package which includes modules for Academics, Library, Administration, Accounts, Store etc are installed and all are integrated to a single database. A web-based service acts as an interactive tool for parents, teacher, students and the campus administration centres for information exchange and thus links up the various departments and management functions of the college.
- All the servers and Desktops are in AMC/warranty with respective service providers are maintained regularly.
- We have a dedicated Hardware lab in our college in which students can assemble and repair computers and study different aspects.

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 (Year wise for last four years)

- Enough provision is made available in the annual budgets for the procurement of the computer systems.
- Summary of the procurement, up gradation, deployment and maintenance of the Computers Lab facilities and accessories in the institution during last four years:

	Expenses in 2014-2015	Expenses in 2013-2014	Expenses in 2012-2013	Expenses in 2011-2012
Computer Lab Expenses	8665112.00	6809198.00	5211892.00	5,516,122.00

Table D4.19 – Computer lab expenses

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?

- The College has a number of ICT resources at its disposal for the

purpose of use to the teaching staff and for the use of students.

- As per the Mahatma Gandhi University/ Kerala Technological University Curriculum based Smart classrooms are available in the campus.
- NPTEL (National Programme on Technology Enhanced Learning) is a joint initiative of the IITs and IISc. Through this initiative, we offer online courses and certification in Programming, Data structures & Algorithms. Online course is free for all, which is funded by MHRD (Ministry for Human Resource Department) and powered by NASCOM and Google. The learner is assumed to have no prior experience of programming, but is expected to be at the level of a second year undergraduate college student in engineering. The course will run over ten weeks with about 2-3 hours of lectures per week. At the end of each week, the learner is expected to write some programs and submit them for grading. Curriculum of present course is developed after consulting with NASCOM so that employability potential is very high for successful students.
- We have two ICT enabled Audio Visual classrooms with capacity of 100 students each.
- The teaching learning process is through virtual presentations
- There is Central multimedia seminar hall with video conferencing facility which is used for IITs, ISTE Programs conducted by MHRD, International and National Conferences, Seminars, symposia, etc.
- FISAT (RC Id: 1077) is one of the approved Remote Center (RC) of IITB in the project 'Ekalavya'. Lectures are delivered by faculty from IIT Bombay, while tutorials and lab sessions are conducted in the same RC.
- The Spoken Tutorial project is the initiative of the '*Talk to the Teacher*' activity of the NMEICT, launched by the MHRD, Government of India. FISAT is the 2star rated Resource Centre for Spoken Tutorial Project.
- The objective of establishing the Resource Centre – Spoken Tutorial is to promote Free and Open Source Software (FOSS). Resource Centre has the responsibility to organize workshops monthly in 5 colleges and 5 schools with the support of the Spoken Tutorial Project Team. Resource Centre could organize Events on their premises and/or participate in Events/Seminars happening in the region. Resource Centre Team Members can be active in terms of visiting various colleges and schools and making presentations.
- Teachers were given training class to use the ICT enabled classrooms.
- Trainers helped the teacher to be well versed in using the provided facility.

- Teachers were provided with laptops and systems with internet connectivity to facilitate quality teaching and learning.
- Most of our classrooms are mounted with LCD projectors and dedicated computer systems for presentations
- Students are encouraged to give seminar talks using ICT resources.
- The faculties prepare the students with the help of these computers and ICT resources for the development of students.
- Almost all the labs are fully equipped with the latest technology and with LAN facilities.
- ICT Resources enhance the teaching and develop presentations as a computer aided teaching material.
- E books from online library LAN and high speed internet facilities are also available.
- The students use download and printout facilities of e-books and e-journal, which are available on the campus.

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.

For implementing the above criterion, the college emphasizes:

- Use of ICT by students and teachers.
- Students are motivated to use ICT for preparing projects and assignment.
- Wi-Fi facility is enabled in the campus.
- In-house /remote access to e-publications.
- OPAC-Online Public Access Catalogue is the part of our college intranet. With this facility members can access library resources through intranet.
- Our college provides following electronic Resource Management packages for e-journals :
 - IEEE (ASPP package)
 - ASME
 - SPRINGER
 - ELSEVIER'S Science Direct
 - ASTM digital library
 - ASCE
 - D Space Digital library
 - NPTEL

- Mc Graw Hill Access Engineering
- J Gate (JET and JSMS)
- India Business Insight
- Training on latest technologies through various Industrial training centers or by the faculty in the college itself for helping the students to do their academics projects.
- International and national conferences, seminars and workshops will be conducted in college to enhance the knowledge of students.
- The faculty prefer class rooms with LCD for theoretical side.
- The students are able to be a part of many research activities in the college.

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?

The college is recognized as REMOTE CENTER of IIT BOMBAY for organizing EKALAVYA workshops on various subjects through video conferencing.

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 up keep of the facilities substantiate your following statements by providing details of budget allocated during last four years)?

Expenditure	2011-12	2012-13	2013-14	2014-15
Salaries	7,39,89,387.00	8,91,48,182.00	10,56,32,232.00	132,381,024.00
Scholarships	13,20,000.00	1,50,000.00	24,00,000.00	0.00
Fee Waiver/Concessions	90,33,287.00	1,02,14,125.00	1,09,80,459.00	10,565,587.00
Placement & Training Expenses	18,84,069.00	9,99,436.00	18,69,112.00	1,467,008.00
Conveyance Charges	1,26,09,097.00	1,75,21,419.00	1,87,13,887.00	20,731,960.00
House Keeping/Security Charges.	45,77,085.00	60,97,134.00	78,41,766.00	9,066,498.00
Salary/Maintenance/Rent on Hostels.	19,15,047.00	13,43,540.00	13,64,306.00	1,855,209.00
Mess Charges	38,30,022.00	46,77,197.00	59,36,122.00	7,660,104.00
Uniform Charges	17,06,664.00	22,46,854.00	25,42,175.00	3,106,766.00
Affiliation & other fees	19,25,062.00	23,96,766.00	27,86,917.00	3,378,320.00
Fee to AICTE	5,00,000.00	5,30,000.00	0.00	1,200,000.00
Sports & Recreation Consumables	12,14,131.00	10,85,028.00	9,66,004.00	1,659,398.00
Workshop/Lab Consumables	3,72,572.00	6,05,269.00	7,89,479.00	438,673.00

Consultancy Charges	74,500.00	80,759.00	1,99,468.00	342,730.00
Internet Charges	5,30,567.00	9,29,253.00	10,37,946.00	1,048,667.00
Fuel for Generator	4,05,898.00	6,25,164.00	7,03,228.00	807,918.00
Electricity Charges	23,71,109.00	40,22,076.00	51,68,869.00	4,388,681.00
Interest and Bank Charges	1,58,83,686.00	1,35,26,513.76	1,04,61,043.70	5,859,860.78
Insurance & Taxes	1,52,327.00	1,28,995.00	17,21,184.00	1,296,968.00
Journals & Periodicals	9,32,388.00	6,24,589.00	8,45,780.00	1,177,809.00
Advertisement	43,51,886.00	33,09,248.00	60,71,402.00	6,095,263.00
Printing & Stationery	15,56,213.00	23,48,992.00	21,18,295.00	2,415,531.00
Photocopy Charges	70,296.00	1,09,338.00	1,12,207.00	113,033.00
Postage & Couriers	1,33,010.00	1,00,445.00	2,04,599.00	120,731.00
Telephone Charges	1,61,721.00	85,163.00	2,05,457.00	279,500.00
Office Expenses	1,38,091.00	2,92,880.00	9,40,765.00	828,144.00
Travelling Expenses	3,21,021.00	3,94,733.00	5,02,411.00	511,323.00
Audit Fee & other Services	1,30,000.00	2,40,070.00	1,47,950.00	140,450.00
Decennial Celebrations	5,93,476.00	24,56,608.00	2,01,728.00	0.00
Repairs & Maintenance	53,11,566.00	59,78,872.00	68,06,796.00	6,427,648.00
Charity & Donations	6,92,426.00	8,51,845.00	19,48,735.00	1,507,997.00
Land Purchase	44,32,616.00	25,52,166.00	1,43,27,005.00	1,257,903.00
Buildings	3,37,44,792.00	7,28,99,907.00	67,03,430.00	45,811,458.00
Lab Equipments	1,37,81,908.00	59,05,371.00	50,96,961.00	3724168.00
Library Books	10,64,811.00	18,91,856.00	29,21,920.00	1866795.00
Furniture & Fixtures	32,81,413.00	78,68,582.00	70,45,981.00	7520407.00
Electrical & Other Equipments	20,30,473.00	30,75,094.00	22,78,187.00	2208700.00
Vehicles	0.00	0.00	72,87,362.00	0.00
Computer & Software	55,16,122.00	52,11,892.00	68,09,198.00	86,65,112.00

Table D4.20 – Expenses towards maintainence

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

Building Maintenance Group: A committee is formulated with a senior faculty as In-charge to monitor the maintenance of academic infrastructure and facilities. The main duties of the group is to ensure proper upkeep and timely maintenance of the buildings,gardens and surroundings, repairing of the furniture, electrical and sanitary fittings, parking facilities and ensuring safety and security of the campus.

Building Maintenance Group

Sl. No.	Name	Designation	Position
1	Prakash C Chandy	Chief Administrative Officer	In-Charge
2	Jaison Joseph	Civil Supervisor	Member
3	Pauly P K	Trade instructor cum general maintenance assistance	Member

Table D4.21 – Maintenance group [Building]

Transportation Maintenance Group

Sl.No	Name	Designation	Position
1	Prakash C Chandy	Chief Administrative Officer	In-Charge
2	Bejoy Joseph	Senior Assistant	Member
3	Joby Mathew	Attendant	Member

Table D4.22 – Maintenance group [Transportation]

Electrical Maintenance Group

Sl No	Name	Designation	Position
1	Rajamohanan Nair	Chief Instructor	In-Charge
2	Denny Vadkkumchery	Electrical Supervisor	Member

Table D4.23 – Maintenance group [Electrical]

Equipment Maintenance Group

A group is identified for the maintenance of various equipments in the college. The primary duties and functions of the group are to ensure the smooth operation of all machinery which includes HVAC Equipment, Water coolers, Laboratories etc. This would include routine inspections of running equipment. It would also include responding to malfunctioning equipment.

Sl.No.	Description	Name	Designation	Position
1	HVAC, Water Cooler	Rajamohanan Nair	Chief Instructor	In-Charge
2	Computers	Rajesh T R	System Manager	In-Charge
3	Library Books	Sino Varghese	Librarian Grade 1	In-Charge

Table D4.24 – Maintenance group [Equipment]

Cafeteria Maintenance Group

Sl. No.	Name	Designation	Position
1	Prakash C Chandy	Chief Administrative Officer	In-Charge
2	Itteera K M	Estate supervisor	Member

Table D4.25 – Maintenance group [Cafeteria]

Agricultural Maintenance Group

Sl.No.	Name	Designation	Position
1	Prakash C Chandy	Chief Administrative Officer	Co-ordinator
2	Jiji Antony	Asst. Professor (Civil)	Member
3	Dr. K.P.Saraswathy Amma	Professor	Member
4	Dhanish K.I.	Electrician cum General maintenance	Member

Table D4.26 – Maintenance group [Agriculture]

FISAT possesses a charming campus which spreads over an area of 40 acres of land. We have a Nature Club, SWAN (Sanguine Workers and Admirers of Nature) which involves the staff and student participation in cultivation of all kinds of vegetables and habitat preservation. We keep the campus verdant with herbal plants and several crops that are tended by students, staff and workers. Minimizing the use of pesticides, focus is given to organic farming. FISAT conducts nature-related seminars to enlighten the society on effective farming, preservation and sustainability of natural resources like water. These are days of precision farming where thrust is given to produce maximum with minimum depletion of natural resources (water), FISAT has volunteered to build up a new venture-Green Farm House(FISAT Green Buds) . Our aim is to familiarize our students towards new trends in agriculture.

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

FISAT has work arrangements with local service providers to service, calibrate and repair part or whole of the many types of measuring equipment such as Weighing Scales, Surface Plates, Hardness Testers, Gauges, Digital Readouts and many more electric, electronic and mechanical devices available in our laboratories.

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 College has three generators and three UPS.

	Sl.No.	Capacity
Generator	1	320 KVA
	2	63 KVA
	3	30 KVA
UPS	1	40 KVA
	2	30 KVA
	3	20 KVA

Table D4.27 – Power supply

- Spacious, well ventilated and well furnished class rooms
- Main Library and Department Libraries
- Air-conditioned Computer Labs
- Digital Library
- Seminar Halls
- Conference Room
- Board Room
- Auditorium
- Rest Rooms for girls
- Staff rooms.

- Well equipped laboratories.
- Workshops
- Spacious drawing halls
- Examination Control Room
- Separate Hostels for boys and girls
- Research Rooms

There are 26 buses commuting between the institute and nearby cities every day. The Institute has a canteen, a store, reprographic centre, a medical assistance room, counselling centre etc. to cater to the needs of students and staff. There is also a branch of the Federal Bank and an ATM on the campus.

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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 Institute publishes the information brochure every year providing the latest information about the College. Every academic year, a handbook and calendar is given to each student. It is revised including the changes/requirements after thorough discussions in annual faculty meeting held at the end of the academic year. The student handbook acts as an academic guide to the student community.

- The brochure contains institution profile, vision, mission and quality policy.
- The brochure also highlights each department profile along with basic amenities and facilities. It also includes the placement records and details about scholarships and free-ships given to students.

Handbook includes

- Management and College profile.
- Intake details of the under graduate and post graduate courses offered.
- Each programme assessment details.
- Details regarding each department, teaching and non-teaching faculty members, with their contact numbers.
- Information about college library, placement and training cell and other healthy practices like group advisory system, prizes and medals and tuition fee waiver schemes.
- Details of research centres, students' chapters/forums and students cells/associations in the college.
- Details of other facilities like hostel, college bus, and sports facilities, communication & employability language lab for students.
- Details of rules and regulations, general discipline, conduct and behaviour, attendance and leave regulations for students.
- Academic calendar.

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

Yes, the Institution ensures the availability of various kinds of scholarships, free-ships, and concessions to students. The details are given below:

Type of scholarships/ free-ships	Year							
	2015-2016		2014-2015		2013-2014		2012-2013	
	No. of students	Amount (Rs)	No. of students	Amount (Rs)	No. of students	Amount (Rs)	No. of students	Amount (Rs)
Tuition Fee Waiver (AICTE)	107	5205000	129	10980459	138	5724500	143	5341500
Fee Concessions (Institution Initiated)	112	4948087	123	5160459	106	41404625	93	3691787
FBOAES Scholarships (once in two years)	No. of students -183 Amount- 25,60,000/-				No. of students -173 Amount- 24,00,000/-			
Central Sector Scholarship	23	230000	56	560000	76	760000	87	870000
Merit cum Means Scholarships	117	2925000	109	2180000	63	1239000	62	1147500
SC Scholarships	80	3611350	79	3229150	76	2865950	74	2821600
ST Scholarships	3	396000	6	312575	6	282700	5	185449
OEC Scholarships	53	2531200	34	1376200	33	1296500	33	1260350
Indian Oil Scholarships	2	72000	2	72000	Nil		Nil	
Children of Fishermen Scholarships	2	148600	Nil		Nil		Nil	
Muslim Girls Scholarship	8	28000	10	34000	Nil		Nil	
NEFT/SC Scholarship	2	14400	2	14400	Nil		Nil	
Federation of welfare Scholarship	1	4500	1	4500	Nil		Nil	
Ex-service man scholarships	Nil		1	25000	Nil		Nil	
Prime Minister's scholarships	2	48000	2	48000	Nil		Nil	

Table D5.1 – Details of Scholarships

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

Type of Scholarships	2015-2016	2014-2015	2013-2014	2012-2013
	% of Students	% of students	% of students	% of students
State Government scholarships	15.53 (137 students out of 882)	12.91 (119 students out of 922)	13.29 (115 students out of 865)	11.13 (82 students out of 737)
Central Government scholarships	29.93 (264 students out of 882)	33.84 (312 students out of 922)	35.26 (305 students out of 865)	43.42 (320 students out of 737)
Other National agencies	18.66 (172 students out of 922)		21.85 (189 students out of 865)	

Table D5.2 – Financial Assistance from Government

5.1.4 What are the specific support services/facilities available for

- ✓ **Students from SC/ST, OBC and economically weaker sections,**
- ✓ **Students with physical disabilities**
- ✓ **Overseas students**
- ✓ **Students to participate in various competitions/National and International**
- ✓ **Medical assistance to students: health centre, health insurance etc.**
- ✓ **Organizing coaching classes for competitive exams,**
- ✓ **Skill development (spoken English, computer literacy, etc.)**
- ✓ **Support for “slow learners**
- ✓ **Exposures of students to other institution of higher learning/ corporate/business house etc**
- ✓ **Publication of student magazines**

The specific support services/facilities available for students are as follows:

➤ **Students from SC/ST, OBC and economically weaker sections**

All SC/ST students receive financial assistance in the form of tuition fees and boarding charges from the State Government as per the Government regulations. OBC students also receive financial assistance in terms of tuition fee and maintenance charges. Reservation stipulated by the Government is strictly adhered to by the Management regarding all aspects like admission, residential facility, freships and scholarships. Effort is made to disseminate any information regarding Scholarships to the target group.

➤ **Students with physical disabilities**

Physically challenged students receive scholarship from the State Government. Students with physical disabilities can avail extra time for writing examinations both in internal and university exams. Class rooms as well as examination halls

are arranged in the ground floor for their convenience. They are provided with all necessary support and assistance in the course of their studies. Modification in teaching methodology to suit the learner, convenient seating arrangement, counselling, guidance and moral support are provided for such students. They are active participants of all College activities. To meet the requirements of the physically disabled, hand rail, ramp, primary facilities etc. have been provided in the campus.

➤ **Overseas students**

Hostel facilities are provided for all overseas students as per the requirement. Bridge courses are conducted to fill gaps in their curriculum, if necessary.

➤ **Students to participate in various competitions / National and International**

Students are encouraged to participate in various National and International competitions. Information regarding various national and international competitions are conveyed over the public address system and also displayed on the student notice board. Students are encouraged to participate in such competitions. Laudable achievements are announced over the public address system and applauded by the College community. The names of the winners are also put up on the notice boards. Mentoring, guidance and training are provided to the participants. Students are also advised to enquire about the separate rules, which exist for overseas participation. Respective staff-in-charge accompanies students to the competition venue. Financial support to participate in the national and international level competitions is also provided by the Institution.

➤ **Medical assistance to students: health centre, health insurance etc.**

The Institute has a medical room and a dispensary. There is a fitness centre that caters to the health needs of the students. A medical person (nurse) is available round the clock for any medical assistance. The medical doctor visits the institute twice a week. A vehicle is also available with resident driver in case of any medical emergencies. The Institution provides medical insurance for all students. They are also benefited by the Insurance scheme of affiliating university. The Institution organizes medical camps in association with the nearby hospitals. Basic first-aid and clinical facility are available on the College campus. Special care and diet are provided for students in the hostels during illness as per the advice of the doctor. Sick rooms in the College and in the hostel also facilitate quarantine. Besides medical assistance, students are also provided information and awareness on health and hygiene through seminars and talks.

➤ **Organizing coaching classes for competitive exams**

Respective Departments provide guidance to their students for various competitive exams preparation. The Placement and Training Cell of the Institution also conducts classes and programmes in connection with competitive exams. Bridge courses are conducted by the departments as well.

➤ **Skill development (spoken English, computer literacy, etc.)**

The students are given sessions to improve their communication and writing skills. They are also given sessions in the language lab as well as in computer labs.

➤ **Support for “slow learners”**

Class teachers and mentors take special care of slow learners, identifying their academic deficiencies and other areas which require any other assistance. The students who are slow learners in a particular subject are identified based on their performance in examinations and remedial classes are arranged by the concerned faculty on weekends and holidays.

➤ **Exposures of students to other institution of higher learning/ corporate/business house etc.**

The Institute encourages students to present papers and participate in the conferences organized by external bodies in India in order to supplement their academic inputs at the Institute with views from external experts. The Institution arranges visits to various institutions, industries, governmental and non-governmental organizations, welfare institutions, research centres, universities, libraries, media centres, banks, factories, software companies, eco-friendly places etc., as a part of the project work and other academic activities. Industrial visits are arranged for the students for practical exposure. Workshops on entrepreneurship development are organized to enhance the interests of students to start their own business/industry. Both UG and PG students are encouraged to attend National & State level competitions and conferences.

➤ **Publication of student magazines**

In addition to the academic procedure, FISAT gives eternal importance to the development of students’ co-curricular and extra-curricular activities. Support and guidance is given to enhance students’ literature capabilities.

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

As part of launching the entrepreneurship development initiative, the A P J Abdul Kalam Technological University has introduced a course in B. Tech. curriculum dedicating two hours a week for students to undergo the entrepreneurial training.

1. Promoting industry experience

MoU with Oracle Academy: Department of Computer Science and Engineering, as part of its efforts to add value to our students and provide support to the student and faculty, fraternity has signed MoU with Oracle Academy to integrate with the Oracle Academy’s advanced computer science curriculum. The Oracle Academy’s Advanced Computer Science program provides students with hands-on access to Oracle database and middleware software, and related curriculum. Students gain exposure to Oracle’s world-class software, giving them a competitive advantage when they join the workforce. As part of the MoU, Mr. Jyothish K. John, Mr. Paul Mathai of CSE Department and Mr.

Sujesh Lal of MCA Dept. attended the training programme offered by Oracle. The software and support are provided by Oracle Academy.

MoU with ICT Academy, Kerala: There is an MoU with ICT Academy, signed on 27th March 2015. ICT Academy Kerala is committed to conduct industry focused enablement programmes for faculty members and students. It is expected that the collaborative work with ICT Academy will strengthen the technology transfer between academia and industry enriching the students to further heights.

MoU with Reubro International: Yet another MoU was signed with Rubreo International on 8th January 2015 envisioning collaborative software development.

Industry Institute Partnership: CSE Department officially launched an Incubation Centre and an Industry Institute Partnership Cell in FISAT in collaboration with leading IT companies and professionals.

2. Incubations Centre

The Department of Computer Science and Engineering, Incubation Centre envisions providing a platform to the budding student entrepreneurs who have innovative ideas, by offering mentoring support and facilitating industrial interactions.

3. Consultancy

FISAT has done a few consultancy activities and developed certain components with multinational companies like TATA Elxsi.

The Institution has contributed one million codes to the public last year through open source technologies and transferred 25 projects to IIT Bombay to improve Akash Tablets.

The Centre for High Performance Computing of FISAT is involved in research with the funds received from AICTE, CSIR, DST, KSCSTE, CSI, etc.

Alfred Johnson of the Mechanical Engineering branch (2011 - 2014) was elected among the top five members in 'Young Entrepreneur's Summit-2015'

4. Research Promotion Scheme- EEE

The Department received a research grant from AICTE under the Research Promotion Scheme, a sum of Rs. five lakhs for a period of three years.

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

- FISAT has always stood in forefront for adopting policies and strategies for supporting students' extracurricular and co-curricular activities.
- Those students who represent the College in extra or co-curricular

activities are given time for practising.

- A bulk set of practicing materials along with a fully equipped fitness centre in the college helps the students to excel in their respective areas.
- Students are granted duty leaves for participating in intra and inter college technical/cultural fests, subject to the duty leave policies of the department /college.
- Compensatory classes/ retests are arranged by the faculty for those students who miss the regular classes/examinations due to their participation in various events.
- College magazine/department newsletters appreciate the students who secure prizes and awards in different competitions.
- Expenses involved for participation in inter college / university level sports and arts competitions are met by the College.
- The Institution day is one of the important occasions where the students who win in different competitions are honoured.
- PTA distributes awards for students who excel in various areas of arts and sports.
- Students who represent college in arts and sports activities are provided with costumes/ uniforms.

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, Defence, Civil Services, etc.

- Students are motivated and trained to appear for placements. They are trained on the areas of aptitude ability, group discussion and appearing for a technical/HR interview.
- Students are given assistance to appear for competitive exams such as GATE exam through coaching classes, mock tests etc.
- Personality development programs such as “EMPOWER” by eminent resource persons from academia and industry motivate students to build confidence in tackling technical problems and emotional stress in an industrial environment.
- Several training programs and workshops on the use of latest technologies, new programming languages etc. are carried out once in every semester. Moreover, the faculty members are also updated with the current advancements in the industry.

GATE Coaching Details:

There is GATE coaching conducted by the Department of Mechanical Engineering. Teachers in charge: Sreejesh. K and Dhanish Jose.

[Nineteen students attended and one student was qualified]

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

Academic Counselling is provided to students who experience difficulties with their studies. The Institution has a Counselling Cell headed by Ms. Mary Mol K. I., clinical psychologist. Faculty-in-charge interacts with the students at least once in a month during their library hours. Individual interaction with each student is initiated once in six months by their faculty-in-charge and documented. Based on students' performance, any challenges they face or as per their own interest, students are directed to the Counselling Cell.

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 student side notify 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, the Placement and Training Cell (PTC) has made commendable achievements over the years. Students are groomed according to the requirements of industry. All students are made to go through a series of soft skill enhancement training programs during their course for nearly 250 hours which aid their personality and employability developments to a considerable extent.

The team PTC consists of members of faculty as well as student members from the final and pre-final years. The Placement and Training Cell is headed by the faculty-in-charge. Team PTC is formed by selecting two student members from each branch of study. The student co-ordinator of the PTC is then elected by the members of the Cell. It is this team, which co-ordinates all the activities right from preparing the activity plan to inviting the companies for campus placements.

There are multiple training programs spread across the whole programme focusing on Life Skills, Communication, Aptitude (quantitative, logical, reasoning & verbal), GD and Interview Skills. The placement induction training program is conducted in the first year. In the second year, students undergo 24-hour communication development workshop, conducted by accredited trainers. A 90 hour (7 day) intensive life skill development workshop is given in the third year. In addition to training the students in confidence building, goal setting, leadership qualities etc, these trainings also help the students to identify their latent capacities and strengths. Training programs which focus on aptitude, group discussion, and personal interview are also given in the pre-final year.

In addition to the above mentioned programs, one hour placement orientation and career guidance classes for all branches are conducted for the benefit of the students during every week of sixth and seventh semesters. These classes help the students to gain information relating to different career options after B.Tech. Information pertaining to various higher study options is also discussed. Guidance on how to prepare for various competitive exams like GATE, CAT,

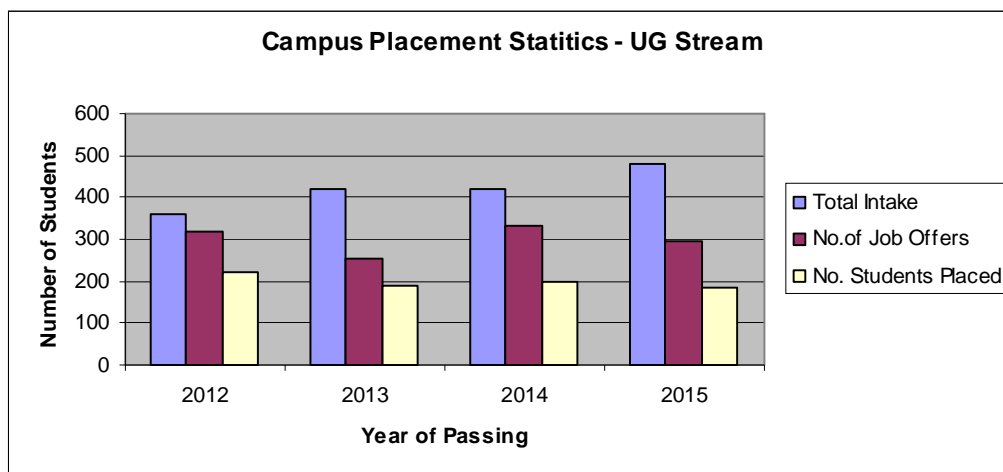
MAT, GRE, UPSC, PG entrance examinations etc. is also given. All these trainings are given to the students based on the feedback/suggestions from these students and faculty-in-charge/group advisors.

Training Programmes Conducted by PTC		
Induction Program	By in- house resource persons	First year (3 hrs)
Soft skill development workshop	By external resource persons	Second Year (18/24hrs)
Three-day soft skill development workshop	By external resource persons	Third Year (18hrs)
Seven-day life skill development workshop	By external resource persons	Third Year (90 hrs)
Three-day technical training on technical areas like C, C++, Python, Embedded Systems etc	By in- house resource persons	Third Year (24 hrs)
Aptitude, GD and Interview training programs	By external resource persons	Sixth & Seventh Semesters (64 hrs)
Training programs on every working day, from 4.30 pm to 5.55pm.	By in- house resource persons	Seventh semester (26 hrs)

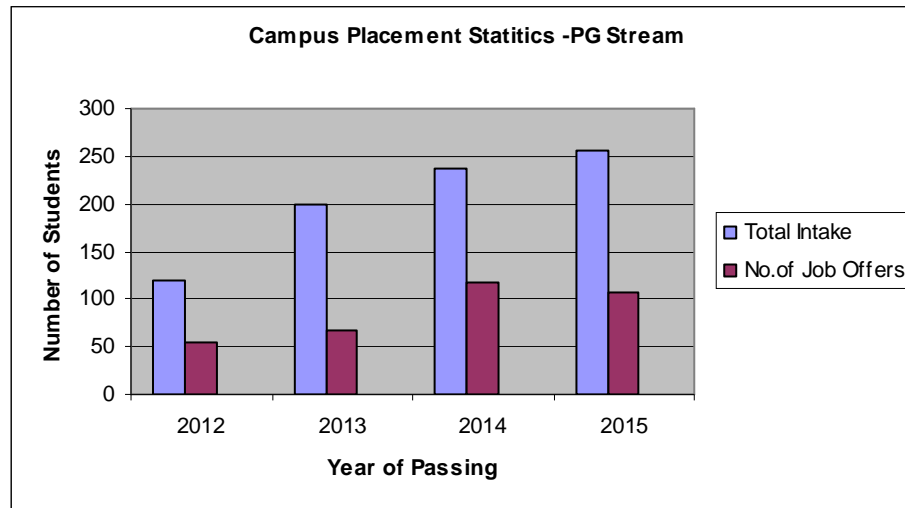
Table D5.3 - Training programmes conducted by the Placement Cell

Placement Statistics - UG Stream					
Year	Total Intake	No. of Job Offers	No. of Students Placed	Percentage (Offers)	Percentage (Placed)
2012	360	319	221	88.61	61.39
2013	420	255	189	60.71	45.00
2014	420	333	198	79.29	47.14
2015	480	294	185	61.25	38.54

Table D5.4 - Placement Statistics



Placement Statistics - PG Stream			
Year	Total Intake	No. of Job Offers	Percentage(Offers)
2012	120	54	45
2013	200	67	33.5
2014	237	118	49.7
2015	255	107	41.9



List Of Companies Visited the Campus				
	2012	2013	2014	2015
1	TCS	TCS	US Technology	TCS
2	Accenture	Sutherland	CTS	IBM
3	US Technology	Corgentz	TCS	US Technology
4	CSS Corp	US Technology	Accenture	Standard Chartered Bank
5	SITEL	Indus Motors	Federal Bank	KGISL
6	Standard Chartered Bank	IBS	FACE	Wipro
7	Sourcebits	Nippon Toyota	Standard Chartered Bank	Sutherland
8	Tataelxsi	Digital Nirvana	Infosys	IBS
9	Goan Inst. Of Comm. English	Ernst & Young	Biz Time	Federal Bank
10	ChaYoWo Games	Citrix Systems	IBS	Qburst
11	Digital Nirvana	Robert Bosch	Saviance	Lotus Enterprises
12	Reubro	Godrej Infotech	Mphasis	Reubro
13	South Indian Bank	SunTec	Six Dee Technologies	UIT Group
14	SunTec	Goan Inst. Of Comm. English	Syntel	Sapient
15	Bosch	Aricent	HCL	Experion
16	Godrej Infotech	Armia Systems	Reubro	MRF
17	HCL Infosystems	Infosys	Speridian	American Tower

				Corporation
18	IBS	Multunus	Tataelxsi	Appzoc Softwares
19	Kalkitech	CoreEL	Ernst & Young	Eastern Group
20	NeST	Revelation Automation	IBM	Empower Labs
21	Onmobile	Shriram Group	KGISL	Envestnet
22	Poornam	South Indian Bank	South Indian Bank	Mphasis
23	Procsys	Speridian	Aptean	Multunus
24	Procsys (Hardware)	Tech Mahindra	Coral Business Solutions	Next Education
25	Robert Bosch	Uroleaf	Ichemical	Poornam
26	Robosoft	ChaYoWo Games	MRF	Ruby Seven Studios
27	Sasken	Claysys Technologies	Multunus	SunTec
28	Syntel	FACE	NeST	VVDN
29	Arbitron	Federal Bank	Platino Classics	Advenser
30	CMC Ltd	IBM Support	Qburst	Beehive Systems
31	Indian Air Force	Poornam	Spectrum	Digital Core Technologies
32	Nokia Siemens Network	Procsys	Sutherland	Federal Greens
33	ORACLE	Indian Navy	VVDN	HCL
34	Shriram Group	MRF		IMS
35	Vidyatech	Razorthink		Media Systems
36	Vijya Energy Plus	RM ESI		NeST
37		Sevana Electrical Appliances Pvt. Ltd		Razorthink
38		VGuard		Ruby Software
39				Tismo Technology Solutions
40				Verbicio Labs Pvt Ltd.

Table D5.5 - List of Companies Visited the Campus

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. As per the AICTE regulations 2012, a mechanism for redressal of grievances has to be constituted. Accordingly, a grievance redressal committee has been constituted with the following faculty members as members.

1. Dr. C. Sheela : Vice Principal
2. Dr. J. C. Prasad : HOD, CSE
3. Mr. Suman Lal M. R. : Asst. Professor, ME
4. Mrs. P. R. Mini : HOD, ECE

The committee considers grievances, if any, as per the principles and procedures outlined in the AICTE notifications dated 25th May, 2012.

5.1.11 What are the institutional provisions for resolving issues pertaining to sexual harassment?

There is an active Women Cell in the College. It aims to identify and to resolve issues of girls in the College. The Women Cell functions in association with the Discipline Committee, Anti-Ragging Cell and Student Grievance Cell of the College. All these Cells work together ensuring the safety and security of the students in the College. The Cell includes senior women faculty other than the lady group advisors which helps the girl students to openly discuss their problems with the Cell. No incident of sexual harassment has been reported so far. The Cell organizes awareness classes to the first year girl students every year. The classes make them alert and guide them how to respond to such situations positively. The formal inauguration of the Cell was conducted by Smt. K. C. Rosakkutty, Honorable Chairperson, Kerala Women's Commission, on 30th October Friday 2015 in the College Seminar hall.

Women's Cell FISAT

Chairperson	Dr. C. Sheela	Vice Principal
Convener	Ms. Archana R.	Assistant Professor, EEE
Members	Dr. K P. Saraswathy Amma	Professor, MBA
	Ms. Reshmi R.	Assistant Professor, CSE
	Ms. Ambily John	Assistant Professor, EIE
	Ms. Asha Joseph	Assistant Professor, Civil
	Ms. Honeymol P. Chacko	Assistant Professor, S H
	Ms. Nimmy M. Philip	Assistant Professor, ECE
	Ms. Deepa Mary Mathews	Assistant Professor, MCA
	Ms. Saly C. K.	Warden, Ladies Hostel
	Ms. Mary Rajan	Sr. Warden, Ladies Hostel

Table D5.6 - Women Cell

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?

Yes, there is an Anti-Ragging Committee in the College with the Principal as the Convenor, to deal with matters connected with ragging in the college and hostels. The Committee also includes selected staff members from the college ensuring representation from all departments, hostel wardens and parents.

There has not been any case of ragging reported during the last four years.

5.1.13 Enumerate the welfare schemes made available to students by the institution.

Full fee waiver for top entrance rank holders taking admission in FISAT in government quota is implemented by the Management. The Institution awards scholarships to children of members/ patrons of the FBOAES society, who secure 60% or more marks every year.

Book Bank scheme is provided by FISAT library for both UG and PG students at nominal charges. Perseverance Awards are given every year for toppers in each discipline. Best Outgoing Student Award and award for Best Student Project are given by each department. Gold medals are awarded for university rank holders from the Institution.

The Institution provides a medical insurance for students in association with *New India Assurance*. For accident cases (inside/ outside the premises of the Institution) students can claim Rs 10,000/- without hospitalization, up to 10 times per year. For hospitalization, due to some disease, students can claim Rs 5000/-. By death of the parent of a student, he/she will get 2 lakhs rupees and on the death of student, parent can claim 1 lakh rupees. The annual premium for students is Rs 50/- per head. 65 students already claimed so far.

5.1.14 Does the institution have a registered Alumni Association? If ‘yes’, what are its activities and major contributions for institutional, academic and infrastructural development?

No, the Alumni Association of FISAT [FISTAA] is yet to be registered, but alumni meets are conducted regularly by the Association since 2006.

The Alumni Association has signed an MoU with M/s Fourthambit Technologies Pvt. Ltd. to extend their professional and academic networking facilities. This portal/ platform provides the following advantages for the alumni

- Authenticating / vouching their co - curricular, extra-curricular and academic credentials by peers/faculty/group tutors/HODs.
- Authentication of Professional credentials by means of certified feature, which aids better employability.
- Better employment through employee referral by senior alumni.
- Facility to connect/interact course wise, batch wise or year wise in a secure platform.
- ‘Know Your Alumni’ programme to appreciate the alumni who have carved out a niche for themselves and to give encouragement and motivation to current batch of students.
- Collecting public opinion/suggestion by means of polls/questionnaire.

The FISAT Alumni Association [FISTAA] Executive Committee consists of faculty from various departments.

➤ **Facebook group**

The Alumni Association has formed a Facebook group through which the members could be informed of all the activities of the Association and enabled to be in touch with each other.

➤ **Placement and Internship Assistance**

The Alumni Association offers placement and internship assistance and communicates job offers to the Placement Cell of the College. Placement oriented classes are conducted by alumni members for the final year students.

➤ **Alumni-Student Interaction**

The College invites the old students to deliver lectures/experience-sharing sessions for the present students. This provides an active platform for interaction between the present and ex-students. Alumni members are always willing to share their expertise and experience with the present students. As a part of the industry interaction of the College, alumni members are actively involved in conducting hands on workshops and training programmes.

➤ **Support for College Activities**

The Alumni Association (FISTAA) renders support to the present students by sponsoring events. FISTAA sponsored an ever rolling trophy for the winners of All Kerala Inter Collegiate Basketball Tournament in 2010.

➤ **Alumni Charity Activities**

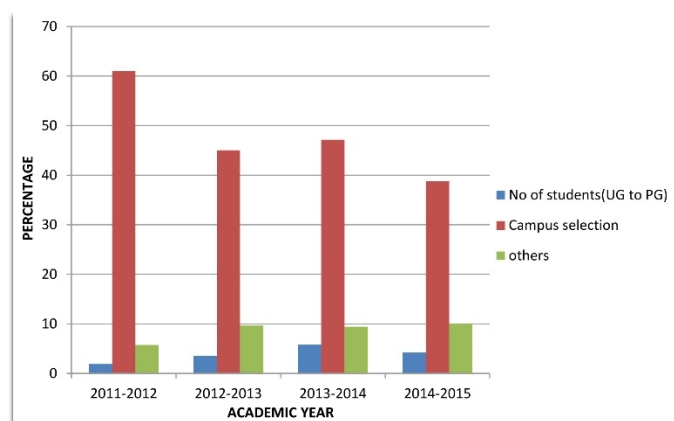
As a social initiative, FISTAA distributed uniforms to the students studying in Govt. School, Azhakam on 1st of June, 2010. As part of the decennial celebrations, FISTAA donated Rs. 2 lakhs towards Decennial Home Project. The alumni also contributed Rs. 4,70,000/- towards the expense for the treatment of a girl child.

5.2 Student Progression

5.2.1 Providing the percentage of students progressing to higher education or employment (for the last four batches) highlights the trends observed.

Academic Year	No. of Students UG to PG (%)	Employed	
		Campus Selection (in %)	Others
2014-2015	4.2	38.78	10
2013-2014	5.8	47.14	9.4
2012-2013	3.5	45	9.63
2011-2012	1.9	61	5.7

Table D5.7- Students' progression



5.2.2 Provide details of the program wise pass percentage and completion rate for the last four years (cohort wise/batch wise as stipulated by the university)? Furnish program 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 city/district.

UG - Courses:-

Year	Criteria	Department					
		ME	ECE	EEE	CSE	EIE	CE
2011-2015	Pass Percentage	45.76	66.7	42.86	57.26	52.6	59.82
	Completion Rate	93.65	100	100	98.41	100	100
2010-2014	Pass Percentage	81	78.6	57.58	78.57	52.5	NA
	Completion Rate	100	95.5	100	96.92	95.31	NA
2009-2013	Pass Percentage	85	68	68.18	74.61	60	NA
	Completion Rate	98.46	100	100	99.24	96.96	NA
2008-2012	Pass Percentage	NA	89.2	71.21	92.3	52	NA
	Completion Rate	NA	97.7	100	98.48	100	NA

Table D5.8 - B. Tech. results

Comparison of pass percentage with nearby colleges

Mechanical Engineering

Year	FISAT	ADISANKARA	RAJAGIRI	KMEA	SCMS
2015	45.76	46.7	36	14.29	52.85
2014	81	41.2	68	9	48.03
2013	85	48.5	84	20	55.4
2012	NA				

Table D5.9 - Comparison of results [Mechanical Engineering]

Electronics & Communication Engineering

Year	FISAT	ADISANKARA	RAJAGIRI	KMEA	SCMS
2015	66.7	52	76	40	81.3
2014	78.6	49	82.9	47	81.36
2013	68	78	77	39	89.06
2012	89.2	71	87	56	79.03

Table D5.10 - Comparison of results [Electronics and Communication Engineering]

Electrical & Electronics Engineering

Year	FISAT	ADISANKARA	RAJAGIRI	SCMS
2015	42.86	65	69.84	59
2014	57.58	72	77.58	63.5
2013	68.18	41	84.75	77.6
2012	71.21	80	86	65.6

Table D5.11 - Comparison of results [Electrical Engineering]

Computer Science & Engineering

Year	FISAT	ADISANKARA	RAJAGIRI	KMEA	SCMS
2015	57.26	63.33	63	55.2	61.29
2014	68.3	69.8	78.33	54.3	87.09
2013	64.6	70.9	91.5	48.4	89.06
2012	80	85.2	88.3	51.3	93.65

Table D5.12 - Comparison of results [Computer Science Engineering]

Electronics & Instrumentation Engineering

Year	FISAT	ADISANKARA	RAJAGIRI	KMEA	SCMS
2015	52.6	NA	NA	25	NA
2014	52.5	NA	NA	33.9	NA
2013	60	NA	NA	25	NA
2012	52	NA	NA	34.78	NA

Table D5.13 - Comparison of results [Electronics and Instrumentation Engineering]

Civil Engineering

Year	FISAT	ADISANKARA	RAJAGIRI	KMEA	SCMS
2015	59.82	NA	NA	40	76.27
NA (Programmes started only in 2011)					

Table D5.14 - Comparison of results [Civil Engineering]

PG Courses:-

Year	Criteria	Department	
		MCA	MBA
2015	Pass Percentage	Result Awaiting	Result Awaiting
	Completion Rate	91.66	100
2014	Pass Percentage	80.7	83
	Completion Rate	95	94.9
2013	Pass Percentage	90	85
	Completion Rate	100	99
2012	Pass Percentage	86	89
	Completion Rate	98	95

Table D5.15 - PG Results

Comparison of pass percentage with near by colleges:-

MCA

Year	FISAT	DEPAUL	SNGIST	SCMS
2015	Result Awaiting	Result Awaiting	Result Awaiting	Result Awaiting
2014	80.7	75.86	83.48	79.5
2013	90	86	86.84	80.39
2012	86	84	92.59	70.45

Table D5.16 - Comparison of results [MCA]

MBA

Year	FISAT	ADISANKARA	RAJAGIRI	SCMS
2015	Result Awaiting	Result Awaiting	Result Awaiting	Result Awaiting
2014	83	71	80	90
2013	85	80	83	85

Table D5.17 - Comparison of results [MBA]

M.Tech.

Year	Criteria	Courses				
		CE	VLSI	CSIS	CIM	SECM
2015	Pass Percentage	Result Awaiting	NA	Result Awaiting	Result Awaiting	NA
	Completion Rate	100		100	100	
2014	Pass Percentage	95.8	NA	100	NA	NA
	Completion Rate	100		100		
2013	Pass Percentage	100	NA	94.4	NA	NA
	Completion Rate	100		100		

Table D5.18 - M.Tech. Results

5.2.3 How does the institution facilitate student progression to higher level of education and/or towards employment?

The Institution has been continuously engaging the students in knowledge enhancement and development. This is facilitated through in-house and outbound programmes.

In-house programmes focus on preparing students to face interviews successfully and hone their skills to undergo competitive examinations.

In-house programmes include

- *Induction Programme* for first year students which gives an awareness on their courses, on how to prepare for examinations and about the industry expectations.
- *Soft Skill Development Programme* which aims to improve students' language proficiency, public speaking ability and team concept/work.
- *Orientation Programme* which explores higher education opportunities, guidelines for the preparation for competitive examinations such as GATE, UGC-NET, CAT, GRE, Central/State services, Civil Services etc., campus recruitment procedures, employability requirements and companies/industries and their openings.
- Two-hour special training is given to students on the preparation of resume.
- *Placement Training Programme* which is a week training programme for students to improve their aptitude, quantitative, logical, reasoning and verbal skills. Group discussions and mock interviews are conducted frequently for the pre-final year students as well.
- *Turning Point Programme* focuses on the development of life skills of

students. Outbound programmes focus on providing students with first hand experience and awareness on the industry functioning, requirement and trends. Industrial training as well as industrial visits are conducted for the students. A feedback on the students' learning of these outbound programmes are obtained through training and visit reports prepared by the students individually.

5.2.4 Enumerate the special support provided to students who are at risk of failure and drop out?

FISAT is an institution built for a social cause and for service to the humanity. The students are the brand ambassadors and stakeholders of the institute. The drop out rate is minimal. However, the Institute has implemented proactive programmes to identify students with declining performance levels and at the risk of failure and drop out. A robust Group Advisory system ensures that this screening happens on a continuous process with a clear action plan to mitigate declining performance and failure amongst students. The group advisors regularly counsel students to identify the root causes and take remedial actions such as conducting extra classes and interaction with parents.

Some of the efforts taken in this regard are:

- Conducting remedial classes and teaching assistance for weak students to clear arrears in university examinations.
- Both students and their parents are motivated through counselling to do better. There are various clubs and associations, which would foster their creativity and ability to be an individual of great talent.
- Special financial assistance is given by the Management to the economically poor students even though they are of forward category, who are unable to continue the course due to financial constraints.

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.

- The Arts Club, with the Students' Council, organizes intra collegiate arts festival "ARANGU" every year.
- Annual sports and intra-house games are conducted.
- An Inter collegiate Basketball Tournament is conducted.
- Students take part in University level sports and games competitions.

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.

The students of FISAT regularly take part in M. G. University Youth Festival and win prizes.

Results – M. G. University Youth Festivals

Sl.No.	Event	Name of Winner	Position
2015			
1	Ottamthullal	Suhas Nambiar	Grade: A
2	Kerala Nadanam	Akhila Nair	III Place
3	Kolkali	George Anand Denny (CSE), Abhil K.A. (EEE), Athul Krishna (CSE), Irfan (CE), Aflah (EI), Hari.S.Kumar (CE), Izhar Ismail (EI), Sarath P (CE), Cheriyam P (CE), Mohmed Ali (MCA), Thanveer Ahmed P (CE), Raheesh K (ECE), Arun Anand (CSE)	II Place
4	Wind Instrument Eastern	Vysakh S. Kumar	II Place
5	Poetry Recitation English	Sana Nazar	II Place Grade:A
6	Aksharaslokam	KrishnaRaj K.	A- Grade
7	Elocution Malayalam	Gixon George	A grade
8	Mohiniyattom	Akila Nair	A grade
9	Classic Music Male	Vinayak G Krishnan	II Place Grade:A
10	Percussion Instrument (Western)	Kiran Paul	II Place
11	Poster Designing	Titto Boby	Third
12	Film Review	Prince Paul	Second- Grade :A
13	Photography	Ebin Thomas	Second
14	Light Music (Male)	Vinayak G Krishnan	A- Grade
15	Classical Music	Dhanasree S Menon	A-Grade
2014			
1	Other Forms of Classical Dance	Akhila Nair (EC)	Second Prize
2	Poster Designing	Bonie P Varghese	First Prize
3	Classical Music (Female)	Dhanasree S Menon	Third Prize
4	Wind Instrument - Eastern Style	Vysakh S Kumar	Second Prize
5	Mohiniyattam	Akhila nair	Third Prize
6	Light Vocal Indian (Female)	Dhanasree S Menon	Second Prize
7	Bharathanatyam (Female)	Akhila Nair	Second Prize
8	Kavyakeli	Gopika laksmi	A grade
9	Light Music (Male)	Vinayak G Krishnan	A grade
10	Classical Music (Male)	Vinayak G Krishnan	A grade
2013			
1	Mohiniyattam	Saranya Sasidharan	1st Prize
	Bharathanatyam		1st Prize
	Other forms of classical		2nd Prize

	dance		
	Fancy Dress		2nd Prize
2	Poster Designing	Bonie P. Varghese	1st Prize
	Collage (2nd Prize)		2nd Prize
3	Kavyakeli	Vidya T.	1st Prize
	Aksharaslokam		3rd Prize
4	Kathakali	Sruthi Devidas	1st Prize
5	Percussion Instrument (Western)	Deepak Joe Robin	2nd Prize
6	Mohiniyattam	Sreelakshmi S Nair	A Grade
7	Folk Dance Single	Parvathi M.	A Grade
8	Other Forms of Classical Dances	Anuja U. R.	A Grade
9	Light Music Vocal Indian (Male)	Abin Rajan	A Grade
10	On the Spot Painting	Praveen S.	A Grade
11	Monoact	Digin Mariam Jose	A Grade

Table D5.19 - Students' performance in Arts festivals

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 Institution, with great interest, considers the feedback from the companies particularly those who employ the students, as well as that from the alumni. The Placement and Training Cell (PTC) and the College Academic Council analyse the feedback from alumni/employers. Based on the employer/alumni feedback, the Institute takes necessary steps to improve infrastructure and modify the content/structure of the add-on courses/ seminars/ invited lectures conducted by corresponding departments and the training programmes conducted by PTC, so as to make students adaptable to fast changes in the cutting edge technologies. Samples of Employer/ Alumni feedback forms are given below.

1. Sample feedback form for the Employers

DEPARTMENT OF ----- ENGINEERING

EMPLOYER SURVEY QUESTIONNAIRE

Name of organisation:

.....

Name of Employee:

.....

No. of years with this organisation:

For the parameters given below, please tick mark “√” on the FIVE point scale provided, to rate the graduate from **Federal Institute of Science and Technology, Dept. of ----- Engineering, FISAT**, employed in your organisation:

SI No	Parameter for Evaluation	Excellent(5)	Very Good(4)	Good(3)	Fair(2)	Poor(1)
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1	Fundamental knowledge in Science and Mathematics.					
2	Fundamental knowledge in engineering					
3	Understanding of global engineering standards					
4	Ability to work in multi-disciplinary subjects					
5	Ability to analyse and interpret data					
6	Ability to design new systems within realistic constraints					
7	Ability to identify, formulate and solve technical problems					
8	Practice of professional and ethical responsibility					
9	Communication and presentation skills					
10	Ability to understand the impact of Engineering solutions in various contexts.					
11	Knowledge of current developments in Engg. field					
12	Ability to use modern engineering tools for professional practice.					
13	Leadership and management skills					
	Overall assessment					

Table D5.20 - Employer Survey Questionnaire

Your suggestions regarding curriculum gaps (if any):

Any other suggestions / feedback:

Evaluator's signature:
 (Provide name and address of Employer /
 Head of Institution)
 (Official seal)

2. Sample feedback form for the Alumni

**FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY,
 MOOKKANNOOR, ANGAMALY**

DEPARTMENT OF - - - - -

ALUMNI FEEDBACK

Kindly rate the following parameters and put tick mark (✓) in the appropriate cell.

Sl. No.	Parameters	Excellent	Good	Average	Poor
1	The curriculum and content of the the Programme				
2	Delivery of the courses				
3	Evaluation process				
4	Efficiency of the teachers in imparting knowledge				
5	Expertise and knowledge of the teachers				
6	The counselling sessions offered by the Department and by the College				
7	Training programmes on skill development				
8	Industry exposure/ hand on experience				
9	Training for facing interview				
10	Quality of labs				
12	Teaching resources and methodology of teaching				
13	Academic ambience				
14	General experience as a student in the Department at FISAT				

Table D5.21 – Alumni Feedback Format

Any other remarks:

Name of alumni Year of study

Present occupation

Address

Phone Number Email id.

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.

Catalogue and wall magazines

- College highly involves and encourages students for publishing both catalogues and wall magazines.
- For all academic and non-academic activities held in college, students design the catalogues and brochures and college supports to publish it.

Academic:

- Students are given group assignments for designing and presenting posters or wall magazines related to their academic subject topic.
- Each group is assigned a particular topic that is to be presented by them in the class rooms or laboratories. This is verified yearly by the faculty concerned and updated with proper suggestions.
- Students are trained to conduct various exercises like quizzes, debates and discussions using these materials.

Non - academic:

- The cultural events '*Arangu*' and '*Bharatham*', other intra and inter department activities such as conferences, exhibitions of main/mini projects, department association activities etc. include the publication of catalogues and wall magazines prepared by students.
- A student committee is formed, along with other committees for each event, taking responsibility of making and publishing it.

College Magazine

- FISAT College magazine publishes articles by the students and staff and the details of important events conducted during the year.
- An Editorial Board is formed.

Editorial Board members are

- | | |
|------------------------------|-----------------------------------|
| 1. Managing editor | - Chairman of the college |
| 2. Chief Editor | - Principal |
| 3. Asst. Chief editor | - Vice Principal |
| 4. Two staff editors | - Appointed by the Principal. |
| 5. Three associative editors | - Selected by the editorial board |
| 6. Student editor | - Elected in student council. |
| 7. A bench of sub editors | - Selected by the editorial board |
- Student magazine editor is elected by the student representatives.
 - Staff editors are appointed immediately after the Students' Council election.
 - Associative editors are staff members selected by the Editorial Board. Sub-editors are selected among students.
 - The work begins with the collection of articles from the students and staff.
 - The magazine includes reports of the various department associations, non academic associations, placement graphs, reports and photos of cultural events, sports, games etc.
 - The magazine also highlights the leading articles from the manuscript written by 'Rolling Stone', the literary association of the college.

List of publication/materials from students:

Sl.No.	Dept. Association	Material/ Events	Year
1	CSE	ICE FOSS LOGO, Posters, Certificates	2014
		ICE FOSS LOGO, Posters, Certificates	2015
		Project Exhibition Banners	2014
		Project Exhibition Banners	2015
		MANTRA 2015 Brochures, Certificates, Posters	2015
		4 th International Conference Poster	2014
2	ECE	AGNITIO Brochures, Certificates Posters	2015
3	EEE	CICUTIX Poster	2015
		COSPHI Posters, Certificates	2015
4	EIE	INSTRA 2K15 Certificates	2015
		Association Day Poster, LOGO	2015
5	ME	SLDC 2K15 Brochure, Certificates	2015
		Brochure and certificates of project exhibition	2015
		Poster of seminar on Maintenance Management and reliability	2014
6	CE	National Conference Brochure	2015
		Training on water proofing brochure	2015
		Training Course on STAAD & PRIMAVERA brochure	2014
		Brochure and certificate of one-day training on practical construction	2015
		Brochure and certificate of one-day training on Cement and Concrete	2014
7	MCA	Brochure and certificate of one-day workshop on "OPENGL"	2014
8	MBA	Brochure, poster and certificates for 3 rd national conference on Managing Turbulence, Aligning Business with Culture, Society and Consumers	2015
		Poster of COLOSSEUM- the annual HR conclave	2014

Table D5.22 - List of publication/materials from students

5.3.5 Does the college have a Student Council or any similar body? Give details on its selection, constitution, activities and funding.

Yes, Students' Council is constituted every year as per the norms of the University. It is a democratically elected forum which co-ordinates all the student

activities for the year. It is responsible for conducting various technical and cultural programs on the campus.

FISAT, being an affiliated college of the M G University, strictly follows the guidelines of the university in conducting elections of office bearers for the students' council. A staff member monitors the election procedure and advises the student leaders in the planning and execution of various activities.

Constitution

The following are the positions to which elections are carried out.

Sl.No.	Position	Duties
1.	Chairman	Presiding over the Students' council meetings
2.	Vice-Chair Person	Carry out the responsibilities of the Chairman in his absence. The position is reserved for girl students in mixed colleges.
3.	General Secretary	Conduct meetings and Co-ordinate activities of the council.
4.	University Union Councilors	Two UUC's are elected. They are the representatives to University union. They take part in university union elections.
5.	Magazine Editor	In charge of Annual College Magazine.
6.	Arts Club Secretary	Co-ordinates various cultural fests and events
7.	Sports Secretary	Sports secretary is a nominated position. Nominated in the first executive meeting of the student's council to give leadership in sports and games.
8.	Lady Representatives	Two Lady representatives are elected to address the problems of girls
9.	Representatives	One Representative each for 1 st , 2 nd , 3 rd , 4 th B.Tech. and one each for M.Tech, MBA and MCA.

Table D5.23 – Duties of Students' Council members

2. Presidential and Parliamentary Mode

The University has special guidelines for presidential and parliamentary modes of election conduction. FISAT carries out the election of Students' Council in parliamentary method. Each class elects the class representatives in the 1st phase of election. Thereafter in the meeting of parliament, these representatives elect the above mentioned office bearers or executive members of Students' Council.

3. Election Procedure

Every year, the University issues notification for Council Election, generally in August-September.

The Principal appoints chief electoral officer/returning officer for conducting the election. The University has strict guidelines for the issue of notification, inviting nomination for first phase, scrutiny of nomination, accepting candidature, publishing electoral roll, conducting the election and declaring the results etc. All these activities are carried out by the Chief Electoral officer. On the day of election, the individual staff members appointed by the Chief Electoral officer carry out the first phase of election. If a class has more valid nominations, election is conducted using ballots. After the completion of the first phase of the election, the elected representatives meet in the afternoon session for electing the

executive members. When the parliament meets, nomination for the various posts are invited and election is conducted, if necessary. However year-representatives are elected by the representatives of the respective years and lady representatives for the executive are elected from the lady representatives of the parliament. All the details of the elections are intimated to the University. The details of UUCs along with the photographs are sent in the prescribed format to the University.

4. Duties of Students' Council

- Students Council is responsible for conducting technical and cultural programs in the College.
- Takes lead position in conducting 'Nautilus' – inter college technical fest in collaboration with IEEE, which gives students ample opportunities to coordinate and attend many technical events and talks from industry.
- Arts Club which is the part of Students' Council conducts 'Arangu' – intra college cultural fest every year from which the talents are identified for the University Level Arts fest.
- Arts club also conducts 'Bharatham' – inter college cultural fest once in three years.
- Magazine editor is responsible for releasing college magazines.
- Beyond all these, the Council involves in any student-related problems within the campus.

5. Funding

All the activities of Students' Council are funded by the college authority. Budget is prepared before each event according to which the Management sanctions the fund. For technical and cultural events, the PTA also allots funds upon request.

5.3.6 Give details of various academic and administrative bodies that have student representatives on them.

➤ **IEEE**

The Institute of Electrical and Electronics Engineers took its roots at FISAT in November 2003. It was initiated by Shri. S. Gopakumar, the Students Activities Chairman and IEEE Gold Member Shri Vargheese Cherian. Various programmes are conducted in the Institute by the IEEE Student Branch. The activities include Tech Talk, Management Sessions etc. At present, there are about 300 members in this Chapter. This Chapter has been rated among the top 5 active student branches in Kerala section. The Chapter organizes intercollegiate technical program NAUTILUS - biannually. IEEE Student Chapter won the Best Student Chapter Kerala Section Award for 2007 and outstanding leadership award from IEEE, USA.

As subchapters, two societies - Robotics and Automation and Computer Society are also formed.

➤ **ISA**

The student branch of ISA [Instrumentation System Automation] FISAT started in the year 2008. The objective of the society is to advance the technology and science connected with the theory, design, manufacture and use of various instruments in the engineering applications.

➤ **ISTE**

The College became an Institution member of ISTE [Indian Society for Technical Education] in October 2004. Subsequently, a Student Chapter was formed in the College. Presently the Chapter has 790 active members. The activities of this chapter include conducting technical workshops, invited lectures etc. The FISAT student chapter was identified as the Best Student Chapter of ISTE, Kerala Section in the year 2006.

➤ **CSI**

The CSI [Computer Society of India] student branch of FISAT was started in April 2006. Within a short span of time it has become one of the most active branches in the State. It has been organizing a number of workshops, seminars and other technical activities to promote IT knowledge among students.

FISAT has won the CSI Best Student Branch award for three consecutive years, 2010, 2011 and 2012.

➤ **THYRA**

The students association of the Department of Computer Science Engineering - THYRA, was established in the academic year 2003-2004. The Association aims at bringing out the blooming talents of students. It conducts yearly activities in different aspects of the new age technology.

➤ **ELECTRA**

The Electrical and Electronics Association embodies sparks of creativity, the rays of originality, the colors of imagination and the genuine expressions of the electrical engineering students of FISAT. Electra which aims at nurturing and developing the talents of young men and women of FISAT, was formed in 2004. Electra looks for the manifestation of perfection within each electrical engineering student of FISAT. It is not only a purely technical association, but also promotes academic, technological, managerial, cultural and artistic skills of the electrical engineering students of FISAT. The Association conducts seminars and talks by eminent personalities in the industrial and academic societies. Industrial visits are also organized to give a practical exposure to the students.

➤ **IDEA**

IDEA [Instrumentation's Dextrous Etudiants Association] started by the Electronics and Instrumentation Department of FISAT aims at the development of technical and non-technical skills of each and every

student of the department. With the introduction of Readers' Forum, the department hopes to develop the reading skills of the students and impart them the latest advancements in the field of Instrumentation. The Department also has started an Electronics Hobby Club which focuses on developing the basic laboratory skills of the students and their ideas by providing an appropriate platform and giving them practical exposure. By publishing INSTRON, the Department aims to bring out the writing skills and also the technical knowledge of the students.

➤ **ECHO**

Electronic and Communication Heuristics Organization (ECHO) is an in-house organization under the guidance and support of Electronics and Communication department. It is the forum for technical discussions and has been actively organizing various technical events and competitions every year, which have received good participation. It has conducted various talks on Electronics Product Design, Embedded System and Robotics, Communication Engineering etc. It has organized a Car Race, `TWEELZ` for students and it was well received.

➤ **SWAN**

Sanguine Workers and Admirers of Nature (SWAN) the Nature Club of FISAT was established in the year 2002 and its main objective is to give awareness to students regarding habitat preservation, and planting and maintaining nature garden. The Club frequently arranges field trips, nature walks and talks by naturalists. In association with `SREEDHAREEYAM` Ayurvedic Eye Hospital & Research Centre, Koothattukulam a herbal garden has been set up in the college campus.

➤ **SCOPE**

Society For Communication And Overall Personal Enhancement (SCOPE) is an association meant for improving the overall development of students. By conducting and organizing various literary and social activities, SCOPE aims at improving communicative skills and the enhancement of person to person relationship within and outside the campus. SCOPE also conducts various events and competitions for schools & colleges.

➤ **FRAMES**

FRAMES is a photography and multimedia club in FISAT. The main objective of FRAMES is to encourage the art of photography and multimedia among students. It organises professional training programs in these fields.

➤ **FFSC**

The FISAT Free Software Cell (FFSC), established in 2006, is dedicated to promote computer users' rights to use, study, copy, modify, and redistribute computer programs. The FFSC promotes the development and use of free software, particularly the GNU operating system, used widely

in its GNU/Linux variant. The Cell extends its help on technical basis by doing need based projects for the visually challenged people. The Free Software Cell is one of the most active student organisations in FISAT. FFSC conducts classes in the Linux Operating System, Kernel Programming and Web Application Development.

➤ **FIESTA**

The Association of Computer Applications is active in enhancing the soft skills and also in exposing students to the recent trends and developments in technology. The Association also conducts invited talks/guest lectures and sessions on familiarizing latest application domains. Students are also encouraged to participate in quiz competitions, seminars and workshops.

➤ **REWIND**

Department of Computer Applications Alumni Association, REWIND was started in July 2015 with 340 members. REWIND meets every year in the month of July. The Association is involved in charity activities too.

➤ **LIBRARY ADVISORY COMMITTEE**

For the effective functioning of the College Library, a Library Advisory Committee was formed with Librarian, staff and student representatives as members. The Committee gives suggestions for various activities to be conducted besides the regular transactions.

➤ **FMS**

Forum of Management Students (FMS) is a students' association, students' senate, guild of students' government or a students' organization present in FISAT Business School dedicated to social and organizational activities of the student body. Established in 2009, FMS aims to promote and foster interest among students in the work and progress of the Institution in keeping with its ideals.

➤ **STUDENTS' COUNCIL**

The Students' Council has representatives elected from all classes. The Council is actively involved in all the matters of the College that are of interest to the students. The Students' Council helps to develop leadership qualities in students and prepares them to take up challenges confidently in their career.

➤ **MOZILLA CLUB**

The Institute has always supported the use of free software and innovation. Mozilla, is a global community of technologists, thinkers and builders working together to keep the internet alive and accessible, so that people worldwide can be informed of the contributors and creators of the Web. Mozilla club of FISAT, in association with Mozilla Kerala (Cochin)

community, conducted its first event **Web Maker Party** in FISAT on 10th October 2014.

➤ **ARTS CLUB**

FISAT Arts Club is committed to nurture and promote the artistic talents of the students. The Arts Club Secretary is elected at the College Students' Council election. The activities of the Club are planned immediately after the the formation of the Club. Teachers are assigned Staff Advisors to the Arts Club. The major event that the Arts Club conducts is *ARANGU*, the intra- college arts festival. The winners of these competitions are encouraged to compete in the University Youth Festival. Arts Club also conducts an intercollegiate mega event, *BHARATHAM*, once in every three years. Colleges from across the country take part in this fiesta. *BHARATHAM* was conducted in 2006, 2009, 2012 and 2015. Both *ARANGU* and *BHARATHAM* provide platforms for students to showcase their artistic talents which eventually mould outstanding artists. Mr. Nivin Pauly (cine actor), Ms. Anu Elizabeth Jose (lyricist), play back singers like Mr. Vivekanand V, Mr. Rahul Lakshman, Mr. Sachin Warriar, Kathakali performer, Ms. Sruthi Devidas and renowned dancer Ms. Saranya Sasidharan are some of the outstanding students who had their moulding phase in FISAT.

➤ **SPORTS CLUB**

FISAT Sports club functions under the leadership of the Physical Education Director. Student Secretaries are nominated by the Students' Council of FISAT. Conduct of the Annual Sports day, tournaments, giving coaching to various College teams to take part in the University and other sports meets etc. are some of the activities of the Club.

Sports & Games facilities

- Cricket field
- Cricket nets
- Football field
- Basketball court
- Volleyball court
- Shuttle Badminton court (2nos)
- Table tennis Tables (4 nos)

Tournaments Conducted

- All Kerala Inter-collegiate Basketball Tournament for the FISAT Trophy
- Kerala State Judo Championships 2015
- MG University Chess Championships

➤ **ROLLING STONE**

Rolling Stone, the Literary Association of FISAT provides a platform to pool and fine tune the literary, creative and artistic talents of students and to show case them at inter-collegiate and intra collegiate avenues. The

debate club of *Rolling Stone* organizes inter-collegiate events and enhances the leadership and organizing skills of students. Toast Masters International is a programme regularly held in the college (two days every week).

➤ **HPC RESEARCH CENTRE**

High Performance Computing Centre, aims at building a supercomputing lab working at several gigaflops of speed. With focus on high-load applications involving 3D rendering and heavy calculations, this state-of-the-art Lab encourages students and staff interested in research-oriented activities.

The project, Dhakshina, is an answer to critics who have pointed out that FFSC has many dream projects, none of which have actually been implemented.

➤ **CLASS COMMITTEE**

Class Committees are formed at the beginning of each semester for each class. It consists of the Head of Department, Staff Advisor of the class, a senior faculty member from the department, a faculty member from another department and two student representatives (one of them should be a girl in a mixed class). The decisions of the class committee shall be recorded in a register for further reference and follow up actions.

➤ **MATRIX**

MATRIX - is the Mechanical Engineering Students Association of FISAT. It envisions dissemination of technology related knowledge to different strata of society.

5.3.7 How does the institution network and collaborate with the Alumni and former faculty of the Institution. Any other relevant information regarding Student Support and Progression which the college would like to include.

a) Network with the Alumni:

- Alumni meet, in which old students from far and near visit their alma-mater and refresh themselves, is conducted every year.
- The College values the suggestions of alumni on various developmental activities.
- An alumni portal is created in the college website for better interaction between the College and alumni.

b) Network with the Former Faculty Members

- The Institute maintains good rapport with the former faculty members.
- Former faculty members are invited to all the important functions in the College, and they attend most of the programmes.
- Departments invite the former senior faculty members to deliver guest lectures and give trainings.

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 create a world class professional institute with focus on excellence, shaping committed global professionals and technocrats to meet the demands of business, industry and research.

Mission

FISAT strives for transforming the institution into an advanced centre in professional education, which in turn will bring out professionals with superior skill and social commitment. It will be the earnest endeavour of the Institution to provide state-of-the-art facilities to mould brilliant young talents, enabling them to take-up challenging assignments in the highly competitive global scenario.

Federal Institute of Science and Technology was established in 2002, as a professional institution, focussed on excellence and committed to imparting quality technical education ensuring equity and social justice. The Federal Bank Officers' Association, a trade union by nature, ventured into dreaming of a technical institute of international repute, amidst the proliferation of commercialization in technical education in Kerala. The rural village Mookkannoor, the birth place of Late. K.P. Hormis, the founder of Federal Bank, was chosen as the location of the institute.

In accordance with the vision, mission and goals and objectives, FISAT strives hard to achieve excellence in every sphere of its activities. Listing some of them:

- ✦ The admission procedure and fee structure are strictly as per the government regulations. There is no capitation or donation for admissions. The reservation policy prescribed by the government is strictly followed.
- ✦ A good number of students are offered full fee waiver or fee concessions.
- ✦ There is a good number of scholarships instituted by the Management.
- ✦ Ethics and value orientation sessions are offered.
- ✦ Uncompromising efforts for academic excellence are made.
- ✦ Appointments of staff are done strictly on merit and absolute transparency is maintained.
- ✦ The pay scale and service conditions are as per the AICTE norms.

- ✦ State of the art infrastructure facilities and learning resources are provided.
- ✦ Separate hostel facilities are provided for boys and girls.
- ✦ Promoting research and extension.
- ✦ Several welfare measures for staff.
- ✦ Extending financial and other assistance to the needy and downtrodden including constructing houses for the poor.
- ✦ Several social welfare activities.
- ✦ Promoting environment protection and agriculture.
- ✦ The revenue generated is spent back in the institution on various development and welfare activities.

6.1.2 What is the role of top management, Principal and Faculty in design and implementation of its quality policy and plans?

Management and Governing Board

FISAT is the owned by the Federal Bank Officers' Educational Society, (FBOES) a subsidiary of the Federal Bank Officers' Association (FBOA). The management of the institution is bestowed on a Governing Board elected for a period of two years from the Society. The Chairman of the Governing Board is the elected Secretary of the Association. The Vice Chairman and Treasurer of the Governing Board are respectively the elected President and Treasurer of FBOA. The Principal is the Secretary of the Governing Board. A Chief Administrative Officer is appointed to help the Management in administration, who is also a member of the Governing Body.

The Members of the Governing Body are as follows:

- | | |
|----------------------------------|-------------------|
| 1) Mr. Paul Mundadan | Chairman |
| 2) Ms. P Anitha | Vice-Chairperson |
| 3) Mr. P I Bose | Treasurer, FBOAES |
| 4) Mr. P V Mathew | Member |
| 5) Mr. Xavier Gregory | Member |
| 6) Mr. George C Chacko | Member |
| 7) Mr. Anthony Johnson | Member |
| 8) Mr. Abdul Nazar M P | Member |
| 9) Prof. Jose Pappu | Member |
| 10) Prof. Neena Joseph | Member |
| 11) Dr. George Issac (Principal) | Ex-Officio Member |

The duties and responsibilities of the officers are as given under:

Governing Body

- To look after the overall development of institute.
- Conduct periodic meeting of various bodies such as Governing Body, Management Committee.

Principal

- To look after the overall development of institute.
- Mobilize external resources to strengthen the institute.
- Instil confidence and devotion in every member of the institute.
- Define delegate responsibilities of various positions in the organization.
- Ensure periodic monitoring & evaluation of various processes & sub-processes.
- Execute quality policy and objectives.
- Prepare annual budget.
- Conduct periodic meeting of various bodies such as Governing.
- Prepare and execute academic calendar.
- Establish, implement and maintain quality management system.
- Students Discipline.
- Reports to AICTE, DTE, Affiliated University.
- Liaisoning with AICTE, DTE and Affiliated University.
- Compliance with AICTE, DTE & University.
- Ensure leave management of teaching and non-teaching staff of the department, in such a way that no prescribed class hours are lost.
- Ensure harmonious working environment to nurture a healthy academic community and assist in resolving differences.
- Review and approval of all relevant records of concerned faculty members by HoD.
- Maintain overall student discipline in the department as per college policy and guideline, with due coordination with the Class Teachers, with regard to attendance, uniform, attitude, conduct, assignment completion etc.
- Convene regular faculty meetings to assess and review the progress of planned activities.

Vice Principal

- Instil confidence and devotion in every member of the institute.
- Ensure periodic monitoring & evaluation of various processes & sub-processes.
- Academic Council, Library Committee.

- Women's Grievances Redressal Committee etc.
- Oversee the teaching-learning process.
- Carry out result analysis and suggest corrective measures.
- Initiate supplementary teaching measures.
- Assist Principal in day-to-day academic and administrative responsibilities.
- Student Hostels.
- Students Discipline.
- Reports to AICTE, DTE, Affiliated University.
- Ensure judicious class/job allocation to the faculty members.
- Ensure leave management of teaching and nonteaching staff of the department, in such a way that no prescribed class hours are lost.
- Ensure harmonious working environment to nurture a healthy academic community and assist in resolving differences.
- Periodic independent review of faculty performance individually and suggest remedial tips.
- Encourage regular academic discussions for subject exposure among the relevant faculty members in and outside the department, to facilitate knowledge sharing and updating.
- Maintain overall student discipline in the department as per college policy and guideline, with due coordination with the Class Teachers, with regard to attendance, uniform, attitude, conduct, assignment completion etc.
- Resolve difficulties faced by the students, academic and non-academic, in due consultation with the class teacher and referring essential cases to the Counselor, with a discrete note of reference.
- Conduct pre-examination and post examination reviews with the Faculty members concerned with regard to quality of questions, answers, rectification measures etc to improve the student performance/results.

Director Academics

- To look after the overall development of institute
- Mobilize external resources to strengthen the institute
- Prepare annual budget
- Resource Generation through research
- Oversee the teaching-learning process
- Quality Assurance Cell
- Initiate recruitment process

- New proposals
- Identifying training needs of staff
- AICTE Compliance
- Reports to AICTE, DTE, Affiliated University
- Compliance with AICTE, DTE & University
- Initiate opportunities and avenues for developing faculty knowledge and capability. Ensure that each faculty member take turn to present a recent article from a leading international journal to his fellow colleagues in the department at least once in a month.
- Encourage regular academic discussions for subject exposure among the relevant faculty members in and outside the department, to facilitate knowledge sharing and updating.
- Identify and arrange specialist lectures for different subjects in consultation with the concerned faculty.
- Inspect concerned department classes at least once in a semester.
- Comply with the reporting requirements and submissions as may be specified.
- Develop proposals for improved, teaching methods, curriculum enhancement, new academic programs of practical significance etc.

Dean Engineering Sciences

- Plan & provide for necessary facilities / equipment for development.
- Oversee the teaching-learning process
- Carry out result analysis and suggest corrective measures.
- Initiate supplementary teaching measures
- Students feedback
- Responsible for efficient functioning of the Department/Centre with reference to its goals and objectives- conduct the department in a professional manner.
- Develop and schedule the activities of the department for the academic year- preparation of departmental calendar.
- Ensure judicious class/job allocation to the faculty members.
- Ensure that all faculty members complete their role responsibilities in a timely manner.
- Periodic independent review of faculty performance individually and suggest remedial tips
- Finalization of the work load/allotment and timetable for the next semester immediately on completion of the current semester.

- Prepare and submit half yearly feedback about the staff members to Principal as per the students evaluation form.

Dean Student Affairs

- Carry out result analysis and suggest corrective measures.
- Formation of student council
- Student health care
- Student orientation
- Student Hostels
- Students Discipline
- Maintain overall student discipline in the department as per college policy and guideline, with due coordination with the Class Teachers, with regard to attendance, uniform, attitude, conduct, assignment completion etc.

Dean and Director MBA

- Plan & provide for necessary facilities / equipment for development.
- Student orientation
- Ensure that there is an interaction with expert team and departmental faculty members and students at least once in a month for the students.

Chief Administrative Officer

- Public relations
- Maintain minutes of meeting (all)
- Notify the staff about various staff development programs
- Arrange staff development programs
- Student Hostels
- Ensure leave management of teaching and nonteaching staff of the department, in such a way that no prescribed class hours are lost.

Heads of Departments

- Plan & provide for necessary facilities / equipment for development.
- Monitoring of lectures and practical sessions
- Students feedback
- Co-ordinate the activities of class teachers
- Responsible for efficient functioning of the Department/Centre with reference to its goals and objectives- conduct the department in a professional manner.
- Take all efforts from the department side for enhancing employability and placement readiness of the students in the department.

- Ensure that there is an interaction with expert team and departmental faculty members and students at least once in a month for the students.
- Convene class committee meeting to get students feedback on teaching.
- Prepare and monitor the time and cost budgets for the department.

6.1.3 What is the involvement of the leadership in ensuring:

- **The policy statements and action plans for fulfilment 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:

The Institute has clearly stated its vision and mission. The Management, headed by the Chairman, accepts and approves the policy statements and action plan presented by the Principal in the Governing Board meetings at the beginning of every academic year. The action plan and policies focus on quality enhancement and quality sustenance and the overall growth and development of the institution in academic, non-academic, infrastructure, promotion of activities towards social commitment and community service. Subsequently, the Principal delegates other constituent bodies/departments for the execution and implementation of the plan of action in a time bound manner. The Principal reports back to the Governing Board the status of all actions and events decided by the Board and entrusted with him.

Formulation of action plans for all operations and incorporation of the same into the institutional strategic plan.

The action plans for operations are formulated under the supervision and guidance of the Principal, Vice-principal, Dean Engineering Sciences, Dean Student Affairs, Dean Business School and HODs. The action plan with regard to different clubs and cells is formulated with taking into consideration the opinion of the teachers in charge and decisions taken at the cell/club meetings. The approved plan of action for the entire academic year with probable dates of execution is incorporated in the college handbook and calendar.

The academic plan and the course plan are included in the individual course files. The formulation and implementation of the events and actions are assisted by various committees like Academic Performance Monitoring Committee, Timetable Committee, Class Committee, Group Advisory system, Placement Cell, ISO Committee, Sports and Games Committee, Hostel Monitoring Committee, Transportation Committee, Discipline monitoring Committee anti-Ragging Squad.

Interaction with stakeholders

The interaction with the major stake holders - students, teachers, parents, employers, alumni, management – either face to face or by feedback is highly helpful to know the requirements and expectations of these stake holders for the growth and progress of the institution in terms of academic output, soft skill development and campus placements. The leadership values the suggestions, comments and opinion received from the stake holders with due importance.

Proper support for policy and planning through need analysis, research inputs and consultations with the stakeholders

The college leadership ensures implementation of the policies by meticulous planning. The needs of the society are identified through interactions with the stakeholders. Apart from abiding by the policy and planning envisaged by affiliating universities, AICTE and other academic bodies, the Institute tries to follow all quality enhancing policies formed and framed by receiving feedback from students, parents and alumni, employers and other stake holders. Based on the employers' feedback about the students placed in their companies, the present students are given additional training in the areas for further improvement. Those who are in authority and the HODs review the progress for continuous improvement.

Reinforcing the culture of excellence

FISAT, focussed on excellence, envisions to be a world class institution and strives to imprint and inculcate a culture of excellence in every activity, be it academic or non academic. It incorporates the healthy procedures and practices with respect to the prevailing external environment and adapts to the ever increasing challenges of the academia.

Champion organizational change

Those who are in leadership plan and implement the activities towards bridging the knowledge gap by offering industry oriented add- on courses, invited lectures by eminent scholars and experienced industrialists. Students and faculty are encouraged to attend as many conferences and present technical papers in various national and international programmes. Sufficient number of highly competent teachers are appointed as per AICTE norms. The labs, library and other infrastructure facilities are provided and maintained properly. Appropriate strategic planning is done on time and communicated to the employees so that they execute and accomplish the requirement as per the policy set.

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?

The policy stated is as follows: 'FISAT aims to be a centre of excellence in professional education by establishing a system of quality assurance, which would be on a continuous basis that will transform young talents into competent and socially committed professionals with global vision.'

- ❖ The quality policies of FISAT are deeply rooted in its vision, mission and objectives.
- ❖ Action plans are prepared in accordance with the quality policies.
- ❖ The approved plan of actions is executed and implemented through various academic, and administrative bodies in the Institute and continuously monitored by the Principal, Vice Principal, Director Academics, Deans, Chief Administrative Officer, HoDs, Co-ordinators and other authorities.
- ❖ The academic performance of students is evaluated at the Management review meetings, at the meetings of the Academic Performance Monitoring Committee and at department meetings. Special attention and care is given to slow learners.
- ❖ The quality of teaching is ensured with the help of the data collected from the feedback from students and other stake holders. The Dean, Engineering Sciences is entrusted with the assessment of students' feedback.
- ❖ The Course Outcome, Programme Outcome and Programme Educational Outcome are assessed from time to time and necessary corrections, if any, are implemented.
- ❖ The evaluation of other quality enhancement and quality sustenance programmes are monitored by the respective organizing bodies and the effectiveness is evaluated by the authorities. The Dean, Student Affairs monitors all student related activities and tries to see that the student activities are organized in relation to the quality policies of the institution.
- ❖ Research activities of the faculty and students are monitored by the College Research Committee. Special efforts are taken to inculcate research culture in the Institute. The research journal published from the College is a platform for research publication. Successful researchers are given various incentives.
- ❖ Special efforts are taken to improve the soft skills and analytic skills of students to make them more employable.
- ❖ Sense of social commitment and moral uprightness are instilled in students to mould them as responsible professionals.
- ❖ The policies of the institution are discussed at various levels – Governing Board, Academic Council, Department Advisory Committee, Department level meetings, College Students' Council, PTA, Alumni, IIP Cell meetings - and corrections and revisions are incorporated if necessary.
- ❖ Nonconformity, in any form with the institution quality policies, (if any), is seriously dealt with.

6.1.5 Give details of the academic leadership provided to the faculty by the top management?

- ✚ The Management considers the faculty as the main player in accomplishing excellence in all spheres of activities of the Institute.

- ✿ They are treated with dignity and respect and given full support and encouragement.
- ✿ Their views and suggestions in all matters are well taken by the top leadership.
- ✿ The faculty members, apart from their class room teaching, are encouraged to actively get involved in decision making process at all levels.
- ✿ Committee system with faculty as members is a healthy practice followed in the institute. There are in- charges of several committees functioning in the college.
- ✿ Faculty are given opportunities to improve their qualification, publish their research findings, keep abreast of latest knowledge etc.
- ✿ Various welfare measures exclusively for the staff are introduced by the Management as mark of respect and care for the faculty.

6.1.6 How does the college groom leadership at various levels?

At Student Level: The College Students` Council, elected as per the direction of the affiliating university, conducts many activities round the year. Immediately after the election and oath taking, the Council prepares the action plan for the year. In order to coordinate different programmes of the students, the Management has appointed a Dean for Student Affairs and a faculty exclusively as Student Coordinator. Teachers are assigned as staff advisors for the Council and Arts Club. The college arts festival - *Arangu* and the mega cultural fiesta - *Bharatam* are conducted with leadership of the Students` Council. By providing opportunities for students to take active participation in various programmes such as seminars, national and international level conferences, all curricular and extra-curricular activities, organizing or conducting academic and non-academic programmes the Institute groomstheir leadership quality.

Association activities are another platform where the students get opportunities to groom their leadership skills and strengthen and nurture healthy personal relationship.

At Faculty level: As mentors and counsellors faculty get involved in planning and execution of several department activities. The making of course plan, activity calendar and stock audits give them ample opportunities to improve their planning abilities. As coordinators, and members of various committees, their leadership, documentation and administrative abilities are improved. The group advisor system followed in the Institute is yet another opportunity for the faculty to groom their leadership and mentoring skills. Various staff recreation activities also create opportunities to enhance the leadership qualities of the staff. The Institute promotes institutional collaboration and encourages the faculty to participate in activities at the university level and serve in various committees of intercollegiate academic bodies. This also helps the faculty to improve their leadership skills.

Head of the Department:

Planning, coordinating and monitoring all curricular and extra-curricular activities in the department help the HODs to groom their leadership. Being responsible for the income and expense with regard to all activities undertaken by the department, the HODs get expertise in finance management and documentation. Coordinating and supervising activities and managing the fellow faculty sharpen their leadership qualities. The HODs groom staff members to lead different departmental committee.

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?

The Institution promotes the system of decentralized governance. Necessary autonomy is given to all departments and sections functioning in the Institute.

The Departments are entrusted with several academic and administrative responsibilities. An academic audit and planning of activities are done in the first meeting of the department. Identifying staff requirement, allocation of course, time table, distribution of duties, recommendation of texts books and study materials etc. are done at the department meetings. The requirement is reported to the higher authorities for immediate action. The departments review the performance of the students and remedial measures are taken. The assignment of group advisors, nomination of faculty to different cells and clubs and committees etc. are done at the department level. The conduct of class committee meetings, Open House programmes, add-on programmes, national and international seminars and workshops are planned at the department level. Preparation of Department Budget also is an activity entrusted with the departments. The departments actively involve in the student discipline as well.

6.1.8 Does the college promote a culture of participative management? If yes, indicate the levels of participative management.

Yes; the College promotes a culture of participative management. The Principal is the academic and administrative head of the Institution. Besides the Governing Board, there are Vice Principal, Director Academics, Dean Engineering Science, Dean Student Affairs, Dean and Director, MBA, Chief Administrative Officer, Office Administrators, Heads of Departments, and Conveners of various Cells/Clubs, assisting the Principal in the day to day functioning of the College.

- Administrative Office
- Admission Committee
- Academic Performance Monitory Committee
- Placement and Training Committee
- PTA – Parent Teacher Association
- HR Training and Counselling
- Discipline Committee
- Disciplinary Action Committee

- Website Management Committee
- Examination Cell
- Alumni Association
- Maintenance Committee
- Award and Scholarship Committee
- Training and Development Cell
- Library Advisory Committee
- Grievance Redressal Cell
- Purchase Committee
- Complaints Committee Against Sexual Harassment (CCASH)
- Time Table Committee
- Right to Information Committee
- Anti- Ragging Committee
- Placement Cell
- Student Council
- Arts Club
- Music Club
- Rolling Stone – Literary Club
- CHPC - Centre for High Performance Computing
- IRACC - Instrumentation Research and Consultancy Centre
- CRISP – Centre for Research and Innovations in Signal Processing
- CARPC – Centre for Advanced Research in Power Converters
- CEES – Centre for Earthquake Engineering Studies
- CAR – Centre for Automotive Research
- CCE – Centre for Continuing Education
- CEDEM – Centre for Entrepreneurial Development and Small Enterprises Management
- CLGRM – Centre for Local Government and Resource Management
- PREACH – Project, Research and Consultancy House
- NSS
- Sports Club
- IEEE Student Chapter
- ISTE – Indian Society for Technical Education
- CSI Student Chapter
- ISA – Instrumentation System Automation
- ICI – Indian Concrete Society
- ASME – American Society of Mechanical Engineers
- IIPC (Industry-Institute Partnership Cell)

- FFSC – FISAT Free Software Cell
- SCOPE – Society for Communication and Overall Personal Enhancement
- SWAN – Sanguine Workers and Admirers of Nature
- Speaker’s forum
- Business Quiz Club
- Entrepreneur Club
- Ethics Committee
- IQAC (Internal Quality Monitoring & Assurance Cell)

These committees meet regularly and discuss the agenda items as per their terms of reference. The minutes of these meetings are recorded and sent to the Management for favorable consideration and implementation.

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 formally stated a quality policy.

Quality Objective

FISAT aims to be a centre of excellence in Professional Education by establishing a system of quality assurance, which would be on a continuous basis, that will transform young talents into competent and socially committed professional with global vision.

Based on the vision and mission of the Institution, the Governing Council has framed the quality policy driven by the needs of the industries, society and stakeholders to bridge the gap in curriculum. It is deployed and monitored through:

- Providing excellent infrastructure and conducive learning environment.
- Building a harmonious work culture and motivating everybody to contribute their best.
- Proactively responding to the changing the needs of industry, parents and the society by embracing latest technological trends in the field of education.
- Complying with requirements of standards and striving continually to improve the quality of operations of the Institution.

6.2.2 Does the Institute have a perspective plan for development? If so, give the aspects considered for inclusion in the plan.

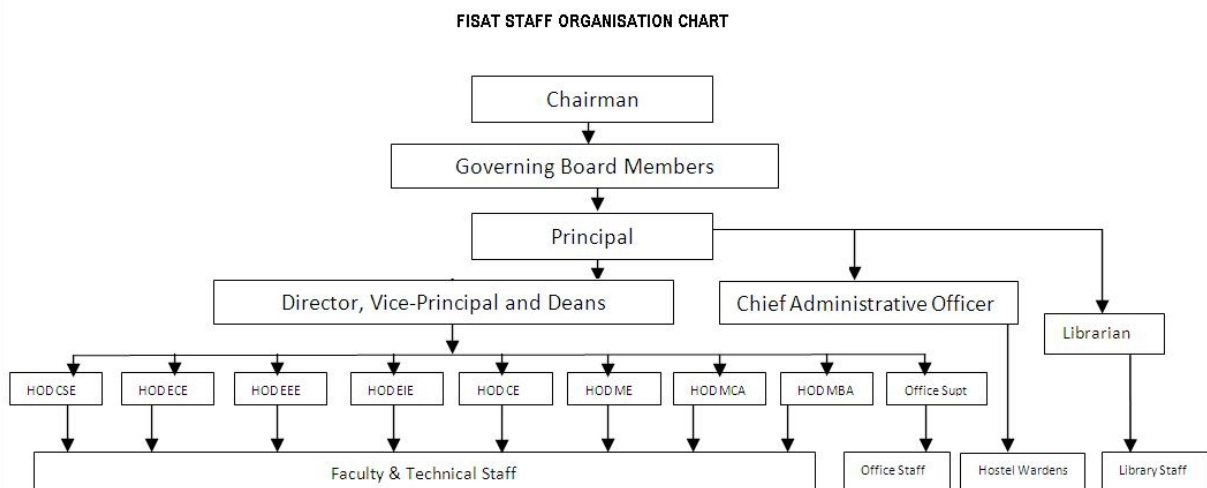
Yes; the Institute has a perspective plan for development. The College Governing Board, in accordance with the vision, mission and objectives of the institution and considering creative suggestions and opinions from all constituent bodies,

has prepared a Master Plan for the development of the Institution. The Master Plan consists of long term plans and short term plans.

- ❖ Academic excellence in terms of imparting high quality professional education by empowering the faculty and producing highly competent and qualified graduates possessing strong ethical value orientation and technical dexterity is the main aspect on which the perspective plan is made.
- ❖ Making the existing academic programmes offered in the Institute world class by achieving the envisioned programme educational objectives and programme outcomes at every stage of delivery of courses is another major goal.
- ❖ To become centre of potential for excellence promoting research, extension and industry partnership.
- ❖ To become a consultancy hub is yet another aspect taken into consideration in the perspective planning.
- ❖ Besides creating excellent academic competence, the golden rule of social commitment and ethical uprightness are other aspects considered in the perspective plan of the institution.
- ❖ Keeping the environment ever green and quality sustainability are aspects considered in the future planning.

6.2.3 Describe the internal organizational structure and decision making processes.

The Institution function is based on the organizational chart shown below. Decision will be made by Governing Body of FISAT and disseminated by Principal through Vice principal and Deans, and Heads of the all departments.



6.2.4 Give a broad description of the quality improvement strategies of the institution for each of the following

Outcome based education is followed in the College. The strategies for quality enhancement and sustenance of the institution are framed by different bodies, IQAC in particular.

a) Teaching & Learning

(i) Faculty quality improvement strategies

- ✦ Orientation is given to newly appointed faculty to introduce them into outcome based teaching, course plan preparation, evaluation methodology, effective course delivery, feedback mechanisms and various healthy practices followed in the College.
- ✦ Faculty members are constantly groomed through professional development programmes, either conducted by the College or other institutions.
- ✦ The faculty are equipped to cope with the pace of the developing world through seminars, workshops, orientation programmes and talks by eminent persons.
- ✦ The faculty are encouraged for achieving academic excellence through attaining additional qualifications. The College Research Committee is committed to promote research culture among the faculty and students.
- ✦ ICT enabled teaching is encouraged among faculty.
- ✦ The faculty members are encouraged to take up various research projects.
- ✦ The performance of teachers in the course delivery is continuously monitored and assessed. Based on the feedback from the students and parents and the academic output, they are encouraged to improve the

quality of teaching, if necessary. Teachers with 100% success rate are specially felicitated. The Academic Performance Monitoring Committee plays a cardinal role in this regard.

(ii) Students quality improvement strategies

- ✦ Monitoring the attendance of students and informing parents the absence daily by SMS.
- ✦ Continuous evaluation process is followed.
- ✦ Tutorial Classes, Mentoring and counselling sessions are offered.
- ✦ Peer learning is encouraged.
- ✦ Value education, ethics and moral classes are held.
- ✦ Remedial classes are held for the benefit of slow learners.
- ✦ Retests are given for improvement.
- ✦ Special care is given for SC/ST/SEBC and other minority category students.
- ✦ Assignments, seminars, projects and internships to nurture technical skills are given.
- ✦ A feedback mechanism is active to get the suggestions and opinions of the stakeholders.
- ✦ Different extra-curricular and co-curricular activities - Cell / Club / Association / Council activities / Exhibitions / Tech-fests - are organized for the holistic development of students.

b) Research and development

- The College Research Committee monitors the research activities. The faculty are encouraged to pursue doctoral studies.
- The Committee holds lecture series on frontier areas so as to kindle research interest in the researchers.
- The faculty members are deputed to attend FDPs, Workshops, Seminars and Conferences conducted by the Institute and by other institutions.
- The High Performance Computing facility is an added facility to pursue research.
- The College research journal publishes quality research findings of the faculty.
- Financial incentives are given to those who publish papers in research journals.
- Teachers are given duty leave to attend national and international seminars and workshops.
- The College Research Committee encourages faculty to apply for minor and major research projects.

- The faculty members who pursue full time research are granted study leave. Those who successfully complete their doctoral work are given an enhancement of Rs. 5000/- in their monthly salary.

c) Community engagement

FISAT gives due emphasis on community service. Every student is required to do community service for 15 days during the programme (two hours/week for A.P.J Abdul Kalam Technological University). The Institute promotes several community service oriented activities through Nature Club, SCOPE, SWAN, and NSS. The NSS units conduct awareness programmes on Health and Hygiene, Blood donation and take up other outreach programmes. Tapping financial help for the poor and needy and visiting orphanages and spending time with blind and children who are affected terminal illness like cerebral palsy and cancer are some of the community linked programmes organised by the NSS units.

d) Human resource management

The Institute has a vibrant Placement Cell which liaises with prospective employers to recruit qualified students on the basis of their performance in the campus interviews. The appointment of faculty is made on the basis of merit in a transparent manner. Vacancies are advertised in dailies and eligible candidates are called for interview. The interview board consists of the Principal, Vice Principal, Director, Dean, HOD, Management Representatives and Subject Experts.

e) Industry interaction

Industry interaction and partnership are promoted by the IIP Cell. MOUs are signed with industries to get students trained through internships and collaborative projects. There is an Incubation Centre functioning in the Institute.

Industry interaction facilitates are as follows:

- Firsthand industry experience, the culture and practices.
- Confidence to start up new ventures.
- Incubation of ideas and start-ups.
- Networking with of similar entrepreneurs.
- Opportunities to listen to expert lectures by industrialists.
- Placements in industries.

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?

Continuous improvement of the quality of the activities conducted in the Institute is achieved by systematic and sincere review.

- ◆ There are several mechanisms to collect feedback from all the stake holders. Students can convey their feedback about the performance of the teachers through the feedback system. Any other form of communicating their grievances is also welcomed. The feedbacks are consolidated and the content is passed on to the higher authorities.
- ◆ Information about the effectiveness and success of various events organised by the Institute is collected formally through feedbacks and informally by word-of-mouth from PTA, Alumni, and Employers etc. The collected information is shared with the Management and other stake holders for taking any action required.
- ◆ The report of various functional units is sent to the higher authorities and their comments are intimated to various stake holders.
- ◆ Suggestion boxes are kept at various places

6.2.6 How does the management encourage and support involvement of the staff in improving the effectiveness and efficiency of the institutional processes?

- The College Management encourages and promotes total academic freedom to the Principal and the Academic Heads. All the academic transactions are done in participatory mode soliciting wholehearted cooperation of the staff.
- The Principal, in consultation with the Management, coordinates various activities in the Institute. Committee system is very much promoted. The Principal, in consultation with the Academic Heads, nominates coordinators for various Committees / Clubs / Cells functioning in the Institute. The Management encourages decentralized mode of administration.
- The Management extends financial support in many forms to the activities of the Staff Welfare Association. The annual staff tour, annual family meet, insurance schemes subsidized food and travel etc. are some of them. A residential colony for the staff is also provided near the Institute. This is one of the distinctive features of the Institute and is a matter of encouragement for the staff. The staff members extend unconditional support, cooperation and involvement in every activity conducted in the Institute.
- The involvement of staff in the running of the college hostels is also deeply appreciated.
- Students are provided with scholarships and awards. Outstanding achievers are specially felicitated. Partial financial support to conduct add-on courses like SAP (50 hours, specialization in HR, Marketing), Foundations of Computing (50 hours). A major portion of the expenses towards the conduct of annual sports, tournaments, cultural fests, club/cell activities etc. is borne by the Management.

6.2.7 Enumerate the resolutions made by the Management Council in the last year and the status of implementation of such resolutions.

The following resolutions are made last year in the Management Council.

Date	Major Resolutions
19/3/2014	<ul style="list-style-type: none"> • Resolved to purchase 50 computers for MBA Computer Laboratory. • Resolved to implement career advancement scheme for the teaching staff after evaluation
5/5/2014	<ul style="list-style-type: none"> • Resolved to fill up the identified vacancies in Civil and Mechanical Engineering Departments
3/6/2014	<ul style="list-style-type: none"> • Approved the construction of Decennial Building with a cost of Rs. 9 crore 63 lakhs. • Decided to purchase equipments in Electrical Laboratory for Rs. 4,00,000.
2/2/2015	<ul style="list-style-type: none"> • Decided to setup incubation center as per KTU Syllabus
27/3/2015	<ul style="list-style-type: none"> • Decided to purchase a new generator as a backup.
7/9/2015	<ul style="list-style-type: none"> • Decided to construct two more floors in the Decennial Block. • Several resolutions on academic, administrative and financial aspects of the college and they have successfully been implemented.

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?

No.

At present the affiliating Universities do not make any provision for granting academic autonomy to a self financing college.

6.2.9 How does the Institution ensure that grievances / complaints are promptly attended to and resolved effectively? Is there a mechanism to analyse the nature of grievances for promoting better stakeholder relationship?

The College has very strong grievance redressal mechanism at various levels.

 **Students' Grievance Redressal Committee**

The complaints and grievance of students are collected through feedback. Feedback forms are distributed to students, and grievances and suggestions are collected. Complaint/Suggestion boxes are also placed at various places to collect the complaints of students. Suitable actions are taken on the complaints received. The contact numbers of the members of the anti-ragging committee are displayed in all notice boards and College Handbook and Calendar to receive complaints related to ragging. The Chief Administrative Officer is assigned duty to resolve all grievances about the college hostels.

 **Grievance Redressal of the employees and other stake holders**

There is a set procedure for addressing the grievances of both teaching and nonteaching staff. The grievances of the administrative staff are handled by the Chief Administrative Officer. The Principal, in consultation with the Academic Heads and the Governing Board take suitable redressal actions. The complaints and suggestions from the parents, alumni, and others also are well received and

addressed by the College authorities. Most of the grievances of the parents are settled at the department level itself.

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.

6.2.11 Does the Institution have a mechanism for analysing student feedback on institutional performance? If yes, what was the outcome and response of the institution to such an effort?

Yes, the Institution has the mechanism for analysing the students' feedback on Institutional performances.

- Feedbacks about the teachers' performance are collected online twice a semester. The collected data is analysed and proper follow up actions are initiated.
- Feedback forms prepared on manifold aspects are distributed and collected. The condition of the canteen, library, office, labs etc. come under the purview of this feedback.
- Students' 'Exit Feedback' is collected at the end of the programme.
- Feedback regarding the general functioning of the Institution is collected from the alumni during alumni meetings.

All the collected feedbacks are analysed in detail and the necessary measures to be taken are identified and executed expeditiously in consultation with the Management and Academic Heads.

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 institution extends all possible supports to the teaching and non-teaching staff so as to enhance their professional competence by:

- 1) Orientation about the various challenges and opportunities in the new profession, a brief account of the background and significance of the Institution, the vision and mission and the goals and objectives of the Institute and details about the various practices and facilities in the Institute etc. are provided to the staff members as soon as they join the Institute.
- 2) Encouraging faculty members to undergo various FDPs conducted in the College or outside.
- 3) Providing latest study materials and learning resources like NPTEL video lectures and e-Journals to the faculty members.
- 4) Encouraging the faculty to attend Orientation Programmes, Refresher Courses, Seminars, Workshops and Conferences.

- 5) Encouraging the faculty to associate with state, national and international professional bodies.
- 6) Persuading the faculty to pursue research and consultancy and to experiment innovative teaching learning practices.
- 7) Ekalavya programme offered by IITs is available for the faculty to update their knowledge.

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?

- ◆ Faculty are always motivated to keep abreast of the latest knowledge in their area and to attend FDPs.
- ◆ Faculty are encouraged to attend seminars / conferences / industrial training. Institution provides the registration fee for the faculty members to attend national and international conferences.
- ◆ The teaching and non-teaching staff are entrusted with duties as members / convenors of various committees (committee system) making them more involved in all the activities of the Institute.
- ◆ Research is supported and incentives are given for paper publication. Study leave is granted and a hike in the salary is given after getting Ph. D.
- ◆ Several welfare measures like sharing insurance policy premium, supporting recreational activities and presenting compliments on the Foundation Day are extended to staff.
- ◆ Subsidized transport facilities are provided for all the staff members.
- ◆ Yearly increments in salary are paid without fail.
- ◆ Women faculty are granted maternity leave with full pay for three months.
- ◆ Non-teaching staff members are given separate training and orientation sessions.
- ◆ Laptops are given to all staff on a concessional rate.

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.

- ❖ Every staff member is asked to submit the performance appraisal form (prepared by the IQAC) distributed to them. The performance appraisal consists of two parts - self appraisal and appraisal by HOD.
- ❖ The appraisal of teaching performance is evaluated through feedback forms.
- ❖ The involvement of the staff in various activities of the college could be assessed and proper guidance is given to improve the performance (if necessary).

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?

- The performance reports are reviewed by the Management and Academic Heads.
- Those staff whose performances are appraised good are appreciated and also those who perform not up to the expectation, are encouraged to improve their performance in the following days.
- The Management has instituted annual awards for the best performance of staff both in the teaching and non teaching sections.
- Outstanding achievements of staff are well appreciated and felicitated in several meetings including PTA meeting.
- The quality of teaching performance is graded with a software and made available on request to all stake holders.

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?

There are several welfare schemes available for staff:

- ✦ Cash incentives and appreciation to outstanding achievers.
- ✦ Laptops for all faculty members, with a portion of cost met by the Management.
- ✦ Study leave, medical leave and maternity leave, special leave and casual leave with full pay.
- ✦ Subsidized rate for food and transportation.
- ✦ Monthly conveyance allowance to selected staff.
- ✦ Coordinator allowance and Headship allowance.
- ✦ Accommodation for the Principal and PRO on the campus.
- ✦ Compensation leave for extra hours worked.
- ✦ Gifts and compliments on special occasions (Special gifts to all staff on the Foundation day of the Institute).
- ✦ Vacation for staff (10 days for Onam, 10 days for Christmas, 15 days Casual Leave and 22 days Special Leave).
- ✦ Best Performance Award for teaching and non teaching staff every year.

FISAT Staff Welfare Association is very vibrant on the campus. Following welfare schemes are there under the aegis of the Association.

- ✦ Housing Scheme (The Management has purchased an area of land near the Institute and developed a housing colony exclusively for the staff).
- ✦ Staff Family Tour (Major portion of the expenses is met by the Management).
- ✦ Celebration of festivals like Onam and Christmas (Cakes and *payasamare* distributed to all staff by the Management).

- Group Insurance Scheme (Half of the premium is remitted by the Management).
- Family get-together.
- Financial help to staff who are in distress.

6.3.6 What are the measures taken by the Institution for attracting and retaining eminent faculty?

The academic ambience, quality work culture and attitude of the Management make the Institute an ideal destination for many eminent faculty. The Institute is very keen in selecting such experienced and well qualified hands on the staff.

- Additional infrastructure facilities are extended to them.
- Due attention is paid to their creative suggestions and their good efforts are appreciated. The Institute values them as role models.
- The Institute encourages them to apply for projects and as research guides in other universities.
- They are deputed to represent the Institution in various capacities.

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?

The financial resources of the Institute are managed in a very effective and foolproof manner. There is a fully-computerized accounts department in the Institute. The salary of the staff is disbursed through the Federal Bank. Every cash transaction is done mostly through cheques and is supported by genuine vouchers or bills.

For effective management of the accounts, the two-tier system is followed - the internal and the external audit on a continuous basis.

The following three types of accounts are created:

- ❖ Receipts & Payment Accounts.
- ❖ Income & Expenditure Accounts
- ❖ Balance Sheets.

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 both internal and external audit. Internal auditors make monthly visit and close the previous month's transactions verification. They make a consolidated monthwise statement and submit the same to Management. The Management in turn gives the report for the External audit and ask the auditors to verify for compliance.

The last internal audit was conducted in December 2014 and external audit in August 2015.

As on date, there has not been any discrepancy reported on the accounts of the institution. The Institute files income tax return every year within the stipulated time.

The audit reports for the last three years are enclosed as **Annexure**

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.

The income generated from the Institute is spent for the development and running of the Institute itself. Major Sources of institutional receipts/funding are:

- Fees remitted by the students.
- Funding from external agencies like AICTE and DST.
- The deficit is managed by availing loan from scheduled banks.

6.4.4 Give details on the efforts made by the Institution in securing additional funding and the utilization of the same (if any).

As the income generated is spent in the institution itself, there is no financial crunch at present. However, major constructions are done by availing bank loans.

6.5 Internal Quality Assurance System (IQAS)

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?**

Yes; realizing the importance of quality assurance process, the Institute constituted IQAC on 01.06.2015. The structure of the Cell is as follows:

1. Mr. Paul Mundadan (Chairman, FBAOES)
2. Dr. George Issac (Principal)
3. Dr. C. Sheela (Vice Principal)
4. Dr. K.S.M. Panicker (Director, Academics)

5. Dr. Pailo Paul (Dean, Engineering Science)
6. Dr. Sunny Kuriakose A (Dean, SA; General Coordinator)
7. Mr. Jose Varghese (IQAC Coordinator)
8. Mr. B. Vijayakumar (Administrator, Office)
9. Mr. Arun S. (Physical Education)
10. Dr. Molly Joseph M (Department of Basic Science and Humanities)
11. Mr. Greg Xavier (Alumini Rep.)
12. Dr. Dhanya Alex (Dept of Business Administration)
13. Dr. A J Joshua (Dept of Business Administration)
14. Dr. Anil Kumar M N (Dept. of ECE)
15. Mr. Sooraj Jayachandran(Student Rep.)
16. Mr. Renjith R (Dept. of ME)
17. Ms. Senu Abi (Dept of Computer Application)
18. Ms. Surya Susan Alex (Dept. of EEE)
19. Ms. Lakshmi Nandakumar (Dept. of EIE)
20. Ms. Honeymol P Chacko (Department of Basic Science and Humanities)
21. Ms. Reshmi R (Dept. of Computer Science and Engineering)
22. Adv. Rema Menon (PTA Rep)
23. Dr. P.A. Mathew (Dean and Director, MBA)
24. Mr. Prakash .C. Chandy, Chief Administrative Officer
25. Dr. Praseetha K I (Dept. of Civil Engg)
26. Mr. Sino Varghese (Librarian)
27. Mr. B. Vijayakumar (Office Superintendent)
28. Mr. Varghese John (Manager, Accounts)

IQAC meets periodically and deliberates on various issues related to quality enhancement and quality sustenance.

The IQAC team spearheads the quality initiatives in all aspects of teaching, learning and evaluation. Several suggestions by the IQAC have been approved and implemented by the Management. IQAC provides the development and application of quality benchmarks/parameters for the various academic and administrative activities of the institution. It also guarantees timely, efficient and progressive performance in academics as well as in financial management. IQAC has facilitated a review on academic and research output of departments and identified improvements in infrastructure for effective space utilization and provided creative suggestions. IQAC contributes in the following ways to improve teaching-learning process in the Institute.

- Sets standards for various processes and monitors the academic planning and implementation process
- Ensuring the adequacy, maintenance and proper allocation of support structure and services.
- Ensuring the relevance and quality of academic and research programmes

- Supports the Management in task clarifications, timeline and quality measures.
- Coordinates internal audit and retrospect.
- Plans and executes staff quality improvement programmes (Trainings, workshops, mentoring etc.)
- Facilitates automation of various teaching learning evaluation systems.
- Advises various committees such as library committee, IT committee, research committee etc. of the college.
- Documentation of analysed examination results.
- Periodic review of the documentation system and conduct SWOC analysis

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 operationalization.

Yes, the institution has an integrated framework for quality assurance of the academic and administrative activities.

Quality of the academic activities is assured with strategic planning and the concerted efforts of various constituent bodies functioning in the Institute. The quality of delivery of courses is monitored systematically by the Academic Heads, Academic Performance Monitoring Committee and the HoDs. The quality of evaluation, be it external examination or internal examination, is assured by the various systematic steps and practices followed in the Institute. If any lack of quality is noticed, necessary corrective measures are taken. The quality of co-curricular and extra-curricular activities, the placement training and industry collaborative activities and research is closely reviewed. University Results, Campus Placements, Research output, Industry collaboration, Attainment of Course outcomes and Programme Outcomes are some of the indicators of quality assurance.

The administrative system prevailing in the institute also is of good quality. The duties and responsibilities bestowed upon the administrative staff are clearly defined and exhibited at their respective seats. General non-academic needs of the students like remittance of fee, collection of scholarships, getting necessary office documents etc. are easily met with efficient service of the administrative staff. Committees The students' educational needs and the college administrative needs are managed through various operational committees represented by representatives from faculty, staff and students. Each committee makes plans for its activities, schedules and monitors these activities to meet stipulated requirements. In this way, the Institute has an integrated framework for quality assurance of the academic and administrative activities.

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 Institute conducts Faculty Development Programmes regularly. They are also encouraged to participate in training programs conducted in the form of orientation courses and refresher courses conducted elsewhere. The Institute

encourages selected faculty to undergo the audit courses to enable them to perform the internal audit more effectively. The expertise earned from the training is shared among the peers.

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?

External academic audit is carried out by the ISO system auditors at both internal and external levels. External review by ISO and the suggestions given by BSI are taken into account and the noncompliance, if any, is rectified. The audit gives the feedback about the areas where improvement is required. Accordingly, Institute implements corrective measures. Academic audit is a regular activity conducted to monitor the academic performance of the students. Academic performance of the Institute is monitored by the affiliating university regularly, through

- i) Students attendance,
- ii) Internal Exam Marks,
- iii) Semester Exam Marks and
- iv) Semester wise performance and comparison with other colleges.

In addition to this, as per the direction of the APJ Abdul Kalam Technological University internal and external audits are conducted in every semester.

6.5.5 How is the internal quality assurance mechanisms aligned with the requirements of the relevant external quality assurance agencies/regulatory authorities?

Internal Audit, in the context of ISO and as a requirement of the APJ Abdul Kalam Technological University, and the Internal Quality Assurance Cell (IQAC) are mechanisms assessing the quality of institutional level activities. These are aligned with the policies of the external quality assurance agencies and regulatory authorities. The quality enhancement and quality sustenance measures followed in Institute in teaching, learning, and evaluation are aligned with the quality envisaged by the affiliating universities, government and other quality assessment agencies like ISO, NAAC and NBA.

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 HoDs of the departments allot courses to faculty as per their specialization well in advance. The faculty members submit lesson plans and lecture notes for the entire course before the commencement of the semester which are verified by course coordinators and HoDs. Internal assessment tests, assignments, seminars are part of the academic schedule. The Academic Progress Monitoring Committee (APMC) is committed to monitoring the academic progress and performance of the students. Student counselling and Class committee meetings are other measures to review teaching learning process.

6.5.7 How does the Institution communicate its quality assurance policies, mechanisms and outcomes to the various internal and external stakeholders?

The Institution communicates its quality assurance policies, mechanisms and outcomes to its internal stakeholders (Students, Staff) through meetings, circulars and notice boards and to external stakeholders (Parents, Alumni, Industries) through mail, websites, brochures, calendar, magazines, media etc. The Institute also conducts conducting meetings with parents, alumni, industries and public.

CRITERION VII: INNOVATIONS AND BEST PRACTICES

7.1 Environment Consciousness

7.1.1 Does the Institute conduct a Green Audit of its campus and facilities?

Yes; the Institute conducts Green Audit of the campus by staff and student coordinators. Primary importance is given for development of eco-friendly atmosphere. The Institute has adopted various measures to maintain the campus clean and green and to develop eco-concern and environment consciousness among the staff and students.

7.1.2 What are the initiatives taken by the College to make the campus eco-friendly?

a) Energy conservation

1. Energy conserving lights like CFL and LED are used in the college campus. All the ordinary bulbs are replaced by energy efficient CFL since 2011. LED lights and Metal Halide lamps are used as street lights.
2. Staff and students take special attention to minimize the energy consumption by switching off lights, fans and other electrical devices when they are not in use. Control panels are installed in each block.
3. Stickers to promote and encourage switching off lights and fans are put up at every level to save power.
4. The UPS batteries are maintained in good condition so as to enhance the battery life. Quarterly monitoring and audit are done.
5. The college substation is provided with capacitor banks for the Power Factor Correction System to save electricity and to improve tariff.
6. Periodical checking and monitoring of the meters and all equipment used in the substation are done by external agencies.
7. The architectural design of the Institute provides buildings proper ventilation for the rooms, which helps to conserve energy.
8. The use of air conditioner is restricted to the computer labs and Conference rooms.
9. The Institute has replaced the CRT monitors with LED monitors to conserve energy to the fullest extent.
10. The Institute is planning to install solar power plant over the roof of the new building.
11. Solar water heater is used in the hostels and Principal's quarters.
12. Self-sustainable agriculture is practised
13. Efforts are taken to make the campus plastic free.

14. Trees, plants and the natural stream flowing through the campus provide an eco-friendly ambience in the Institute. They are carefully preserved.
15. Gas generator is used for street lighting from the STP (Sewage Treatment Plant)
16. E-waste management system is introduced

b) Use of renewable energy:

The Institute takes sincere efforts to funnel the funds for infrastructure more and more into generation of renewable energy.

1. Solar water heater is used in the hostels and the principal's quarters and pre heating of water for cooking in the mess.
2. The Institute is planning to install solar powergenerators.
3. The Institute has a solar-based lighting system on the campus.
4. Solar cooking system
5. A bio-gas plant is installed in the college which runs a 5 KVA generator for street lighting.
6. There is a (STP) Sewage Treatment Plant in the College. Solid-waste management unit functions on the campus for handling wastes scientifically.
7. Plastics, glasses, papers etc. are segregated and disposed methodically.
8. Incinerators are installed on the campus.
9. Gas generator for street lighting

c) Water harvesting:

There is no scarcity of water on the campus. However, watershed management and water harvesting are implemented on the campus to enhance the water table.

d) Check dam construction:

There are check dams (small size) across the brook flowing through the campus. Water collected from rooftops is directed to the stream and stored in the check dams. This helps to enhance the water table on the campus and neighbourhoods.

e) Efforts for Carbon neutrality:

1. The Institute aims at making the carbon dioxide emissions as low as possible in the campus and to maintain a net zero carbon footprint. Special attention is given not to burn waste materials. Trees are planted on the campus and existing trees are protected.
2. The campus allows only restricted entry of motor vehicles inside the campus and most of the parking areas are made at the main entrance of the campus.

3. In order to reduce pollution, burning of fire woods is avoided and the campus has been made completely smoke free.
4. All the high mast lamps, which are illuminated during night, are made of metal alloys.
5. The College has a transportation system that encourages the students and staff to use common transport facility so as to reduce carbon emission. It is estimated that only less than 16.4 % of students use motor vehicles.
6. The Campus has a large green coverage which acts as a natural carbon sink.
7. Only LPG cylinders are used in hostels and other places for cooking.
8. The dead leaves and other bio-degradable wastes are used as manure. Burning of paper and plastic are avoided. This helps in keeping the campus free from emission of carbon dioxide as far as possible.
9. Study classes and extension activities on the importance of green campus and carbon neutrality are organized for school children and public
10. Special attention is given for planting saplings in available land to improve the carbon neutrality.
11. The Nature club of FISAT, (Sanguine Workers and Admirers of Nature) 'SWAN' is a vibrant organisation formed to motivate the youngsters and to involve them in the protection of environment and promotion of agriculture.
 - ❖ SWAN aims to facilitate the development of passion for environmental protection, to promote environmental awareness, to spread environment education, in an informal and creative manner in youngsters. It also encourages students to appreciate nature and work towards preserving it. It also promotes emphasis on high-tech farming to preserve sustainable energy and conserve natural resources.
 - ❖ SWAN started its activities with a concept of *Nakshatra Vana* in the campus, where 27 students of different birth stars planted their suitable plants according to their star.
 - ❖ During 2014-2015, SWAN worked on the theme 'GREEN FISAT, CLEAN FISAT'. Seasonal plants like cabbage and cauliflower are cultivated by the Club. The treated waste water from Treatment Plant working inside the campus is used for watering the plants. This is a good example of water conservation and eco friendly farming.
 - ❖ As a part of 'Gandhi Jayanti' celebration, SWAN members took initiative to clean the campus and make it plastic-free.

- ❖ The two student members of SWAN, Kevin Tom Varghese (S7 CE) and Tarun Tomy (S7 EEE) are awarded with ‘KARSHAKASREE AWARD’ by Mookkannoor Panchayat for their contributions to agriculture and nature protection.
12. E-notices - Paperless communication system in day to day transactions and deliberations helps the institute to inculcate ‘Go Green’ culture. Messages/ notices are communicated through intranet and Wi-Fi system.
 13. Recycling of paper and plastic – The used papers and plastic wastes are sold to external parties for recycling.
 14. E-waste agreement – The College has signed an agreement with KEIL (Kerala Enviro Infrastructure Ltd) to dispose the e-waste.

f) Plantation:

FISAT is located in a lush green campus that spreads over an area of 42 acres of land. The Nature Club, SWAN takes initiative in the cultivation of different types of vegetables. The campus is kept verdant with herbal plants and several crops that are tended to by students, staff and workers. To minimize the use of pesticides, focus is given to organic farming. The institute conducts nature- related seminars to enlighten the society on effective farming, preservation and sustainability of natural resources like water. FISAT has volunteered to build up a new venture - Green Farm House (FISAT Green Buds) in a controlled atmosphere with the aim of familiarizing students with new methods in agriculture, that improves productivity and minimize pest attack and resource consumptions.

Sl. No.	Name	Designation	Position
1	Prakash C. Chandy	Chief Administrative Officer	Co-ordinator
2	Jiji Antony	Asst. Professor (Civil)	Member
3	Dr.K.P. Saraswathy Amma	Professor	Member
4	Dhanish K.I	Electrician cum General Maintenance	Member

Table D7.1 – Agricultural Maintenance Group

g) Hazardous waste management:

e-waste management:

The old electrical, electronic and computer parts and scrap generated in the college due to obsolescence are exchanged or sold to dealers/vendors for recycling. The Institute has entered an e-waste disposal agreement with a Govt. agency Kerala Enviro Infrastructure Ltd. (KEIL).

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.

- Introduction of Learning Management Systems
- Group Advisory System
- MoUs with industries.
- Project Based Learning
- Additional Certificate courses/ add on courses
- Establishment of ‘Centre of Excellence’
- Creation of Virtual Labs
- Virtualization and networking for e-learning.
- Pre-placement training programmes
- R and D culture
- Patent filing
- Industry Institute Interaction
- IIT internships, industrial training/projects/industrial visits
- ‘Ekalavya’ (IIT tie-up lectures)
- Digital Library, NPTEL lectures.
- Computerized Library (KOHA, DSpace)
- Book bank scheme
- Super Computer facility to carryout research and projects
- Students are given components in advance in the electronics lab sessions so that they can wire up their lab experiments before entering the lab, saving valuable time for collection and return of components.

7.3 Best Practices

7.3.1 Elaborate on any two best practices in the given format at page no. 98, which have contributed to the achievement of the Institutional Objectives and/or contributed to the Quality improvement of the core activities of the college.

Best Practice-1

1. *Title of the Practice:*

ERP system ensuring prompt information with enhanced security.

2. *Goal*

The objective is to automate the functioning of student management pertaining to the student attendance, internal marks, and university

examination results. This system connects administrative office and all departments. It is intended to make the entire system of administration paperless. The timely updation of all the routine data, such as hourly attendance and assessment marks ensures the smooth functioning of the system. The outcome of this system is the ease of access to information regarding status of all students to all academic stake holders including Principal, Deans, Heads of the Departments, Faculty and Officials at the administrative office and Parents. This system updates the parents about the wards' progress, daily attendance status and academic schedules/events.

3. *The Context*

FISAT is a premier institute comprising 215 faculty members 2346 under graduates and 675 post graduates. In this context, the timely dissemination of information pertaining to student availability in the campus, attendance, result analysis of assessment tests and other details are very important. The timely availability of their attendance and internal assessment marks will make students improve their academic performance. The availability of academic performance of students in each of the assessments in a consolidated manner is essential to review the progress. The class advisor can generate and export the reports regarding daily attendance, cumulative attendance, internal assessment, test result analysis such as range of marks, subject wise failure details and percentage of marks. The system enables authorised persons to send the progress reports and attendance to parents by SMS, letter or e-mail. The availability of academic reports and leave details helps the tutors to counsel the students effectively. The information such as status of late comers, missing attendance and mark entries enables the Heads of the Departments to take necessary actions.

4. *The Practice*

Students are provided with unique username and password to access the data regarding their academic performance. Each staff is assigned an employee code (EMP No) and password to login to the system. The parents can also login to the system and are allowed to view the performance of their ward.

The system is designed to facilitate healthy interaction among various stakeholders. The upgradation of the system (every year) by taking suggestions and feedback from the stake holders is in practice. It has been proved that this system which is person - based, time – based and password protected, provides easy and timely availability of relevant and accurate information to all stake holders. It also ensures the confidentiality of information.

5. *Evidence of Success*

The success of this system is evidenced by the improved academic performance, better attendance of students, drop in the number of candidates applying for condonation, successful monitoring by group advisors and better discipline on the campus.

6. *Problems Encountered and Resources Required*

There had been minor bugs in the software during the initial phase of implementation. These were rectified by the Software Development Cell of the College.

Best Practice -2

1. *Title of the Practice:*

Promotion of Research and Development activities

2. *Goal*

The aim of this practice is to provide necessary infrastructure and motivation to pursue and improve the research competencies among faculty members and students.

3. *The Context*

The Institute offers UG and PG degree programmes in various Engineering disciplines and PG programmes in Computer Applications and Management. It is the responsibility of faculty members to inculcate effective learning methodology in the students to understand various engineering/management/computer application concepts. To accomplish this, faculty members need to be creative and innovative in their approach of teaching / learning activities. They should possess in-depth idea of the subjects that they teach, which requires some level of research competencies.

4. *The Practice*

An Innovation and Entrepreneurship Development Cell has been established in the Institute. The Institute encourages faculty members to visit industries/academia to learn the state-of-the-art technology which can be used to improve research skill and enhance the understanding of various subjects. Faculty members are encouraged to publish research papers, attend national/ international conferences and carry out consultancy work. They are given financial support to publish and present their research articles. They are also sponsored to attend the national/ international conferences in India. MoUs have been signed between the Institute and various industries/academia to carry out research and consultancy activities. The curriculum of the newly established APJ Abdul Kalam University lays special emphasis on innovation and creativity by promoting student projects and ideas. Specific time is earmarked in the time table for such activities. (2 hours per week)

5. Evidence of Success

The Institute has started M.Tech. programmes in all departments except in EIE. Most of the theses give rise to publication in journals. Many of the faculty members are pursuing research leading to Ph.D. A few of them are full-time scholars in leading academic institutes like NITs and IITs. Some of the faculty members are approved PhD Supervisors of affiliated universities. The number of Ph.D. degree holders in the institution has been increasing considerably. The Institute has developed and installed software in various domains successfully. A software developed by the MCA students was used effectively as ‘third umpire’ for the JUDO championship in the 35th National Games.

6. Problems Encountered and Resources Required

As per the present policy of the affiliating universities, no recognised research centres are sanctioned in self-financing institutions and hence no department in FISAT has been sanctioned any research centre despite repeated applications for the same though we fulfil the stipulated conditions.

The Institute is unable to apply for various major and minor projects, with research fellows and Teacher Fellowship Schemes, offered by government funding agencies, as the institute, being self-financing, does not qualify to be included in the 2(b) and 12 (f) categories of the University Grants Commission. The Institute thereby misses the chance of getting funds to procure highly expensive and sophisticated lab equipment required for advanced research. However, the Management takes all efforts and provides support to overcome this constraint and promote research and development activities which is an indispensable activity of a technical institute.

PART - E

EVALUATIVE REPORT

Evaluative Report
DEPARTMENT OF COMPUTER SCIENCE AND
ENGINEERING

1. Name of the department: **Department of Computer Science &Engineering**
2. Year of Establishment : 2002
3. Names of Programmes/Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D.,etc.):
 1. **B.Tech. in Computer Science and Engineering**
 2. **M.Tech. in Computer Science and Engineering with specialization in Information Systems**
4. Names of Interdisciplinary courses and the departments/units involved:
 Electronics and Communication, Electronics and Instrumentation and Science & Humanities
5. Annual/semester/choice based credit system (programme-wise):
 B.Tech. (CSE) - semester system
 M.Tech. (CSIS) - semester system
6. Participation of the department in the courses offered by other departments

Branch	Semester	Subject
Electronics and Communication Engineering	S3	Computer Programming
	S6	Computer Architecture and Parallel Processing
Electronics and Instrumentation Engineering	S3	Computer Programming
Electrical and Electronics Engineering	S4	Computer Programming
	S8	Computer Networks
Civil Engineering	S5	Computer Programming

Table E 1

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

Sl.No.	Name of the Organization	Details of MOUs
1	ICT Academy, Kerala	Training and other activities with recognized partners
2	BSNL	Collaboration for conducting Seminars, Workshops, Industrial visits.
3	Reubro International	Joint project development and internships

Table E 2

8. Details of courses/programmes discontinued(if any) with reasons : Nil

9. Number of Teaching Posts

Post	Faculty
Professors	0
AssociateProfessors	2
Asst.Professors	18
Asst. Professor Senior Grade	2
Asst. Professor Special Grade	6

Table E 3

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./ Ph.D.D.Litt./M.Phil.etc.,)

S. No	Name of Staff	Qualification	Designation	Specialization	No. of Years of Experience	Ph.Ds guided last 4 years
1	Dr. Prasad J. C.	M Tech, Ph.D.	HOD, Associate Professor	String Searching, High Performance Computing	15	Nil
2	Dr.Arun Kumar M N	M Tech, Ph.D.	Associate Professor	Image Processing, Data Mining	19	Nil
3	Ms. Divya John	M. Tech.	Assistant Professor (Senior Grade)	Computer Science & Engineering	11	Nil
4	Mr. Jyothish K. John	M. Tech.	Assistant Professor (Senior Grade)	Computer Science & Engineering	11	Nil
5	Ms. Hema Krishnan	M. Tech.	Assistant Professor (Special Grade)	Software Engineering	9	Nil
6	Ms. Divya T. V.	M. Tech.	Assistant Professor (Special Grade)	Computer Science & Engineering	10	Nil
7	Ms. Shimy Joseph	M. Tech.	Assistant Professor (Special Grade)	Computer Science & Information Systems	10	Nil
8	Ms. Reshmi R.	M. Tech.	Assistant Professor (Special Grade)	Computer Science & Engineering	10	Nil
9	Ms. Lakshmi S.	M. Tech.	Assistant Professor (Special Grade)	Computer Science & Information Systems	9	Nil
10	Ms. Roshna K. I.	M. Tech.	Assistant Professor (Special Grade)	Information Systems Security	8	Nil

11	Ms. Nisha Rajeev	M. Tech.	Assistant Professor	Image Processing	7	Nil
12	Ms. Preethi N.P.	M. Tech.	Assistant Professor	Computer Science with Embedded Systems	6.5	Nil
13	Ms. Hansa J. Thattil	M Tech.	Assistant Professor	Computer Science & Engineering	7	Nil
14	Ms. Chethna Joy	M Tech.	Assistant Professor	Software Engineering	6.7	Nil
15	Ms. Siyamol Chirakkarottu	M Tech.	Assistant Professor	Computer Science & Engineering	9	Nil
16	Ms. Neenu Johnson	M Tech.	Assistant Professor	Information Systems Security	4.5	Nil
17	Ms. Remya R	M Tech.	Assistant Professor	Computer Vision and Image Processing	5.9	Nil
18	Ms. Meenu Mathew	M Tech	Assistant Professor	Computer Science and Engineering	5.5	Nil
19	Ms. Simi Stephen	M Tech	Assistant Professor	Computer Network Engineering	8.9	Nil
20	Mr. Paul P Mathai	M Tech	Assistant Professor	Computer Science and Engineering	10	Nil
21	Ms. Anuranj P	M Tech	Assistant Professor	Computer Science and Engineering	9.5	Nil
22	Ms. Anitha T Nair	M Tech	Assistant Professor	Computer Science and Engineering	7.5	Nil
23	Mr. Jestin Joy	M Tech	Assistant Professor	Computer Science and Information Systems	4	Nil
24	Ms. Sruthy Suresh	M Tech	Assistant Professor	Computer Science and Information Systems	10	Nil
25	Mr. Merin Cherian	M Tech	Assistant Professor	Computational Engineering & Networking	3.4	Nil
26	Ms. Noopa Jagadeesh	M Tech	Assistant Professor	Cyber Security	3.9	Nil
27	Ms. Meera Treesa Mathews	M Tech	Assistant Professor cum Research Assistant	Computer Science and Engineering	1	Nil
28	Mr. Pankaj Kumar G	M Tech	Assistant Professor cum System Analyst	Computer Science And Information Systems	3	Nil

Table E 4

11. List of senior visiting faculty - Nil

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty

Semester	Program	Name of Temporary Faculty	%of Lectures
July 2015 - Dec2015	B Tech	Meera Treesa Mathews	4.5
Jan 2015 - Jun2015	B Tech	Meera Treesa Mathews Deepa Maria Lino Murali Jismy Mathew	18
July 2014- Dec 2014	B Tech	Meera Treesa Mathews Susanna M Santhosh Lino Murali	14
Jan 2014-Jun 2014	B Tech	Susanna M Santhosh Lino Murali	10
Jul 2013-Dec 2013	B Tech	Chinju Tomy Neethu Mohandas	8.57
Jan 2013-Jun2013	B Tech	Cinita Mary Mathew Chinju Tomy Geethu Baby Neethu Mohandas	5.89

Table E 5

13. Student-Teacher Ratio (B.Tech.) - 15:1

(M.Tech.) –12:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled -16 (Administrative Staff from the Centre)

15. Qualifications of teaching faculty with D.Sc. /D.Litt/Ph.D/MPhil/PG.

Ph.D. - 2

P.G. (M.Tech.) - 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

‘Pattern matching method study with high performance computing systems’
(Dr K S M Panicker Principal Investigator, and Dr Prasad J. C. Co investigator)

Received under AICTE Research Promotion Scheme (RPS) grant Rs. 2 lakhs.

18. Research Centre /facility recognized by the University - Nil

19. Give details of publications by the faculty and students:

Number of papers published by faculty and students in peer reviewed journals (national and international)

1. Dr. Prasad J C

Number of papers published by faculty and students in peer reviewed journals (national / international)	9
Number of publications listed in International Data base (for Eg: Web of Science, Scopus, Humanities International Complete, Dare Database. International Social Sciences Directory, EBSCO host, etc.)	9
*Chapter in Books	1
*Books Edited	1
*Impact factor	0.84

2. Dr. Arun Kumar M. N.

Number of papers published by faculty and students in peer reviewed journals (National / International)	10
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.)	10
Impact factor	4.5
*h.index	2

3. Paul P. Mathai

Number of papers published by faculty and students in peer reviewed journals (national / international)	14
Number of publications listed in International Data base (for Eg: Web of Science, Scopus, Humanities International Complete, Dare Database International Social Sciences Directory, EBSCO host, etc.) Scopus	3

4. Simi Stephen

Number of papers published by faculty and students in peer reviewed journals (national / international)	1
Number of publications listed in International Data base (for Eg: Web of Science, Scopus, Humanities International Complete, Dare Database. International Social Sciences Directory, EBSCO host, etc.)	0

5. Jyothish K. John

Number of papers published by faculty and students in peer reviewed journals (national / international)	13
Number of publications listed in International Data base (for Eg: Web of Science, Scopus, Humanities International Complete, Dare Database. International Social Sciences Directory, EBSCO host, etc.)	13
*Chapter in Books	Nil
*Books Edited	Nil
*Impact factor	0.8

Table E 6

20. Areas of consultancy and income generated -

‘Secure Integration of tablet with automotive network’ - Received Rs. 1 lakh from Tata Elxsi Ltd.

21. Faculty as members in

- a) National committees:
- b) International Committees:
- c) Editorial Board.

a) Dr. Prasad J C, Editorial Board member of GRD Journal and IJCA Journal Special Editions

b) Dr. Arun Kumar M. N. is Editorial Board Member of IJCA Journal Special Editions

22. Student projects

- a) Percentage of students who have done in-house projects including inter departmental/programme – 100%
- b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies – 63%

23. Awards/Recognitions received by faculty and students

Recognitions	2015	2014	2013
Gate Exam	4	11	6
University Ranks	4	3	3
NPTEL/Online Certificate Gained	10	8	
No of Prizes won in Intercollegiate Competitions	11	20	18

Number of Workshop/Seminar conducted by CSE faculty outside the campus	15	3	18
International Recognitions		5	

Table E 7

Other Achievements

- Navaneeth P. K., S4 CSE B Batch, who is one among the member of the start-up Mobio. Mobio is intended in developing apps, and pivoted themselves into SaaS product. Mobio is selected as one of the two teams from Kerala which got placed among top 10 start-ups.
- Visakha Kohna Received the Richard E. Merwin Student Scholarship 2013.
- Arun P, one amongst the 300 students who made it to the prestigious Google Student Ambassador programme.
- The research team consisted of Sherfin S, Aravind Murali, Vishnumohan K, Neeraj Jose, Kiran Thomas Varghese, A.A Aswathy, Anil P Joseph, under the guidance of Pankaj Kumar G, Assistant Professor, Computer Science Department and Arun S., Assistant Professor, Physical education, developed and contributed "Open Judo", a review and analysis system designed to aid the jury in Judo competitions and the system was successfully used for 35th national games.
- Dr. Prasad J C and Pankaj Kumar received financial grants form Computer Society of India and Kerala State Council for Science, Technology and Environment for their research projects.
- Saranya Sasidharan, represented India in South Asian Festival for classical dance
- Dr. Prasad J .C. got Best Teacher Award in 2014.
- Dr. Prasad J C got best paper award from School of Computer Science of Mahatma Gandhi University, Kottayam in 2009

24. List of eminent academicians and scientists /visitors to the Department

- 1) Prof. V. N. Rajasekharan Pillai(Executive Vice President & Principal Secretary, Science& Technology Department)
- 2) Mr. S. P. Soman (Regional Vice President, Computer Society of India)
- 3) Dr. G. Santhosh Kumar (Cochin University of Science And Technology)
- 4) Dr. Vijayakumar (School of Computer Science, M.G. University, Kottayam)
- 5) Mr. Deva Joseph (Head, Digital Enterprise Services and Solutions -TCS Kochi)
- 6) Dr. M P Sebastian (IIM Kozhikkode)

- 7) Mr.Praveen A (*Debian* developer and Free Software activist)
 - 8) Mr. Pramod C E (Free Software Activist)
 - 9) Mr.Naufel Ibrahim (Free Software Activist)
 - 10) Ms. Meera Chandran (Programmer and consultant on Free and Open Source Software based technologies)
 - 11) Dr. Nagarjuna G, (Chairman, Free Software Foundation of India)
 - 12) Mr. Santhosh Thottingal (Language Engineering, Wikimedia foundation)
 - 13) Mr. Sahir K (IBM India)
 - 14) Ms. Uma MN (Technical Head, TCS)
 - 15) Mr.V.K. Adarsh (Free Software Activist)
 - 16) Dr. M.N. Bandyopadhyay (Director, National Institute of Technology, Calicut)
 - 17) Dr. U. Krishnakumar (Director, Amrita School of Arts & Sciences, Cochin)
 - 18) Dr. Y.S. Kumara Swamy (Head, Dayananda Sagar College of Engineering, Bangalore)
 - 19) Dr. V. Muruges (Keimyung University)
 - 20) Dr. B. Ramadoss (NIT Trichy)
25. Seminars/ Conferences/Workshops organized & the source of funding
- a) National
 - ICEFOSS National Conference on Jan 15-16 2015
 - ICEFOSS National Conference on Jan 6,7 2014
 - One day workshop on Python was conducted on July 9.

Source of funding: FISAT Management and PTA
 - b) International

International Conference on ‘Advanced Computing and Communication Techniques for High Performance Applications’, June 19-21, 2014

Source of Funding: FISAT Management
26. Student profile programme/ course-wise:

Name of the Course/programme (refer question no. 4)	Applications received	Selected	Enrolled		Pass percentage
			*M	*F	
B. Tech (2015 admissions)	1515	126	63	63	Awaiting results
M.Tech (2015 admissions)	29	12	0	12	Awaiting results
B. Tech (2014 admissions)	1527	124	66	58	81.895
M.Tech (2014 admissions)	57	14	0	14	Awaiting results
B. Tech (2013 admissions)	1982	126	61	65	76.23%
M.Tech (2013 admissions)	144	24	2	22	100%
B. Tech (2012 admissions)	1587	124	52	72	81%
M.Tech (2012 admissions)	177	24	2	22	100%

Table E 8

*M=Male *F=Female

27. Diversity of Students

Year	%of students from the same state	%of students from other states	%of students from abroad
2015	100	0	0
2014	100	0	0
2013	100	0	0
2012	100	0	0
2011	100	0	0
2010	100	0	0
2009	100	0	0
2008	97.6	2.4	0
2007	99.18	0.82	0
2006	97.5	2.5	0
2005	100	0	0
2004	98.11	1.89	0
2003	100	0	0
2002	100	0	0

Table E 9

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

Admission Year	2005	2006	2007	2008	2009	2010	2011
Number of GATE qualified students	2	1	4	4	5	11	4

Table E 10

Student progression

Year of Pass-Out	Student Progression	% Against Enrolled
2006	Employed (Campus selection)	51.72
2007	Employed (Campus selection)	60.94
	UG to PG	14.81
2008	Employed (Campus selection)	72.22
	Entrepreneurship/Self-employment	5
2009	Employed (Campus selection)	70.31
2010	UG to PG	4.06
	Employed (Campus selection)	60.98
2011	Employed (Campus selection)	58.78
2012	Employed (Campus selection)	62.31
2013	Employed (Campus selection)	45.38
2014	Employed (Campus selection)	54.76
2015	Employed (Campus selection)	48.39
	Other than campus recruitment	0.8
	Entrepreneurship/Self-employment	1.61

Table E 11

29. Details of Infrastructural facilities

a) Library

- Regular issue and return of books
- E-Books
- E-Journals

- Book Bank Scheme
- Print Journals
- Smart card for Members
- Open Access
- Online Public Access Catalogue
- Reprographic Unit
- Digitized Projects
- Digitized Old Question Papers
- Free Internet Facilities for Users
- DELNET
- Feed Back/Suggestion Box
- Fully Computerized Services
- Online-Search, Reservation and Cancellation of Books
- Reservation and Renewal through Telephone
- Overnight Issue of Reference Textbooks
- Display of New Arrivals
- User Education Program
- Library Advisory Committee
- Scanning and Printing
- Resource Sharing through Email
- Technical help for Information Retrieval
- Email Alert for Teachers/Students
- Display for Specialty of the Day

b) E- Resources

Publisher	Subject	E-Content
IEEE	CSE, EEE,ECE,EIE	IEEE-ASPP package
ASME	Mechanical Engineering	ASME E-Journals
McGraw Hill	General Engineering	Access Engineering Library
Springer	EE,EC,CS	149 E-Journals
JET	J-Gate Engg & Tech	7470 E - Journals

ELSEVIER'S Science Direct	Engineering- CSE,EEE,ECE,ME,CE, SC,AE	Science Direct
ASTM Digital Library	Online Dictionary of E&T	ASTM DL
ASCE	Civil Engineering	ASCE-35 E-Journals
India Business Insight	Management	A compilation of vital information on Indian business and Industry from various business magazines and newspapers
Pro Quest	Management	7856 Indexed, Full text 6487
JSMS	J-Gate Management Science	10075 Indexed, Full text 4159
NPTEL	Engineering	E-learning through online Web & Video courses in Engg, Science & Humanities Streams
D Space Digital Library	Engineering and Management	Previous question papers and E-Books

Table E 12

c) Class room with ICT facility – 10 (Built in LCD Projector, Laptop, Internet Facility (WiFi)

d) Laboratories

- Networking Lab
- Hardware Lab
- Database Lab
- Software Labs L1, L2, L3, L4, L5
- Internet Lab

31. Number of students receiving financial assistance from college, university, government or other agencies.

Type of scholarships	No. of Students
AICTE Fee Waiver	18
Low Income Group Fee Waiver	19
Fee concessions provided by college	22

Table E 13

32. Details on student enrichment programmes (special lectures / workshops /seminar) with external experts.

Following are the Student enrichment programmes conducted regularly by Computer Science and Engineering Department.

- Orientation Programmes for First year students.
- National Conference ICEFOSS conducted every year for providing an open platform for idea exchange, discussions & awareness.
- International Conference conducted every two years.
- MANTRA, the tech fest organised by Department association THYRA conducted every year providing workshops and seminars and student project exhibitions in latest domain.
- NPTEL certification course.
- FISAT Summer School handled by industrial experts from IBM, IBS, TCS, CTS, Oracle.

33. Teaching methods adopted to improve student learning

Following are the effective teaching practises adopted in the Department.

- Regular tutorial hours for every subject in a week.
- Continuous assessment of students through regular module tests.
- Remedial classes for weak students conducted on a regular basis.
- Student-teacher relationship is maintained by regular interaction and counselling sessions.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities.

- Mandatory social service of 15days has to be completed by each student during the course period.
- Students are also encouraged to participate in the activities of NSS, SCOPE, SWAN club, active in the college.
- Conducted Computer Education programme for villagers and gave computer awareness.

35. SWOC analysis of the department and Future plans

Strengths

- High performance computing lab and its research facilities
- Major and minor projects done inside campus
- Faculty with good teaching and research experience
- State of the art computing facilities
- Computer labs open after working hours
- Advanced teaching aids like Moodle, FISAT Campus Software

- Efficient group advisory system and teacher student interaction, counselling, feedback, student monitoring
- Strong presence of alumni in industry
- Encouragement for start-ups
- Industry Institute partnership and ICT academy tie-ups
- Good faculty development programs

Weakness

- No academic autonomy
- No government aid
- Less number of faculty with Ph.D.
- Since institution is young alumni are not in influential position
- Very few M.Tech programmes are offered.
- As institution is affiliated to University there is no periodic updation of syllabus and insufficient academic days to meet industry/profession requirements.
- Less number of industry partners
- R&D funding from AICTE is not adequate and hence unable to attract research scholar from outside world.
- Less number of research papers by students and staffs
- No proper maintenance of database of alumni.
- Faculty are interested in obtaining specialization in general stream but not focussing on other advanced specialization.
- Faculty is not focusing to a particular domain while teaching the subjects

Opportunities

- Scope for completing certified programmes of NPTEL
- Scope for innovations and research by being part of HPC team
- Scope for working alongside industry through MOUs entered with companies in the industry
- Scope for getting good placements
- Career opportunities in programming and software development, information systems operation and management, telecommunications and networking, web and Internet, graphics and multimedia.
- Opportunities for higher studies.

Challenges

- Recession in industry

- Less awareness about cyber crime
- Increasing competition due to a large number of colleges
- Lack of motivation in students to excel and their desire to be spoon fed.

* * * * *

Evaluative Report
DEPARTMENT OF
ELECTRONICS AND COMMUNICATION ENGINEERING

1. Name of the department : **Electronics and Communication Engineering**
2. Year of Establishment : 2002
3. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters: Integrated Ph.D., etc.)

1. **B. Tech. Electronics and Communication Engineering**
2. **M. Tech. - Communication Engineering**
3. **M. Tech. – VLSI and Embedded Systems**

4. Names of Interdisciplinary courses and the departments/units involved:

For M G University, B. Tech. - *Basic Electronics Engineering* is taught in Civil, Mechanical, Electrical and Electronics and Computer Science departments in the first year.

For APJ Abdul Kalam Technological University, B. Tech. - *Basics of Electronics Engineering* is taught in Civil, Mechanical, Electrical and Electronics and Computer Science departments

5. Annual/semester/choice based credit system (programme-wise):

B.Tech. -Semester System

M.Tech. - Semester System

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

The faculty of the ECE department handle the following subjects for other departments:

Subject	Branch	Semester
Basic Electronics Engineering	Civil Engineering, Mechanical Engineering	1 & 2
Switching Theory and Logic Design	Computer Science	3
Electronic Devices and Circuits	Computer Science	3
Signals and Communication Systems	Computer Science	4
Electronic Circuits and Communication Lab	Computer Science	4
Digital Signal Processing	Computer Science	5
Communication Engineering	Electrical and Electronics Engineering	7

Table E 14

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

Name of Organisation	Details of MOU
KELTRON, Trivandrum	Collaboration for conducting seminars , workshops, industrial visits

Table E 15

8. Details of courses/programmes discontinued (if any) with reasons : Nil

9. Number of teaching posts

Designation	Filled
Professor	1
Associate Professor	1
Asst. Professor Senior Grade	2
Asst. Professor Special Grade	7
Assistant Professors	22

Table E 16

10. Faculty profile with name, qualification, designation, specialisation (D. Sc./ D. Litt./ Ph.D./ M.Phil. etc.)

Sl. No.	Name of Faculty	Qualification	Designation	Specialization	Years of Experience	No. of Ph.D.s guided for last 4 yrs
1	Mini P. R.	M. Tech.	Assistant Professor (Senior Grade) & HoD	Digital Systems and Communication Engineering	23.25	Nil
2	Dr. S. Krishna Kumar	Ph.D.	Professor	VLSI	20	Nil
3	Dr. Anil Kumar M. N.	Ph.D.	Associate Professor	Communication Engineering	18	Nil
4	Jiby Varghese	M.Tech.	Asst. Professor (Sr. Grade)	Applied Electronics	15	Nil
5	Neena K. A.	M. Tech.	Assistant Professor (Special grade)	Communication Engineering	7	Nil
6	Ambili A. R.	M. Tech.	Assistant Professor	Control and instrumentation	7.5	Nil

			(Special grade)			
7	Deepa N. R.	M. Tech.	Assistant Professor (Special grade)	VLSI and Embedded system	9	Nil
8	Ms. Pearlsy P. V.	M. Tech.	Assistant Professor (Special grade)	Signal Processing	7.5	Nil
9	Nimmy M. Philip	M. Tech.	Assistant Professor (Special grade)	VLSI and Embedded Systems	12	Nil
10	Vinitha V.	M.Tech.	Assistant Professor (Special grade)	VLSI and Embedded Systems	12	Nil
11	Bindu K. R.	M. Tech.	Assistant Professor (Special grade)	Optoelectronics	9	Nil
12	Anoop E. G.	M.E.	Assistant Professor	VLSI design	9	Nil
13	Bejoy Varghese	M. Tech.	Assistant Professor	Communication Engineering	7.5	Nil
14	Subha Thomas	M. E.	Assistant Professor	Applied Electronics	5.3	Nil
15	Mr. Benoy Abraham	M. Tech.	Assistant Professor	VLSI design	6.5	Nil
16	Minu Kuriakose	M. Tech.	Assistant Professor	Computational Engineering and Networking	6.5	Nil
17	Christy Jose	M. Tech.	Assistant Professor	Digital Electronics	5.7	Nil
18	Jilu George	M. E.	Assistant Professor	Embedded Systems	7	Nil
19	Aiswariya Raj	M. Tech.	Assistant Professor	Signal Processing	5	Nil
20	Nisha R	M. Tech.	Assistant Professor	VLSI and Embedded Systems	5	Nil
21	Anu Kuriakose	M. Tech.	Assistant Professor	Communication Systems	7	Nil
22	Sheelu Susan Mathews	M. Tech.	Assistant Professor	VLSI and Embedded Systems	4.5	Nil
23	Ms. Dhanya S.	M. Tech.	Assistant Professor	Communication Engineering	3.5	Nil
24	Basil K. Jeemon	M. Tech.	Assistant Professor	Communication Engineering	2.5	Nil
25	Jeslin P Jo	M. Tech.	Assistant Professor	Applied Electronics	3	Nil

26	Manju C P	M. E.	Assistant Professor	Wireless Communication	2.5	Nil
27	Gayathri I K	M. Tech.	Assistant Professor	Communication Engineering	1.25	Nil
28	Noble G	M. Tech.	Assistant Professor	VLSI design	1.3	Nil
29	Lekshmi B S	M Tech	Assistant Professor	Communication Engineering	1.3	Nil
30	Elza George	M. Tech.	Assistant Professor	Signal Processing	5	Nil
31	Sreelekshmy S	M. Tech.	Assistant Professor	VLSI design	5	Nil
32	Manu Mohan C.M	M.Tech	Assistant Professor	Communication Engineering	3	Nil
33	Bini V K	M. Tech.	Assistant Professor	VLSI and Embedded Systems	5.5	Nil

Table E 17

11. List of senior / visiting faculty:

- Dr. Karthikeyan C. (January 2013 - June 2015)

12. Percentage of lectures delivered and practical classes handled by temporary faculty (programme wise)

B.Tech.

Year	% of lectures delivered by temporary faculty	% of practical handled by temporary faculty
2015-16	12.9	22.87
2014-15	7.61	10.67
2013-14	7.89	17.93

M.Tech (Communication Engineering)

Year	% of lectures delivered by temporary faculty	% of practical handled by temporary faculty
2015-16	0	22.72
2014-15	7.9	3.12
2013-14	5.3	0

M.Tech (VLSI)

Year	% of lectures delivered by temporary faculty	% of practical handled by temporary faculty
2014-15	44.1	20
2013-14	15.8	3.12

Table E 18

13. Student-Teacher Ratio (programme wise):

- B.Tech - 15:1
M.Tech (COEN) - 12:1

M.Tech (VLSI) - 12: 1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled - 7
15. Qualifications of teaching faculty with D.Sc /D.Litt /Ph.D /MPhil /PG.
- Ph.D. - 2
- P G (M.Tech) – 29
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:
- Name of Project - Development of an Integer Transform using DCT Symmetries (from AICTE)
- Amount received - Rs 4,75,000/-
- Duration - 2 years
18. Research Centre/ facility recognized by the University
- Centre for Research and Innovations in Signal Processing (CRISP).
- The centre focuses on research projects in Signal processing, Image processing, Antenna simulation etc and is equipped with Ansoft Simulation Software (5 tasks), Spectrum Multisim software & PCB Design software (5 user), Analyzer with Tracking Generator, Virtex 5 Genesys, DSP Starter Kits FPGA kits etc
19. Publications:
- * Number of papers published in peer reviewed journals (national / international) by faculty and students - 3
 - * Number of publications listed in International Database (For Eg: Web ofScience, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) - Nil
 - * Monographs - Nil
 - * Conference proceedings - 53
 - * Chapter in Books - 8
 - * Books Edited - 1
 - * 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 - Nil

21. Faculty as members in

a) National committees - Nil

b) International Committees - Nil

c) Editorial Boards - Nil

d) Syllabus review committee -3

22. Student projects

a) Percentage of students who have done in-house projects, including inter – departmental/programme

B.Tech.			
Year	Number of students (In-house projects)	Total Students	% of students done in house projects
2006- 2010	126	126	100
2007 - 2011	139	139	100
2008-2012	129	129	100
2009-2013	132	132	100
2010-2014	126	126	100
2011-2015	129	129	100

M.Tech. Main Projects			
Year	Total Students	Total students (in-house projects)	% of students (in house projects)
2010-2012	18	14	77.78
2011-2013	18	5	27.78
2012-2014	24	0	0.00
2013-2015	24	23	95.83

Table E 19

b) Percentage of students placed for projects in organisations outside the institution. i.e, in research laboratories / industry / other agencies

M.Tech. Main Projects			
Year	Total Students	No. of students (Outside projects)	% of students (Outside projects)
2010-2012	18	4	22.22
2011-2013	18	13	72.22
2012-2014	24	24	100
2013-2015	24	1	4.16

Table E 20

23. Awards/Recognitions received by faculty and students

Sl. No.	Name	Year	Award/Recognition
1	Anilkumar M.N.	2014	Ph.D. (Cryptography)
2	Basil.K.Jeemon	2013	IEEE best presentation award for international conference on computing,communication and nanotechnology, April 2013
3	Lekshmi B. S.	2013	Third rank in M.Tech. communication engineering in M. G. University
4	Dhanya S.	2012	First rank in communication engineering(MTech) from M.G. university
5	Reshmi S.	2012	Third rank in MTech communication engineering in M. G. University
6	Anju Suresh	2011	Third rank in MTech degree examination(M.G.university)
7	Mini P. R.	2009	FISAT Best Teacher Award
8	Jilu George	2008	ME Second rank in the college
9	Jeslin P. Jo	2008	IEEE branch paper presentation winner,IEEE student Chapter, Viswajyothi College of Engg and Tech

Table E 21

24. List of eminent academicians and scientists/visitors to the department

Sl. No	Name and Designation
1	Mr. Edwin Devassikkty, Asst.Professor, EIE, FISAT
2	Mr.Hasum Jacob,Head of Artificial Intelligence section, TCS, Cochin
3	Mr.Jyotish K John, Asst.Professor, CSE,FISAT
4.	Mr.Jestin Joy, Asst.Professor, CSE, FISAT
5	Mr.Krishnakumar,Design Engineer,Rhydo Electronics, Ernakulam
6	Mr.Sundararajan S, HoD EIE Dept, FISAT
7	Mr.Ajarudeen Pyati,Technical Engineer from CRANESOFT technologies
8	Mr. Rahul Unnikrishnan, Technical Engineer, Entuple Technologies Pvt. Ltd, Bangalore
9	Mr.Parameshwara L.,Designtech systems
10	Mr. Mahesh C., System Analyst and Software Engineer, FISAT

11	Mr. Harikrishnan U., doing PhD in US
12	Mr. P.K. Rahul, Head of the planning and implementation Dept., VSNL, Kakkanad
13	Mr. Aneesh Chandran, Technical consultant, Quest Innovative solutions Pvt. Ltd., Ernakulam.
14	Mr. Sherrin Suzkin, Technical Consultant, E-Smart Satellite Communications, Cochin
15	Mr. Roy Radhakrishnan, Technical Consultant, E-Smart Satellite Communications, Cochin
16	Mr. Neelakandan, Lecturer in ECE, University College of Engineering, Thodupuzha
17	Mr. Neju A.M., Technical Consultant, Quest Innovative Solutions, Ernakulam
18	Mr. Krishnakumar, Design Engineer, Rhydo Electronics, Ernakulam
19	Mr. Mohammed Afsal, Programme Director, Innovators and Innovations

Table E 22

25. Seminars/Conferences/Workshops organized & the source of funding

a) *National Conference – funded by FISAT*

1. National Conference on Current Advancements in Control, Communication and Instrumentation Engineering held during May 17-18, 2012

Resource Persons:

- Dr. A. Unnikrishnan, Associate Director, NPOL
- Dr. Koshi George, Professor, PESIT, Bangalore
- Dr. R. Sreeram Kumar, Professor & HOD, Dept. Of EE, NIT, Calicut
- Dr. Jacob Philip, Director, STIC, CUSAT
- Dr. V. P. N. Nampoori, Professor Emeritus, CUSAT

2. National conference on “Emerging trends in RF and Signal Processing held during March 25-27 2010.

Resource Persons:

- Dr. Anil K., IIT Mumbai
- Dr. S. Mridula, Associate Professor, CUSAT
- Dr. Thomas Kurien, IIST, TVM.
- Dr. Alok De Nath, Asia Pacific Head, Ericsson.
- Dr. K. P. Soman, Amrita Institute of Technology, Coimbatore.

College level Workshops - funded by FISAT

Sl. No	Event	Resource persons	Date
1.	One-day workshop on PSPICE	Ms.Bini V. K., Ms.Gayathri I. K., Ms.Lekshmi, Dept.of EIE, FISAT	6-10-2015
2	One-day workshop on PCB design and CAD tools	Mr. Noble G.,Dept. ECE, FISAT	25-9-2015
3	One-day workshop on Ansoft HFSS 13.0	Mr. Basil K Jeemon, Dept. ECE,FISAT	6-10-2015
4	2-days workshop on project developments tools	Mr. Edwin Devassikkty, Asst.Professor,EIE	January 15-16, 2015
5	Workshop on Ansoft HFSS	Mr. Basil K. Jeemon	9-12-2014
6	Invited talk on Artificial Intelligence	Mr.Hasum Jacob, Head of Artificial Intelligence, TCS, Cochin	26-8-2014
7	Technical competitions	ECE Department	26-8-2014
8	3-days workshop on project development tools	Mr.Bejoy Varghese	Dec.11-13, 2013
9	One-day workshop on Communication Systems Engg Lab	Dr.Neelakantan P. C. , ASIET, Kalady	04-11-2013
10	Workshop on NS2	Mr.Jyotish K. John, Asst.Professor, CSEandMr.Jestin Joy, Asst.Professor, CSE.	28-11-2013
11	Invited talk on Embedded systems and Robotics	Mr.Krishnakumar, Design Engineer, Rhydo Electronics, Ernakulam.	19-8-2011
12	One-day workshop on LABVIEW	Mr.Sundararajan S., HoD of EIE Dept., FISAT	30-3-2015
13	2-day workshop on DSP training kit	Mr.AjarudeenPyati, Technical Engineer from CRANESOFT technologies	15,16 Dec 2011
14	2-day workshop on Ansoft HFSS	Mr. Rahul Unnikrishnan, Technical Engineer, Entuple Technologies Pvt. Ltd., Bangalore	14,15 Nov 2011
15	One-day workshop on MATLAB	Mr.Parameshwara L., Designtech systems	23-08-2011

16	Workshop on AVR Microcontrollers	Mr. Mahesh C., System analyst and software engineer, FISAT	27,28 Jan 2011
17	Talk on Opportunities of higher studies abroad	Mr. Harikrishnan U, doing PhD in US	6-8-2010
18	Invited Talk on International Long distance Communication	Mr. P.K. Rahul, Head of the planning and implementation dept, VSNL,kakkanad	14-10-2005
19	Invited Talk on Real Time Image Compression	Mr. Aneesh Chandran, Technical consultant , Quest Innovative solutions Pvt. Ltd, Ernakulam	21-4-2006
20	Invited Talk on Embedded Systems	Mr.Sherrin Suzkin Technical Consultant, E-Smart Satellite Communications, Cochin	1-11-2006
21	Invited Talk on Embedded systems	Mr. Roy Radhakrishnan Technical Consultant, E-Smart Satellite Communications, Cochin	11-11-2006
22	Invited Talk on Electromagnetics	Mr.Neelakandan, Lecturer in ECE University College of Engineering, Thodupuzha	11-12-2007
23	Invited Talk embedded systems	Mr.Neju A.M. , Technical Consultant, Quest Innovative Solutions, Ernakulam	18.8.2008
24	Invited Talk on Embedded systems and Robotics	Mr.Krishnakumar, Design Engineer, Rhydo Electronics, Ernakulam	19-8-2009
25	Invited Talk on Elements of Electronic Product Design	Mr. Mohammed Afsal, Programme Director, Innovators and Innovations	29-10-2009
26	Workshop on SCI LAB	Mr. Mahesh C, Software Engineer, FISAT	March 15-16, 2010

Table E 23

b) International : Nil

26. Student profile programme/course wise:
*M- Male; F- Female

Name of the Course	Year	Application Received	Selected	Enrolled		Pass percentage
				*M	*F	
B.Tech.	2009	2111	132	50	82	87.12%
	2010	2402	129	57	72	85%
	2011	1982	127	49	78	71.65%

Name of the Course	Year	Application Received	Selected	Enrolled		Pass percentage
				M	F	
M.Tech.	2010	200	18	3	15	100
	2011	350	18	3	15	100
	2012	400	24	2	22	95.8

Table E 24

27. Diversity of Students

B Tech.				
Year	Total Students	Students from abroad	Students from other states	Students from Kerala
2009	132	Nil	Nil	132
2010	128	Nil	Nil	128
2011	127	Nil	Nil	127
2012	122	Nil	Nil	122
2013	123	Nil	Nil	123
2014	126	Nil	Nil	126
TOTAL	758	Nil	Nil	758
				100%
M.Tech.- Cmmunication				
2010	17	Nil	Nil	17
2011	18	Nil	Nil	18
2012	24	Nil	Nil	24
2013	24	Nil	Nil	24
2014	13	Nil	Nil	13
2015	20	Nil	Nil	20
TOTAL	116	Nil	Nil	116
				100%
M.Tech. -VLSI				
2014	6	Nil	Nil	
2015	10	Nil	Nil	

Table E 25

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services etc.?

Batch	Students Qualified in GATE Exam	Students Qualified in NET Exam	Students Joined in Defense
2011 - 2015	4	Nil	Nil
2010 - 2014	6	Nil	1
2009 - 2013	1	Nil	Nil
2008 – 2012	2	Nil	Nil
2007 - 2011	7	1	Nil

Table E 26

29. Student progression

UG to PG

Year of Passing	2013	2014	2015
Number of students	03 (2.25%)	07 (5.22%)	03 (2.38%)

Employed - Campus Selection

Year	2013	2014	2015
Total Strength	64	77	59
% Students Eligible	73.56	76.23	72.83
% Students Placed	48.13	57.46	46.82

Table E 27

Other than Campus recruitment : Nil
 Entrepreneurship/ Self- employment : 2 nos.

30. Details of Infrastructural facilities

The department has adequate infrastructural facilities to upgrade the growing technological needs of the students. The following are the infrastructural facilities of the ECE department.

1) Library

There is a department library which has text books and projects for reference. One person from the faculty member is responsible for the issue and returns of the books and keeps a register for that.

2) Internet facilities for staff and students

There is server based LAN connection in the department. The college has collaborated with two internet service providers BSNL and Asianet. BSNL offers two services NMICP of 10Mbps speed and another leased line of 10Mbps. Asianet provide a leased line of 10Mbps. Internet can be accessed anywhere in the campus including OPAC with the implementation of dedicated firewall which enables all the labs ready with internet facility enabling the students to utilize the possibilities of web-based learning. All computers in the department are provided with Wi-Fi facilities. The Faculty use customised software for their academic and student record maintenance.

3) Class rooms with ICT facility

We have two class rooms with fixed projectors. Also we have six projectors and 3 Laptops in the department for ICT based teaching.

4) Laboratories

The department has eight laboratories-

- 1) Integrated circuits Lab –lab has an area of 900sq ft., equipped with 14 experiment bunches, 7 CROs, 13 Function Generators, Analog and Digital IC testers etc.
 - 2) Basic electronics lab - lab has an area of 900sq ft., equipped with 10 experiment bunches, 13 CROs, 19 Function generators, 10 DSOs etc
 - 3) Electronic Circuits Lab – lab has an area of 900sq ft., equipped with 14 experiment bunches, 17 CROs, 18 Function Generators, 10 DSOs etc.
 - 4) Communication Lab (For U.G & P.G) - Two labs with a total area of 900sq ft., equipped with 14 experiment bunches, 12 CROs, 28 Function Generators, 12 DSOs etc. lab has an area of 900sq ft., equipped with 14 experiment bunches, 17 CROs, 18 Function Generators, 10 DSOs etc.
 - 5) Systems Lab- lab has an area of 675sq ft., equipped with 13 experiments bunches, 12computers 14 Microprocessor kits etc.
 - 6) Microprocessor and Controller Lab- lab has an area of 900sq ft., equipped with 15 experiments bunches, 15computers, 8-Microcontroller trainers etc.
 - 7) CRISP lab- lab has an area of 900sq ft., equipped with17 computers. Ansoft Simulation Software (5 tasks), Spectrum Multisim software & PCB Design software (5 user) Analyzer with Tracking Generator Virtex 5 Genesys, DSP Starter Kit-4,
31. Number of students receiving financial assistance from college, university, government or other agencies.

Source of Financial Assistance	2012 - 2013	2013 - 2014	2014 - 2015
College sponsored	23	20	18
Govt and AICTE initiated (College funded)	47	42	46
Govt. funded (Minority Welfare)	6	32	37
Govt. funded (Central Sector Scholarship)	23	-	28

Table E 28

32. Details on student enrichment programme (special lectures / workshops / seminars) with external experts.

Sl. No	Event	Resource persons	Date of venture
1	Invited talk on Artificial Intelligence	Mr.Hasum Jacob, Head of Artificial Intelligence section, TCS, Cochin	26-8-2014
2	One-day workshop on Communication Systems Engineering Lab I	Dr.Neelakantan P. C, Prof of ECE Dept, ASIET, Kalady	04-11-2013
3	Invited talk on Embedded systems and Robotics	Mr.Krishnakumar, Design Engineer,Rhydo Electronics, Ernakulam	19-8-2011
4	Two-day workshop on DSP training kit	Mr.AjarudeenPyati, Technical Engineer from CRANESOFT technologies	December 15-16 2011
5	Two-day workshop on Ansoft HFSS	Mr. Rahul Unnikrishnan, Technical Engineer, Entuple Technologies Pvt. Ltd, Bangalore	November 14 – 15, 2011
6	One-day workshop on MATLAB	Mr.Parameshwara L, Designtech systems	23-08-2011
7	Talk on Opportunities of higher studies abroad	Harikrishnan U., doing PhD in US	6-8-2010
8	Invited Talk on International Long distance Communication	Mr. P.K. Rahul, Head of the planning and implementation dept, VSNL, Kakkanad	14-10-2005
9	Invited Talk on Real Time Image Compression	Mr. Aneesh Chandran, Technical consultant, Quest Innovative solutions Pvt. Ltd., Ernakulam	21-4-2006
10	Invited Talk on Embedded Systems	Mr.Sherrin Suzkin Technical Consultant, E-Smart Satellite Communications, Cochin	1-11-2006

11	Invited Talk on Embedded systems	Mr. Roy Radhakrishnan Technical Consultant, E-Smart Satellite Communications, Cochin	11-11-2006
12	Invited Talk on Electromagnetics	Mr. Neelakandan, Lecturer in ECE University College of Engineering, Thodupuzha	11-12-2007
13	Invited Talk embedded systems	Mr. Neju A. M., Technical Consultant, Quest Innovative Solutions, Ernakulam	18-8-2008
14	Invited Talk on Embedded systems and Robotics	Mr. Krishnakumar, Design Engineer, Rhydo Electronics , Ernakulam	19-8-2009
15	Invited Talk on Elements of Electronic Product Design	Mr. Mohammed Afsal, Programme Director, Innovators and Innovations	29-10-2009

Table E 29

33. Teaching methods adopted to improve student learning

- Use of animation and power point presentations
- NPTEL videos made available
- Applets shown to students
- Softwares like PSpice, Ansoft HFFS etc used
- Remedial classes conducted for weak students
- Retest for weak students
- Frequent class tests are conducted
- Special trainings provided for mini project and project
- Special arrangements for familiarization with software tools.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

Date	Event	Participants
14-1-2015	Blood donation camp conducted in association with blood donors Kerala and amritha hospital.	8
14-1-2015	Cleaning campaign at Ernakulam marine drive, cochin	6
19-1-2015	Decennial homes project	120
28-2-2015	Sneha sangamam- for terminally ill children by SCOPE, at choice school, Tripunithira.	6
19-9-2015	Day to remember at Aeli Hills, Aluwa for differently abled students.	8
Jan 6-15,14	Scheduled tribe promotion activities by Govt of Kerala	4
Dec.13,2014- Jan 2, 2015	Sai sankara seva kendra	10
27-7-2014	Janaseva Sishubhavan	62
7-8-2013	Awareness to eradicate diseases spread during rainy season	62

Table E 30

35. SWOC analysis of the department and Future plans

Strengths

- Experienced and highly motivated team of faculty
- Well equipped laboratories with skilled supporting staff.
- AICTE funded state-of-art facility for research in signal processing
- Low staff turnover.
- Top Results in university examinations.

Weakness

- Shortage of faculty with degrees from premier institutions.
- Faculty members have less exposure to simulation tools.
- Shortage of effective teaching hours available in a semester.

Opportunities

- The state-of-art signal processing research centre can offer consultancy services.
- Senior faculty members contribute to seminars, workshops and invited talks organized by the institutions in this region.

Challenges

- Lack of placement opportunities in good companies.

* * * * *

Evaluative Report

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

1. Name of the department : **Electrical and Electronics Engineering**
2. Year of Establishment : 2002
3. Names of Programmes / Courses offered: **B.Tech (Electrical & Electronics Engineering)**
4. Names of Interdisciplinary courses and the departments/units involved:

SI No	Subject	Department
1	Industrial Electronics and Applications	Electronics and Instrumentation Engineering
2	Electrical Technology	Mechanical Engineering
3	Electrical and Electronics Lab	Mechanical Engineering
4	Electric Drives and Control	Electronics and Communication Engineering
5	Electric Drives and Control Lab	Electronics and Communication Engineering

Table E 31

5. Annual/ semester/choice based credit system (programme wise): Semester system
6. The participation of department in the courses offered by other departments: Nil
7. Courses in collaboration with other universities, industries, foreign institutions, etc. : Nil
8. Details of courses / programs discontinued, (if any), with reasons : Nil
9. Number of teaching posts:

Professors	1
Associate Professors	Nil
Asst. Professor (Senior Grade)	3
Asst. Professor (Special Grade)	2
Assistant Professors	13

Table E 32

10. Faculty profile with name, qualification, designation, specialization (D.Sc/D.Litt/PhD/M.Phil etc)

Sl.No	Name	Qualification	Designation	Specialization	Years of experience	Ph.Ds guided for the last 4 years
1	Dr. Pailo Paul	Ph.D.	Professor	High Voltage Engineering	51	Nil
2	Ms. Parvathy R	M.Tech.	Assistant Professor (Senior Grade)	Control Systems	13	Nil
3	Ms. Archana R	M.Tech.	Assistant Professor (Senior Grade)	Instrumentation and Control	15	Nil
4	Ms. Surya Susan Alex	M.Tech.	Assistant Professor (Senior Grade)	Power Systems	12	Nil
5	Ms. Sreeja E A	M.Tech.	Assistant Professor (Special Grade)	Power Electronics	13	Nil
6	Ms. Deepa K	M.Tech.	Assistant Professor (Special Grade)	Embedded system Design	12	Nil
7	Ms. Jyothi G K	M.Tech.	Assistant Professor	Industrial Drives and Control	6.5	Nil
8	Mr. Anil J Thomas	M.Tech.	Assistant Professor	Power Electronics	7.5	Nil
9	Ms. Rabiya Rasheed	M.Tech.	Assistant Professor	Power Electronics	10	Nil
10	Ms. Surya Natarajan	M.Tech.	Assistant Professor	Power Electronics	11	Nil
11	Ms. Soumya Simon	M.Tech.	Assistant Professor	Industrial Drives and Control	8.7	Nil
12	Ms. Rosemin Parackal	M.Tech.	Assistant Professor	Industrial Drives and Control	6.5	Nil
13	Ms. Rakhee R	M.Tech.	Assistant Professor	Power Electronics	8.5	Nil
14	Ms. Surumi Hassainar	M.Tech.	Assistant Professor	Power Systems	8	Nil
15	Ms. Leena N	M.E.	Assistant Professor	Power Electronics and Drives	10	Nil
16	Ms. Rinku Scaria	M.E.	Assistant Professor	Power Systems	3.5	Nil
17	Mr. Stany George	M.E.	Assistant Professor	Power Systems	3	Nil
18	Ms. Veena	M.Tech.	Assistant	Electric	2.5	Nil

	Wilson		Professor	Machines		
19	Mr. Muhammed Noufal	M.Tech.	Assistant Professor	Power Systems	1	Nil

Table E 33

11. List of senior visiting faculty: Nil

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty

Year	Faculty	Lectures Delivered By Temporary Faculty(Hrs)	Practicals Handled By Temporary Faculty(Hrs)	% Lecture	% Labs	% Total
2015	H.Satheesh Kumar	0	0	0	0	0
2014	H.Satheesh Kumar	0	13	0	4	4
2013	H.Satheesh Kumar	5	10	4	7	9
	Geethi Krishna	8	8	6	5	9
	Total	13	18	11	12	18

Table E 34

13. Student – Teacher ratio: 14:1

14. No. of academic support staff (technical)

Name of technical staff	Post
K. Rajmohanan Nair	Chief Instructor
Saju Kuriakose	Electrical Supervisor /Lab Instructor Gr-II
Shijo Joseph	Trades Instructor
Jijo Jose	Electrician
Mr Eldho A I	Lab Instructor cum Supervisor
Mr Pradeep KumarP	Trade Instructor cum Electrician

Table E 35

15. Qualifications of teaching faculty with DSc/D.Litt/PhD/M.Phil/PG

No of teachers with highest qualification Ph. D. - 1

No. of teachers with highest qualification as PG. - 18

No. of teachers pursuing Ph. D. - 6

16. Number of faculty with ongoing projects from

a) National b) International funding agencies and grants received

a) National Level - 2

Dr. Pailo Paul, Professor and Dean Engineering Sciences (Principal

Investigator) and Parvathy R, Asst. Prof., (Co- Investigator). Research grant from AICTE under the Research Promotion Scheme (RPS) from 2013 onwards for a period of three years. The amount received is Rs. 5,40,000/-

Title of the Proposal: Design and development of motor drive controllers for special electric machines.

Abstract: Special electric machines are finding wide spread applications in position control systems, robotics, mechatronics and transportation systems. There is a lot of scope in the design and development of controllers and converters that can improve the performance and efficiency of these machines. The present proposal is aimed at development of a motor drive controller for a special electric machine.

Objective: The research facilities setup will help the post graduate students of the institution to undertake quality research work. This will also help to bridge the gap between theory and practice.

Project Impact: The project is multifaceted, seeking innovations in machine configurations, power converter topologies and motor control concepts.

- Research Centre/ facility recognised by University - The department has research centre taking initiatives in doing projects in drives and control. The Centre for Advanced Research in Power Converters is currently functioning in Room No: 109. The research centre is funded by the college.
17. Department projects funded by DST – FIST; UGC, DBT, ICSSR etc. and total grants received - Nil
18. Research Centres/ Facility recognized by the University - Nil
19. Publications:

Sl.No.	Faculty	No of Publications
1	Parvathy R	6
2	Archana R	15
3	Surya Susan Alex	4
4	Sreeja E A	1
5	Jyothi G K	10
6	Rabiya Rasheed	11
7	Surya Natarajan	3
8	Soumya Simon	1
9	Rosemin Parackal	2
10	Rakhee R	3
11	Leena N.	6
12	Rinku Scaria	10
13	Staney E George	3
14	Veena Wilson	3
15	Muhamed Noufal C	1

Table 36

20. Areas of consultancy and income generated : Nil

21. Faculty as members in

- National Committees - 4

Deepa K, Surya Natarajan - ISTE
 Parvathy R, Muhamed Noufal C - I S S S E

- International Committee - Nil
- Editorial Boards - Nil

22. Student Projects

- a) Percentage of students who have done in-house projects including inter departmental/programme

M.Tech Projects

2014-2015	2013-2014	2012-2013
100%	94.4%	100%

B.Tech. Projects

2015-2016	2014-2015	2013-2014
100%	22.22%	40.9%

Table E 37

- b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/other agencies

M. Tech Projects

2014-2015	2013-2014	2012-2013
Nil	5.5%	Nil

B. Tech Projects

2014-2015	2013-2014	2012-2013
Nil	77.77%	59.09%

Table E 38

23. Awards / Recognitions received by faculty and students – Archana R. (Best Teacher Award from FISAT)

24. List of eminent academicians and scientists/ visitors to the department

- Dr. Krishnan Swaminathan, Professor in Mathematics, IIT Madras
- Dr.Rajeevan, Professor, Indian Institute of Space,Science &Technology, Trivandrum.
- Mr. Sreeji Nair, Faculty, National Institute of Electronics and Information Technology,Calicut

- Mr. Ouseph Joseph , Rtd. Chief Engineer, KSEB

25. Seminars/Conferences/Worshops organised and the source of funding

- A Lecture on “Challenges and Opportunities in Indian Power Sector” by Mr. Ouseph Joseph, Rtd. Chief Engineer, KSEB was organized by “ELECTRA”, the students association in relation with the lecture series “ LEARN FROM GREAT MINDS” as part of the tech fest ‘COSPHI – 2K15’ on 29th August 2015 and was funded by the management of FISAT.
- A “Paper Presentation Contest” was organized on 30th August 2015 as part of the tech fest “COSPHI – 2K15” and was funded by the management of FISAT.
- A one day hands-on workshop on ‘An Introduction to Arduino and Robotics’ was conducted on 6th August 2015 for the S₃B.tech and S₅B.tech students. The fees was collected from the students for the purchase of components.
- A one day workshop on ‘LATEX’ for S₇ B.Tech.students was organized on 23rd July 2015.
- A two day workshop on ‘LATEX’ for S₇ M.Tech.students was organized on 15th and 16th July 2015.
- A Lecture on ‘Multilevel Inverters and Modulation Strategies’ by Dr.Rajeevan (IIST, Trivandrum) was organized by “ELECTRA” on 18-8-2014 and was funded by the management of FISAT.
- A lecture on ‘Relevance of mathematics in engineering’ by Dr. Swaminathan (IIT, Madras) was organized by “ELECTRA” on 02-2-2014 and was funded by the management of FISAT.
- A workshop on ‘FPGA and VHDL Coding’ was conducted by Mr.Sreeji Nair, National Institute of Electronics & Information Technology on 7-9-2013.

26. Student profile program/course wise:

Name of the Course/programs	Applications received	Selected	Enrolled		Pass percentage
			*M	*F	
2009	2111	66	31	35	90.9%
2010	2402	64	32	32	69.69%
2011	1982	63	44	19	50.79%

Table E 39

27. Diversity of students

Name of the course	% of Students from the same state	% of students from other state	% of Students from abroad
B.Tech.	100	0	0
M.Tech.	100	0	0

Table E 40

28. How many students have cleared national and state competitive examinations such as GATE, NET, SLET, Civil services, Defense services etc.?

2011-2015 batch – GATE - 1

2010-2014 batch – GATE - 2

2009-2013 batch – GATE - 8

29. Student Progression

Student progression	Against % enrolled
UG to PG	8
PG to M.Phil	0
PG to Ph.D.	0
Ph.D. to Post-Doctoral	0
Employed	
▪ Campus selection	33.3
▪ Other than campus recruitment	57
Entrepreneurship / Self-employment	0

Table E 41

30. Details of infrastructural facilities

a) Library

The department is having a library which helps both the teachers and students within the department. It has a collection of around 100 books and project reports.

b) Internet facilities for Staff and Students

There are 2 personal computers and 2 laptops in the department with internet facility. All the staff can access internet from their personal laptops. Wi-fi facility is available in the department.

c) Class rooms with ICT facility – Nil

d) Laboratories

(i) Electrical Measurements Lab

(ii) Electronic Circuits Lab

(iii) Electrical Machines Lab

(iv) Power Electronics Lab

- (v) Microprocessor and Microcontroller Lab
- (vi) Electrical CAD Lab
- (vii) Control and Simulation Lab

31. Number of students receiving financial assistance from college, university, government or other agencies. : 39

32. Details of student enrichment programmes (special lectures/workshops/seminar) with external experts.

- Dr. Krishnan Swaminathan, Professor in Mathematics, IIT Madras
- Dr. Rajeevan, Professor, Indian Institute of Space, Science & Technology, Trivandrum.
- Mr. Sreeji Nair, faculty, National Institute of Electronics and Information Technology, Calicut
- Mr. Ouseph Joseph, Rtd. Chief Engineer, KSEB

33. Teaching methods adopted to improve learning:

Delivery/Instructional Methodologies:

- Chalk & talk
- Student Assignment,
- Web Resources
- LCD /Smart boards
- Student Seminars
- Add- on Courses

Sl. No.	Event	Date	Resource persons
1	Lecture on 'Professional ethics'	3-3-2015	Dr. P. A. Mathew
2	Lecture on 'Professional ethics'	6-3-2015	Dr. P. A. Mathew
3	Lecture on 'Multilevel inverters and modulation strategies'	18-8-2014	Dr. Rajeevan, (IIST, Trivandrum)
4	Lecture on "Relevance of mathematics in engineering"	2-2-2014	Dr. Krishnan Swaminathan (IIT, Madras)
5	Workshop on "FPGA and VHDL Coding".	7-9-2013	Mr. Sreeji Nair (National Institute of Electronics and Information Technology)
6	Talk on Electrical CAD	8-2-2013	CAD Centre, Cochin
7	Talk on 'Energy Efficiency & auditing'	29-9-10	Jayaraman.C, (KRL)
8	Talk on "Renewable Energy"	29-9-10	Mr. Santhosh Warriar (Energy Consultant)

9	Talk on 'Gas Insulated Power System'	3-11-09	Dr.K S M Panicker
10	Talk on "Materials used in the construction of transformers"	29-08-09	Mrs.Ushakumari P T, (TELK)
11	Lecture on "Challenges and opportunities in Indian Power Sector"	29-09-15	Mr. Ouseph Joseph, Rtd. Chief Engineer, KSEB

Table E 42

- Technical quiz on science and technology (INQUIZZITERS 11).
- SPAZIO the space exhibition 16/08/10 to 18/08/10 conducted by ISRO.
- Winners of Power Quiz by K.S.E Board Officers Association (Abin Joe and Amrith Krishna).
- National Conference on Emerging Trends in Energy Systems and Control 20 & 21 May 2010.
- National Conference on Current Advancements in Communication, Control and Instrumentation Engineering 17 and 18th May 2012.
- Successfully completed training program for 'LUCIDEUS TECH CERTIFIED ETHICAL HACKER LEVEL 1'.
- INDUSTRIAL TRAINING
 - BSNL
 - TELK
 - TCCL
 - KELTRON
 - FACT
 - COCHIN SHIPYARD
 - COCHIN PORT TRUST
 - NPCIL
 - POWER HOUSE, Peringalkuthu
 - NTPC
 - APPOLO TYRES
 - KAMCO
 - HINDALCO
 - TOLLINS
 - GREY SOLUTIONS
 - KERALA SOLVENT EXT

Industrial Training Details

Year	Name of the Industry	No of Students
2015 - 2016	KEL	27
	KUTTIYADI HYDRO ELECTRIC POWER PLANT	10
	EMIRATES LINK	2
	PLAZA INDUSTRIES	1
	OEN	3
	KELTRON	1

	NTPC	4
	APOLLO TYRES	7
	TCC	31
2014 - 2015	KEL	6
	KAMCO	4
	KERALA SOLVENT EXT	3
	GRAY SOLUTIONS	1
	TOLLINS	4
	KELTRON	19
	NTPC	1
	APOLLO TYRES	10
	TCC	31
	BSNL	1
	KSEB	12
	HINDALCO	1
	TELK	34
2013 - 2014	COCHIN PORT TRUST	2
	FACT	14
	KELTRON	13
	NPCIL	1
	COCHIN SHIPYARD	2
	TCCL	6
	BSNL	9
	POWER HOUSE(PORILGALKUTHU)	6
	TELK	13

Table E 43

- Tutorial hours are specially marked in the time table.
- It is taken care by the subject lecturer.
- Tutorial classes are conducted according to the scheduled time table.
- A class is divided in to 30 sized batches.
- Each batch is handled by a single faculty member in separate tutorial rooms.
- Different exercises related to the topics were given and are solved by the students during the tutorial hours with the guidance of faculty.

34. Participation in institutional social responsibility (ISR) and Extension activities:

FISAT aims to mould socially committed visionaries. The institute is situated in a rural village and as such the upliftment of the community is the primary responsibility of the institution. For this, community outreach

programmes are often organized. Orientation programmes were conducted to instill social commitment among students and therefore the outreach programs carried out by the students are unique. Anti alcoholic, anti drugs and road safety campaigns were carried in the campus and outside with the support of various Govt departments and NGOs to create awareness among the students and the public. English literacy programmes and computer literacy programmes were also regularly conducted by the students among the rural village population. Awareness on water born diseases, fund raising for charity programmes, treatment of persons with terminal illness, blood donation programmes, social visits to orphanages and special schools, are also carried with much enthusiasm among students. Rehabilitation of the differently abled students is a major challenge undertaken by the institute. Students are encouraged to do project works in developing assistive devices for differently abled students. Electronic walking system recently developed for visually challenged is a project work undertaken by group students. Kazcha, Home for Homeless, A Day to Remember, *Sneha Sangamam* are few of the star programmes carried out by the students demonstrating their social commitment.

Student forums like NSS, SCOPE, FOCUSS, SWAN, Road Safety Club, and Class Committees are in the forefront in carrying out the vision of the Management. Staff coordinators are appointed to guide the students in these activities. A Social service cell itself is formed to steer the social activities of the institute. Further, all departments are carrying out various orientation programmes, outreach programmes, literacy programmes, awareness programmes and social visits on their own.

35. SWOC Analysis of the department and Future plans:

Strengths	<ul style="list-style-type: none"> • Young and dynamic faculty • Excellent infrastructure • 6 faculty pursuing Ph.D • Centre for Advance research in power converters with funding from AICTE.
Weakness	<ul style="list-style-type: none"> • Less number of faculty with PhD • Less number of students placed in core industries through campus • Faculty structure not as per norms
Opportunities	<ul style="list-style-type: none"> • Providing job oriented training • Strengthening industry collaboration.
Constraints	<ul style="list-style-type: none"> • Lesser number of students opting for PG • Space for Laboratory facilities • Curriculum not updated regularly

Table E 44

* * * * *

Evaluative report

DEPARTMENT OF ELECTRONICS AND INSTRUMENTATION ENGINEERING

1. Name of the department : **Electronics and Instrumentation Engineering**
2. Year of Establishment : 2002
3. Names of Programmes/Courses offered (UG, PG) : B.Tech in Electronics and Instrumentation (UG)
4. Names of interdisciplinary courses and the departments/units involved

Sl no:	Subject	Department
1.	Network Theory	Electrical and Electronics Engineering
2.	Computer Programming	Computer Science Engineering
3.	Industrial Electronics and applications	Electrical and Electronics Engineering

Table E 45

5. Annual /semester/choice based credit system : Semester System
6. Participation of the department in the courses offered by other departments : NA
7. Courses in collaboration with other universities, industries, foreign institutions, etc. : NA
8. Details of courses/ programmes discontinued with reasons : NA
9. Number of teaching posts:

Professors	Nil
Associate Professors	Nil
Asst. Professor (Senior Grade)	1
Assistant Professors	14

Table E 46

10. Faculty profile with name, qualification, designation, specialization (D.Sc/D.Litt/PhD/M.Phil etc)

Name	Qualification	Designation	Specialization	Years of experience	Ph.D. students guided for the last 4 years
Mr. S. Sundararajan	M.E	HOD (Senior Grade)	Applied Electronics	13 yrs	Nil

Ms. Beenu Rijju	M.E	Asst.Prof (Spl.Grade)	Applied Electronics	8.3 yrs	Nil
Mr. Anil Johny	M.Tech	Asst.Prof	Embedded System Design	7 yrs	Nil
Mr. Shinto Sebastian	M.Tech	Asst.Prof	Bio-Medical Signal Processing & Instrumentation	6.6 yrs	Nil
Ms. Sreevidya P	M.Tech	Asst.Prof	Control System	12 yrs	Nil
Ms. Honey Devassy	M.Tech	Asst.Prof	Applied Electronics	8.5 yrs	Nil
Ms. Shruthi Bhaskaran	M.E	Asst.Prof	Applied Electronics	8.10 yrs	Nil
Ms. Ambily John	M.E	Asst.Prof	Embedded System Technologies	5.4 yrs	Nil
Mr. Sreejith K R	M.Tech	Asst.Prof	Instrumentation & Applied Physics	7 yrs	Nil
Ms. Raji P	M.Tech	Asst.Prof	Applied Electronics Instrumentation	4 yrs	Nil
Ms. Sheffy Thomas	M.E	Asst.Prof	Control & Instrumentation	7.5 yrs	Nil
Mr. Anish Mathew	M.Tech	Asst.Prof	Control & Instrumentation	5 yrs	Nil
Ms. Renu G	M.Tech	Asst.Prof	Control & Instrumentation	3.4 yrs	Nil
Ms. Lakshmi Nandakumar	M.Tech	Asst.Prof	VLSI & Embedded System	2.5 yrs	Nil
Ms. Anila Mathew	M.Tech	Asst.Prof	Industrial Automation	6 yrs	Nil

Table E 47

11. List of senior visiting faculty: Nil
12. Percentage of lectures and practicals handled by temporary faculty: Nil
13. Student- Teacher Ratio: 15:1
14. No. of academic support staff (technical) and administrative staff sanctioned and filled: All sanctioned seats are filled

Name of technical staff	Post
Mr. Renjith R	Lab Instructor
Mr. Edwin Devassykutty	Reserach Assitant

Table E 48

15. Qualifications of teaching faculty with DSc/D.Litt/PhD/M.Phil/PG

Number of faculty with highest qualification Ph. D. : Nil

Number of faculty with highest qualification PG. : 15

17. Number of faculty with ongoing projects from a) National b) International

funding agencies and grants received : Nil

18. Departmental projects funded by DST – RIST; UGC; DBT; ICSSR; etc and total grants received : No

19. Research Centre/ facility recognised by University:

- ◆ The Department has research centre in doing projects in Instrumentation and Control.
- ◆ There is a Centre for Instrumentation Calibration and Testing
- ◆ The research centre is funded by the college.

20. Publications

Journal	Year	Name of the Faculty	Title
International Journal of Applied Information systems	2012	Mr. Sreejith K R	“Indirect length Measurement between two points on the remote plane”
CIIT, International Journals	2012	Mr. Sreejith K R	“Range Test and Measurement of Pressure Exerted on the walls of Water Reservoir of an automted Hydroelectric plant”
International Journal on Advanced Computer Theory and Engineering, ISSN:2319-2526, Volume-2, Issue-4,2013	2013	Mr. Shinto Sebastian	“Separation of Heart sound artefacts from respiratory signal using Singular spectrum based Advanced Line Enhancer”

Table E 49

21. Areas of consultancy and income generated : Nil

22. Faculty as members in

- National Committees : 8
 S.Sundararajan (ISA & ISTE)
 Honey Devassy (ISTE)
 Sruthy Bhaskaran (ISTE)
 Raji P (ISTE)
 Anish Mathew (ISTE)
 Shinto Sebastian (ISTE)
 Anila Mathew (ISTE)
 Sreejith K R (ISTE)
- International Committee :1
 Mr. Sreejith K R (IEEE)

23. **Student Projects**

- a) Percentage of students who have done in-house projects including inter departmental/programme

B. Tech Projects

2015-2016	2014-2015	2013-2014
60%	100%	60%

b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/other agencies

B. Tech Projects

2015-2016	2014-2015	2013-2014
Nil	20%	20%

Table E 50

24. Awards / Recognitions received by faculty and students - Nil

25. List of eminent academicians and scientists/ visitors to the department

- Mr. Praveen Kumar, Senior Manager, BPCL Kochi
- Mr. Shaji, Plant Supervisor, FACT
- Ms. R Mahalakshmi, Yokogawa, India
- Ms. Maya Ramachandran, Manager, NTPC

26. Seminars/Conferences/Worshops organised and the source of funding

Sl. No.	Event	Date
1	National Conference on Current advancement in Communication, Control and Instrumentation	17 th and 18 th May 2012
2	Seminar on “Industrial Standards and Safety” by Mr. Shaji, Plant Supervisor ,FACT	March 30 th 2015
3	Seminar on “Instrumentation in Oil and Gas industry” by Petrocil	March 17 th 2015
4	Seminar on “ Role and scope of instrumentation in petrochemical industries” by Mr. Praveen Kumar, senior manager , BPCL kochi	October 15 th 2014
5	Talk on DCS by Ms. R Mahalakshmi , yokogawa , India	March 21 th 2013
6	Talk on “Process control in petrochemical industry” by Mr. Shaji , Plant Supervisor, FACT	March 21 th 2013
7	“Workshop on Arudino programming “ by Mr. Edwin Devassykutty	March 21 th 2013
8	Workshop on “Electronic workbench” by Mr. Edwin Devassykutty	July 3 rd 2013
9	Workshop on “ Embedded system” by Mr. Edwin Devassykutty	February 6 th 2013
10	Workshop on “ PCB prototyping” by Mr. Sreejith K R	February 6 th 2015
11	“Workshop on Arudino programming “ by Mr. Edwin Devassykutty	February 2014
12	Workshop on “DCS and field bus” by Yokogawa , India	June 21 st to 27 th 2013
13	Seminar on “Scope of Instrumentation engineer in the	March 2 nd 2014

	field of petrochemical and refineries” by Graphene Automation , Kochi	
14	Seminar and workshop on “ Industrial Instrumentation and Automation” (Schneider Eurotherm PAC system) by Institute of Automation and process control	January 2015
15	Hands on training and workshop on “ Proteus” by Green Infotech, Kochi	July 5 th 2014
16	Hands on training and workshop on “ Embedded system” by Green Infotech, Kochi	July 5 th 2014

Table E 51

27. Student profile program/course wise :

Name of the Course	Year	Application Received	Selected	Enrolled		Pass percentage
				*M	*F	
B.Tech.	2009	2111	63	52	11	79.36%
	2010	2402	64	43	21	76.5%
	2011	1982	57	42	15	56.14%

Table E 52

28. Diversity of students

Name of the course	% of Students from the same state	% of students from other state	% of Students from abroad
B Tech	100	0	0

Table E-53

29. How many students have cleared national and state competitive examinations such as GATE, NET,SLET, Civil services, Defense services etc.?

2010-2014 batch – GATE - 2, CAT-1, MAT-2

2009-2013 batch – GATE -1

30. Student Progression

Student progression	Against % enrolled
UG to PG (Last 3 years)	6
PG to M.Phil	0
PG to Ph.D.	0
Ph.D. to Post-Doctoral	0
Employed (2011-15 Admission)	
▪ Campus selection	28
▪ Other than campus recruitment	7
Entrepreneurship / Self-employment	0

Table E 54

31. Details of infrastructural facilities

- e) Library
The department has a library with a collection of 100 books and project reports.
- f) Internet facilities for Staff and Students
There are 2 personal computers and 2 laptops in the Department with internet facility. All the staff can access internet from their personal laptops. Wi-Fi facility is available in the department.
- g) Class rooms with ICT facility :4
- h) Laboratories
- (viii) Transducers and Measurements Laboratory
 - (ix) Process Control Lab
 - (x) Virtual Instrumentation Laboratory
 - (xi) Microprocessors and Microcontrollers laboratory

32. Number of students receiving financial assistance from college, university, government or other agencies. : 39

33. Details of student enrichment programmes (special lectures/workshops/seminar) with external experts.

- Mr. Praveen Kumar, Senior Manager, BPCL Kochi: Role & Scope of Instrumentation in Petrochemical Industries
- Mr. Shaji, Plant Supervisor, FACT: Industrial Standard and Safety
- Ms. R Mahalakshmi, Yokogawa, India: YOKAGAWA DCS
- Ms. Maya Ramachandran, Manager, NTPC: PROCESS CONTROL in THERMAL PLANT

Sl. No	Event	Conducted by	Date	Resource persons
1.	Seminar on “Industrial Standards and Safety”	ISA & IDEA Association	March 30 th 2015	Mr. Shaji, Plant Supervisor, FACT
2.	“Role and scope of instrumentation in petrochemical industries”	ISA & IDEA Association	October 15 th 2014	Mr. Praveen Kumar, Senior Manager, BPCL, Kochi
3.	Talk on “DISTRIBUTED CONTROL SYSTEM”	ISA & IDEA Association	March 21 th 2013	Ms. R Mahalakshmi, Yokogawa, India
4.	Talk on “Process control in petrochemical industry”	ISA & IDEA Association	March 21 th 2013	Mr. Shaji, Plant Supervisor, FACT
5.	“Scope of Instrumentation engineer in the field of petrochemical and refineries”	ISA & IDEA Association	March 2 nd 2014	Graphene Automation, Kochi
6.	“Workshop on Arudino programming “	Department	Feb’2014	Mr. Edwin Devassykutty
7.	Workshop on “ PCB prototyping”	Department	Feb’6 th 2015	Mr. Sreejith K R

Table E 55

- Conducted Technical Quiz through Moodle to all the students of EIE on 26th March 2014.
- Conducted Technical Quiz through Moodle to all the students of EIE on 30th March 2015.

33. Teaching methods adopted to improve learning:

Delivery/Instructional Methodologies:

- Chalk and talk
- Student Assignment
- Web Resources
- LCD/Smart boards
- Student Seminars
- Add- ON Courses
- Tutorial sessions

34. Participation in institutional social responsibility (ISR) and Extension activities:

COMMUNITYSERVICES

FISAT aims to mould socially committed visionaries. The institute is situated in a rural village and as such the upliftment of the community is the primary responsibility of the institution. For this, community outreach programmes are often organized. At first, Orientation programmes were conducted to instill social commitment among students and therefore the outreach programs carried out by the students are unique. Anti alcoholic, anti drugs and road safety campaigns were carried in the campus and outside with the support of various Govt departments and NGOs to create awareness among the students and the public. English literacy programmes and computer literacy programmes were also regularly conducted by the students among the rural village population. Awareness on water born diseases, fund raising for charity programmes, treatment of persons with terminal illness, blood donation programmes, social visits to orphanages and special schools, are also carried with much enthusiasm among students. Rehabilitation of the differently abled students is a major challenge undertaken by the institute. Students are encouraged to do project works in developing assistive devices for differently abled students. Electronic walking system recently developed for visually challenged is a project work undertaken by group students. Kazcha, Home for Homeless, A Day to Remember, *Sneha Sangamam* are few of the star programmes carried out by the students demonstrating their social commitment.

Student forums like NSS, SCOPE, FOCUSS, SWAN, Road Safety Club, and Class Committees are in the forefront in carrying out the vision of the Management. Staff coordinators are appointed to guide the students in these activities. A Social service cell itself is formed to steer the social activities of the institute. Further, all departments are carrying out various orientation

programmes, outreach programmes, literacy programmes, awareness programmes and social visits on their own. The Social service activities of the college is Co-Ordinated by Mr.Jiby Varghese (Asst.Prof),Dr.Molly Joseph(Prof),Mr.Jacob Peter (P.R.O)

35. SWOC Analysis of the department and Future plans :

Strengths

- The department is having an excellent group of faculties in which many faculties are having experience more than 5 years in FISAT.
- The department is having a carrier guidance cell and centre for calibration.
- The department is having a well established process control lab with provision to interface with the real time process.
- The department is having an advanced virtual instrumentation lab with 35 computers having licensed labview software and internet access.
- The department is providing training for both staff and students in various technologies and software related to instrumentation applications.

Weakness

- Lack of elite students selecting this programme.
- Unable to attract Core Placement Companies.
- The department lacks a Ph.D. scholars on the faculty.

Opportunities

- The department with VI lab can be a nodal centre for research using applications of virtual instrumentation.
- The department can have a contact with the pass-out students in order to know about the opportunities prevailed over there in the market.
- The department can have the opportunity of starting P.G course, since limited number of colleges is having post graduate courses in instrumentation in around Kerala.
- The department is having well equipped laboratory, which will make the students to get industrial exposure.
- A multi disciplinary branch covering electrical, mechanical and communication. Engineering.

Challenges

- Have limited number of opportunities inside Kerala.
- Society is not aware of the scope of the course.
- Major companies prefer experienced hands in the field of instrumentation than freshers.

- Need huge investments for upgrading the laboratory facilities.
- The declining healthy attitude of students towards the teachers and lack of sincerity in learning the subjects pose a threat to the university results of the department.

36. Future plans of the Department.

- Starting of PG programme
- All faculty pursuing higher studies and earn doctoral degrees with good number of publications
- Improve the Labs by procuring most sophisticated equipment.
- Promote research and make the department an approved research centre.
- Engage in more consultancy and extension work
- Produce research journal
- To make the Department a Centre of Excellence.

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Evaluative Report

DEPARTMENT OF MECHANICAL ENGINEERING

1. Name of the department : **Department of Mechanical Engineering**
2. Year of Establishment : 2009
3. Names of Programmes/Courses offered:
 1. B.Tech (Mechanical Engg.)
 2. M.Tech (Computer Integrated Manufacturing)
4. Names of Interdisciplinary Courses and the departments/units involved: Basic Mechanical Engineering, Engineering Graphics, Design and Engineering, Mechanical Technology, Mechanical Workshop, Hydraulic Machines lab.
5. Annual/semester/choice based Credit system (programme wise):
B.Tech – Semester, M.Tech – Semester.
6. Participation of the department in the courses offered by other departments:
 - Basic Mechanical Engineering.
 - Engineering Graphics.
 - Design and Engineering.
 - Mechanical Workshop.
 - Mechanical technology for Electrical engineering.
 - Mechanical lab for Electrical engineering.
 - Hydraulic machines lab for Civil engineering.
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

	Filled
Professors	1
AssociateProfessors	1
Asst. Professor (Senior Grade)	5
Asst.Professors	21

Table E 56

10. Faculty profile with name, qualification, designation, specialisation (D.Sc. / D. Litt./ Ph.D./ M.Phil. etc.)

Sl. No	Name	Qualification	Designation	Specialization	Years of Experience	Ph.D. Students Guided for the last 4 years
1	Dr.George Issac	Ph.D.	Professor Principal	Operations Management	31	Nil
2	Dr. Jose Cherian	Ph.D	H.O.D. (Associate Professor)	Production Engineering	22	Nil
3	Mr. Vincent M J	M.Tech	Assistant Professor (Sr. Grade)	Production Engineering	34	Nil
4	Mr. Sumanlal M R	M.Tech	Assistant Professor (Sr. Grade)	Thermal Engineering	13	Nil
5	Ms. Devi Parvathy S	M.Tech	Assistant Professor (Sr. Grade)	Refrigeration and Cryogenics	14	Nil
6	Mr. Sajan S	M.Tech	Assistant Professor (Sr. Grade)	Machine Design	11	Nil
7	Mr. Jiju P	M.Tech	Assistant Professor (Sr. Grade)	Manufacturing Sciences	19	Nil
8	Mr. Anoob Jose	M.Tech	Assistant Professor	Machine Design	4	Nil
9	Mr. Dileep G Menon	M.Tech	Assistant Professor	Machine Design	14	Nil
10	Mr. Dhanish Jose	M.Tech	Assistant Professor	Thermal	2	Nil
11	Mr. Chinamaya krishnan G	M.Tech	Assistant Professor	Industrial	5	Nil
12	Mr. Harish T M	M.Tech	Assistant Professor	Material Science	2.5	Nil
13	Mr. Jithin Babu	M.Tech	Assistant Professor	CIM	1.5	Nil
14	Mr. Manu Mathew	M.Tech	Assistant Professor	Production	3.5	Nil
15	Mr. Martin Antony	M.Tech	Assistant Professor	Thermal	1.5	Nil
16	Mr. Nithin H	M.Tech	Assistant Professor	Manufacturing	1.5	Nil
17	Mr. Prince Mattom	M.Tech	Assistant Professor	Material Science	11	Nil
18	Mr. Rajesh R	M.Tech	Assistant Professor	Design	4	Nil
19	Mr. Raju M D	M.Tech	Assistant Professor	Manufacturing	8	Nil
20	Mr. Rahul V	M.Tech	Assistant Professor	Design	3	Nil
21	Mr. Rejeesh C R	M.Tech	Assistant Professor	Manufacturing	5	Nil
22	Mr. Renjith R	M.Tech	Assistant Professor	Refrigeration and Cryogenics	7	Nil
23	Mr. Sreejesh K	M.Tech	Assistant Professor	Thermal	5	Nil
24	Mr. Srijith R	M.Tech	Assistant Professor	Production	5	Nil
25	Ms. Suni Mathai	M.Tech	Assistant Professor	Production	9	Nil
26	Mr. Tom Anto	M.Tech	Assistant Professor	CIM	2	Nil
27	Mr. Dileep R	M.Tech	Assistant Professor	Design	1	Nil
28	Mr. Sunny Basil	M.Tech	Assistant Professor	Automotive Engineering	1.5	Nil

Table E 57

11. List of senior visiting faculty: NIL
12. Percentage of lectures delivered and practical handled (programme wise) by temporary faculty: 25%
13. Student-Teacher Ratio (programme wise)

B.Tech	: 15: 1
M.Tech	: 12: 1
14. Number of academic support staff (technical) and administrative staff: (sanctioned and filled) : 10
15. Qualifications of teaching faculty with DSc/D.Litt/Ph.D/MPhil/PG.

Ph.D	- 2
Postgraduate Degree	- 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: Total : 0.30
 - Number of papers published in peer reviewed journals (national / international) by faculty and students: 94

Jithin Babu R, A. RameshBabu,	Evaluation of surface roughness in aluminium alloy using different cutting conditions	International Journal of Innovative Research in Science , Engineering & Technology
Vinu Ravindran, Jithin Babu R	Thermal analysis of machining Al 7075-T6 using carbide tipped tool	international journal of engineering and technology
Jiju P P & Vishnu Vipin	Analysis of turbine blade made of composite materials used in steam turbines	IJIET(International Journal of Innovations in Engineering and Technology)
Jose Cherian, Dr. Joeju M Issac	Fatigue performance of Fe250 in abrasive flow machining	Applied Mechanics and Materials
Jose Cherian, Dr. Joeju M Issac	Effect of process parameters on wear performance in Abrasive Flow Machining	Applied Mechanics and Materials
Jose Cherian, Dr. Joeju M Issac	Effect of Process variables in abrasive flow machining	International Journal of Emerging Technology and Advanced Engineering
Jose Cherian, Dr. Joeju M Issac	Advances in abrasive flow machining : An over view	International Journal of Metallurgical and Material Sciences
Srijith Rajeev, Sabu Kurian, Dr. Brijesh Paul	A modified serial scheduling scheme for resource constrained project scheduling weghted earliness tardiness problem	Int J of Information and Decision Sciences

Table E 58

20. Areas of consultancy and income generated: Nil
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 interdepartmental / programme : 40%
- b) Percentage of students placed for projects in organisations outside the institutions i.e, in research laboratories / industry / other agencies: 60%.
23. Awards/Recognitions received by faculty and students

Poster Presentation	Nithin H,Ajay Krishnan,Dr.Sreram K Kalpathy	The Dip Coating Process on a Chemically Patterned Substrate	MAKE IN INDIA: ROLE OF METALS AND MATERIALS – 2015, NITK
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Table E 59

24. List of eminent academicians and scientists/visitors to the department.

- (1) Dr. S. Unnikrishnan Nair, Senior Scientist, ISRO.
- (2) Mr.Gireeshkumar, HR, Head Appolo Tyers Ltd. Perambra.
- (3) Mr. Deepak Prabhakar. Deputy General Manager, MRPL, Mangalore.
- (4) Mr. Swapnesh Subramaniam.Professor, RIT, Kottayam.
- (5) Mr.Biju Prasad, Associate Head,VSSC, Trivandrum.

25. Seminars/Conferences/Workshops organized & the source of funding

- a) National :

- (1) National level workshops on automotive mechanics and I.C engine design.
- (2) Student Lead Design Conference.
- (3) A workshop on 'Finite Element Method using Abaqus' by EDS technologies.
- (4) 'Workshop on Robotics" by ASME student's chapter FISAT was conducted to acquaint the students with the latest trends in Robotics

- b) International : Nil

26. Student profile programme/course wise:

Name of the Course/programme	Applications received	Selected	Enrolled		Pass percentage
			*M	*F	
B.Tech Mechanical Engineering (2009)	2111	63	63	0	87.5
2010	2402	66	65	66	92.42

2011	1982	59	59	0	59.6
M.Tech Mechanical Engineering (2013 batch)	18	8	8	0	Course not completed
2014 batch	4	3	3	1	Course not completed

Table E 60

*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
B.Tech Mechanical	100	0	0
M.Tech CIM	100	0	0

Table E 61

28.How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

Sl.No	Batch	Name of the exam	No. of students qualified
1	2009	GATE	3
2	2010	GATE	2
3	2011	GATE	2

Table E 62

29. Student progression

Student progression	Against % enrolled
UG to PG	2013 – 15%, 2014 -22%
PG to M.Phil.	NIL
PG to Ph.D.	NIL
Ph.D .to Post-Doctoral	NIL
Employed	2009 batch- 5%
•Campus selection	2010 batch-10%
•Other than campus recruitment	2011 batch- 27%
Entrepreneurship/Self-employment	NIL

Table E 63

30. Details of Infrastructural facilities a) Library :Yes

b) Internet facilities for Staff & Students : Yes

c) Class rooms with ICT : Yes

d) Laboratories : Yes

31. Number of students receiving financial assistance from college, university,

Government or other agencies : Nil

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts:

- A class on Maintenance Management by Deepak Prabhakar (Deputy Head, Maintenance Dept. and M.R.P.L.) was conducted and the class greatly helped the students in getting a knowhow of application of their technical knowledge in the industry.
- A class on Supply Chain Management by Swapnesh Subramaniam, Asst. Professor, Dept. of Mechanical Engg, R.I.T) was conducted
- A class on Space Robotics by Biju Prasad, Associate Head, Space Robotic Division, VSSC greatly inspired the students in appreciating the use of their knowledge in creating state of art technological marvels.
- Aptitude test training for final year students.

33. Teaching methods adopted to improve student learning :

Assignments, Seminars and Projects, NPTEL portal, Lecture with discussion, Presentations, Tutorials and field & industrial visits

34. Participation in Institutional Social Responsibility (ISR) and Extension activities:

The institute is making all efforts in moulding the students into socially responsible citizens. As part of inculcating moral and ethical values among the students, an induction programme is conducted at the very beginning of their academic career by an expert faculty in the institute. The full day workshop completely engages the students in various activities helping the students to appreciate the role of their academic knowledge in uplifting the society in which they lives in. During their academic career, the students are encouraged to visit orphanages and old age homes along with the faculties to further improve social empathy and responsibility towards the society.

35. SWOC analysis of the department:

Strength

- Dedicated, supporting, cordial and participatory Management.
- Highly motivated and committed faculty which is a blend of young and experienced potentials. To make the staff members updated with the latest developments and trends in the field, the staff members are encouraged and

supported to attend FDPs and workshops organized by institutes of National repute. An interactive relationship is maintained between the students, parents and staff which enable the students to develop a sound foundation in the stream in a conducive environment.

- Remedial classes, certification courses, GATE coaching and placement training are offered to the students by the in-house faculty.
- Fee concessions were given to the needy students on recommendations of Department.
- Variety of extension activities to induce social commitment among students and mould them into all rounded personalities.
- Value education and life orientation classes for the holistic development of students.
- The student Association of Mechanical Engineering (SAME) Promote the interaction between academia and industry by organizing industrial visits, invited talks and workshops. It also provides ample chances for the students to improve their personal skills, like event management & time management by organizing inter & inter Collegiate Events.
- A vibrant student chapter of American Society for Mechanical Engineering (ASME) is functioning in the Department. It enables the students, knowledge sharing, career enrichment, and skills development by organizing workshops, conferences and other competitions.
- Variety of extension activities to induce social commitment among students.
- An Institution striving for sustenance and excellence in all fields of higher learning.

Weakness

- The institute lacks the collaboration with various industries and other reputed institutes.
- The College finds it difficult to help the students in core mechanical branches to get placed in the related industries.
- Lack of industrial development in the state prevents the students from finding suitable internships.
- Lack of expensive research facilities hinders the faculties and students to get their projects done in time
- Rigidity of the affiliating system.
- Over politicization of higher education scenario that very often interrupt the fluent academic schedule of the College-

Opportunities

- The College has potential to elevate to the status of Centre of Excellence, autonomous and later deemed university which facilitates academic and administrative flexibility-
- Programmes/Courses: New generation courses to attract Indian and Institutional students.
- More Add-on courses, PG Diploma programmes to Increase the employability-

- Collaborative Programmes: More Collaborations with scientists and faculty of reputed universities and institutions for research- Enter into MoU with national and international institutions for starting new courses, twinning programmes-
- Extension Activities: Extension of the research finding and activities from 'lab to land'.
- New projects: With the support of alumni and UGC construction of an indoor stadium and research complex-

Challenges

- Garnering sufficient financial resources for development of infrastructural facilities-
- Increase the employability of the traditional courses-
- Attracting the employers for conducting campus recruitment drives-
- Even in sought after courses difficulties to inspire students for progression to higher studies including research programmes.

Future Plan

- To introduce new generation job oriented courses apart from the traditional courses.
- To introduce job oriented programmes in collaboration with industry and neighbouring institutions.
- Signing MoU with prestigious institutions to make the College as a centre of higher learning.
- Twinning programmes with foreign universities.
- Obtain the status of research centre.
- Acquire more external funding for research through minor and major research projects.
- Conversion of the campus into a plastic free and zero waste campus.
- Introduction of new courses to enhance the employability of students.
- More outreach programmes for local community. Adoption of society for their social upliftment by the College.

Evaluative Report

DEPARTMENT OF CIVIL ENGINEERING

1. Name of the department : **Department of Civil Engineering**
2. Year of Establishment : **2002**
3. Names of Programmes / Courses offered:
 - B.Tech. in Civil Engineering
 - M.Tech. in Structural Engineering and Construction Management
4. Names of Interdisciplinary courses and the departments/units involved:
The department offers global elective courses such as
 - Engineering Mechanics – All departments
 - Basics of Civil Engineering – All departments
 - Introduction to Sustainable Engineering - All departments
 - Finite Element Analysis – Mechanical and Civil Engineering
 - Environmental Pollution Control Techniques – All departments
 - Optimization Techniques – All departments
 - Land use planning – Civil Engineering and Electronics and Communication (EC) departments
 - Numerical methods – All 6 branches of engineering
 - Remote Sensing and GIS – Civil Engineering, EC and EI departments
5. Annual/ semester/choice based credit system (programme wise): Semester system
6. Participation of the department in the courses offered by other departments – Nil
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

Designation	Filled
Professors	0
Associate Professors	0
Asst.Professors (Sr. Grade)	2
Asst. Professor	26

Table E 64

10. Faculty profile with name, qualification, designation and specialisation.

Sl. No.	Name of Faculty	Qualification	Designation	Specialization	Years of experience	Ph.D Guided last 4 years
1	Mr. Unni Kartha G	M.Tech	Assistant Professor, Senior Grade	Structural Engineering	12	Nil
2	Ms. Jiji Antony	M. Tech	Assistant Professor, Senior Grade	Computer Aided Structural Analysis	12	Nil
3	Ms. Rinu J Achison	M. Tech	Assistant Professor	Hydraulics Engineering	9	Nil
4	Mr. Abin Thomas C A	M. Tech	Assistant Professor	Computer Aided Structural Engg.	9	Nil
5	Ms. Nincy Jose	M. Tech	Assistant Professor	Computer Aided Structural engineering	3	Nil
6	Ms. Minu Mary Thomas	M. E	Assistant Professor	Traffic and Transportation Planning	3	Nil
7	Ms. Sumayya Naznin P H	M.E.	Assistant Professor	Transportation Engineering	2	Nil
8	Mr. A V Rahul	M. Tech	Assistant Professor	Construction Management and Technology	2.5	Nil
9	Ms. Beena B R	M. E.	Assistant Professor	Computer Aided Structural Engineering,	11	Nil
10	Ms. Lidiya P M	M. E.	Assistant Professor	Transportation Engineering	5	Nil
11	Ms. Abhiya Abbas Mundol	M. E.	Assistant Professor	Remote Sensing and GIS	3	Nil
12	Ms. Anila C George	M. E.	Assistant Professor	Hydraulics Engineering	2.5	Nil
13	Mr. Jawahar Saud S	M. E.	Assistant Professor	Environmental Engineering	7	Nil

14	Ms. Nujuma Nazimudhin	M. E.	Assistant Professor	Remote Sensing and GIS	3	Nil
15	Ms. Susan Jacob	M. E.	Assistant Professor	Computer Aided Structural Engineering	3	Nil
16	Ms. Sowmya V Krishnankutty	M. E.	Assistant Professor	Soil Mechanics and Foundation Engineering	6.5	Nil
17	Ms. Preethi M	M. E.	Assistant Professor	Structural Engineering	8	Nil
18	Dr. Anoop C K	Ph.D	Assistant Professor	Environmental Engineering	10	Nil
19	Mr. Paul Jose	M. E.	Assistant Professor	Structural Engineering.	2	Nil
20	Dr. Praseeda K I	Ph. D.	Assistant Professor	Building Engineering and Management	3.5	Nil
21	Ms. Asha Joseph	M. E.	Assistant Professor	Structural Engineering	13	Nil
22	Ms. S.P.Akshara	M. E.	Assistant Professor	Structural Engineering	1	Nil
23	Mr. Mohammed Shinas S	M. Tech.	Assistant Professor	Transportation Engineering and Management	5	Nil
24	Ms. Rajalakshmi T R	M. E.	Assistant Professor	Geotechnical Engineering	1.5	Nil
25	Ms. Neeraja Nair	M. E.	Assistant Professor	Structural Engineering	1.5	Nil
26	Ms. Anu Roy	M. Tech.	Assistant Professor	Water Resource Engineering	1	Nil
27	Ms. Reshma Prasad	M.Tech.	Assistant Professor	Structural Engineering	3	Nil
28	Ms. Devi B J	M. Tech.	Assistant Professor	Construction Management	1	Nil

Table E 65

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)

Programme	No. of students	No. of teachers	Student – Teacher Ratio
B. Tech (CE)	374	28	13.35
M. Tech (SECM)	46	5	9.2

Table E 66

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled - 5

15. Qualifications of teaching faculty with D.Sc / D.Litt/ .D/MPhil/PG.

Data furnished under 10.

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 – 1.5
- * Number of papers published in peer reviewed journals (National/International) by faculty and students - 8
- * Monographs - Nil
- * Chapter in Books - Nil
- * Books Edited - Nil
- * Books with ISBN/ISSN numbers with details of publishers - Nil
- * Citation Index
- * SNIP
- * SJR
- * Impact factor
- * h-index

20. Areas of consultancy and income generated

Sl. No.	Area of Consultancy	Income generated
1	Compressive strength test on concrete cubes, tensile on tor steel bars and grading of fine aggregates	Rs.30000/-
2	Work for Indian Railways for testing ballast for crushing strength	Rs.500/-
3	Design of overhead water tank for IIP Colony, Angamaly.	Rs. 3000/-
4	Structural Consultancy work for CEMEC Trading & Services LLC, Oman	Not Billed

Table E 67

21. Faculty as members in

a) National committees b) International Committees c) Editorial Boards....

- Dr. Anoop C K, faculty of the department, is a member of the Advisory Committee of NIT, Warangal.

22. Student projects

- Percentage of students who have done in house projects including inter departmental / programme – 100%
- Percentage of students placed for projects in organisations outside the institution ie. In research laboratories / industry / other agencies - Nil

23. Awards/Recognitions received by faculty and students

Faculty:

- Ms. Jiji Antony has been awarded the ‘Best Teacher Award 2015’ by the Institute.

Students:

- Miss Sana Nazar, 2015 batch, student of the department, won the ‘Federal Bank - Kerala Youth of the Year 2015 Trophy after the grand finale of Federal Bank – ‘Speak for Kerala’ student Debate, a seven month long programme, under the aegis of Federal Bank Hormis Memorial Foundation.
- Mr. Kevin Tom Varghese and Miss Divya Soman, students of seventh semester of the department, have been awarded ‘Karshaka Sree’ award for college students by Mookkannoor Grama Panchayat.

24. List of eminent academicians and scientists/visitors to the department

Sl. No.	Name of Speaker	Topic
1	Er. Suresh S, Associated Structural Consultants	Structural Design and Professional Ethics
2	Mr. Santhosh Nair (Acc Ltd)	Good Construction Practices
3	Ms. Annie Joby (ACC Ltd)	Safety Measures at the Construction Sites
4	Mr. Bineesh M K (ACC Ltd)	Manufacture of Cement
5	Dr. Jimmy Thomas (Geotechnical Consultant)	Being a Civil Engineering Professional
6	Mr. Santhosh Paul (Architect)	Planning and Design of FISAT: An Architect’s View
7	Mr. Dinesh C P (MD, FRBS, FACT, Cochin)	Construction of Building Using GFRB Panels
9	Er. Suresh S, Associated Structural Consultants	Earthquake Resistant Structures
10	Ms. Anitha P, Vice Chairperson, FBOAES	Project Planning
11	Mr. Fabian Antony, Civil Engineer,	Non – Destructive and Semi –

	Civil Aid Technoclinic Private Ltd.	Destructive Testing
12	Ranjit P, Lab Manager, Civil Aid Technoclinic Private Ltd.	Common Errors in Concreting
13	Dr. P A Mathew, Dean, FBS	Professional Ethics
14	Er.Madhusoodhanan,Senior Consultant, Habitat Technology Group	Practical Construction
15	Mr. M A Joseph, Regional Head - Technical Services, UltraTech Cements Ltd	Concrete Mix Design
16	Prof. Sashi Nambisan, University of Tennessee, Knoxville (UT)	Engineering Education and Beyond

Table E 68

25. Seminars/Conferences/Workshops organized & the source of funding

a) National

Civil Engineering Department organized a National Seminar on 'Alternate Building Materials and Construction Practices' in September 2015, at the Institute, funded by the FISAT Management and Parents Teachers Association.

b) International - Nil

26. Student profile programme/course wise:

Name of the Course/programme	Applications received	Selected	Enrolled		Pass Percentage
			*M	*F	
B.Tech in CE (2011 – 2015)	1982	61	27	34	60.6
M.Tech in SECM	25	22	7	15	Results awaited

Table E 69

*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
B.Tech in CE	100%	0	0
M.Tech in SECM	100%	0	0

Table E 70

28. How many students have cleared national and state competitive examinations

such as NET, SLET, GATE, Civil services, Defence services, etc.?

Ms. Gopika Krishnan C D, 2015 batch has cleared GATE 2015.

29. Student progression

Student progression	Against %
UGtoPG	6
PGtoM.Phil.	NA
PGtoPh.D.	NA
Ph.D.toPost-Doctoral	NA
Employed	
•Campuselection	12
•Other than campus recruitment	8
Entrepreneurship/Self-	0

Table E 71

30. Details of Infrastructural facilities

a) Library

The Main Library has nearly 400 titles and 5300 volumes of Civil Engineering text books, and around 18 Civil Engineering journal subscriptions. Further, the Department library has around 80 titles.

b) Internet facilities for Staff & Students

Asianet and BSNL internet services are made available in faculty rooms, software labs and main library for faculty and students.

c) Class rooms with ICT facility

All classrooms are provided with LCD projectors for facilitating ICT enable teaching.

d) Laboratories in the Department

The department of Civil Engineering has all laboratories and workshops as per the requirement of the Syllabus. The laboratories are equipped with modern facilities to carry out classes of undergraduate and post graduate courses. The laboratories also have additional equipment to facilitate the students in conducting their project works and for talking up consultancy works.

Table below summarizes the list of available labs.

Sl. No.	Laboratory description	Exclusive use/shared
1	CE010 806 Environmental Engineering Lab	Exclusive use
2	CE 010 707 Computer Application Lab	Exclusive use
3	CE 010 708 Transportation Engineering Lab	Exclusive use
4	CE 010 608 Material Testing Lab II	Exclusive use
5	CE 010 607Computer Aided Design and Drafting Lab	Shared use

6	CE 010 507 Computing Techniques Lab	Shared use	
7	CE 010 508 Geotechnical Engineering Lab	Exclusive use	
8	CE 010 407 Surveying Practical II	Exclusive use	
9	CE 010 408 Hydraulics Lab	Shared use	
10	CE 010 307 Material Testing Lab I	Shared use	
11	CE 010308 Surveying Practical I	Exclusive use	
12	EN 110 111 Electrical and civil workshops	Shared use	
13	EN010 110 Mechanical Workshop	Carpentry	Shared use
		Fitting	
		Foundry	
		Smithy	

Table E 72

31. Number of students receiving financial assistance from college, university, government or other agencies – 58 students

32. Details on students' enrichment programmes (special lectures / workshops / seminar) with external experts.

The Department holds special lectures and invited talks by external experts frequently (as summarized under 24). The Department Association (ACE) has undertaken events in association with the Indian Concrete Institute. Details are as under:

- a) A two day workshop at Ready Mix Concrete Ltd. Comprising of one day talk at campus on the first day and plant visit on the second day, during 15th and 16th January 2014
- b) A one day talk on Manufacture of Cement conducted in association with ACC Ltd. on 8th March 2013
- c) A two hour session on 'Structural Planning for Building Plumbing Work' by Er. Bijo K in the Update to upgrade series organized by ICI on 19th June 2014.
- d) A two hour session on 'Modern methods and materials for construction' by Er. Suresh S in the Update to upgrade series organized by ICI on 7th August 2014.
- e) A one day demo on 'Practical Construction' conducted by ACC Cements Ltd. on 6th March 2015.
- f) A one day training programme on "Concrete Mix Design" by Mr. M A Joseph, Regional Head -Technical Services, UltraTech Cements Ltd

33. Teaching methods adopted to improve student learning

Teaching methods

The following are the various methods used to deliver the courses:

- i. lecture with discussions
- ii. lecture with quizzes
- iii. tutorial

- iv. Demonstration (field visit, laboratory etc.)
- v. Group discussions
- vi. Presentations

Learning Resource sharing

In addition to the syllabus mentioned in the curriculum, the students are exposed themselves with e-content through national and international portals such as:

- NPTEL <http://nptel.iitm.ac.in>

The teaching methods are chosen such as to meet the program outcomes.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

The Department organizes frequent visits to old age homes and orphanages. The faculties and students spend a day with the inmates and provide monetary donations, clothes, study materials for children etc.

35. SWOC analysis of the department and Future plans

Strengths	<ul style="list-style-type: none"> • Dynamic young faculty and 4 faculties pursuing Ph.D • Student admissions are mostly based on merit • Well equipped laboratories • Good central library with well stocked books, periodicals and online journals • Membership of Professional Associations • New initiatives like consultancy services with GOVT and non-government firms • Active participation of students in departmental activities
Weakness	<ul style="list-style-type: none"> • Less number of experienced faculties, with higher research degrees like Ph.D
Opportunities	<ul style="list-style-type: none"> • Increased job opportunities and demand for the course as construction boom in Kochi due to metro and other developments MOU's with industries • Initiating GATE coaching so that students gets admitted to Postgraduate programmes Conduct add on courses so that students may rise to application level of engineering • Opportunity to do projects with government organisations for students
Constraints	<ul style="list-style-type: none"> • Curriculum defined by the University and not updated periodically • Exam results from university not published on time reduces the opportunities of students when compared to other universities

Table E 73

* * * * *

Evaluative Report

DEPARTMENT OF SCIENCE AND HUMANITIES

1. Name of the Department : **Department of Science and Humanities.**
2. Year of Establishment : 2002
3. Names of Programmes/ Courses offered : B.Tech. (All departments),
M.Tech. (EEE, ECE, CSE).
4. Names of Interdisciplinary courses and the departments/ units involved:

Departments	All Departments
Courses	1. Engineering Mathematics II, III, IV
	2. Calculus
	3. Advanced Mathematics
	4. Analytical Foundations of Communication Engineering.
	5. Mathematical Foundations of Computer Science.
	6. Engineering Physics (Theory +Lab)
	7. Engineering Chemistry(Theory +Lab)
	8. Economics and Communication skills
	9. Language lab

Table E 74

5. Annual /semester/ choice based credit system (programme wise):

Name of the Subject	Credit
Engineering Mathematics Paper II, III, IV	4 each
Calculus	4
Engineering Physics (Theory +Lab)	4+1
Engineering Chemistry(Theory +Lab)	4+1
Economics and Communication skills	4

Table E 75

6. Participation of the department in the courses offered by other departments:
The department of Science and Humanities involves teaching Engineering Mathematics, Calculus, Physics, Chemistry, Economics and Communication Skills connected with all the programmes offered by all other departments. The department provides assistance in technical projects. The department provides a language lab for the students to enrich their communication competence. It also aims to maintain good linguistic proficiency through accuracy in grammar, pronunciation and vocabulary.
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:

Professors	5
Associate Professors	1
Asst. Professor Sr. Grade	2
Asst. Professor Sl. Grade	4
Asst. Professors	11

Table E 76

10. Faculty profile with name, qualification, designation, specialization, (DSc/ D.Litt./Ph.D./M.Phil. etc.,)

Name	Qualification	Designation	Specialization	Years of Experience	Ph.D. Students guided
Dr. C. Sheela	M.Sc., M.Phil.,PhD, CSIR-NET	Vice Principal Professor & HOD	Fuzzy Systems and Topology	25	Nil
Mr. Antu P J	M.Sc.	Asst.Professor (Senior Grade)	Applied Mathematics	19	Nil
Ms. Honeymol P Chacko	M.Sc.,M.Phil,B.Ed.	Asst.Professor (Senior Grade)	Applied Mathematics	15	Nil
Dr. Binimol Punnoose	M.Sc., PhD.	Associate Professor	Fuzzy Topology	19	Nil
Ms. Gisha P S	M.Sc.	Asst.Professor (Special grade)	Applied Mathematics	10	Nil
Ms. Dhanya T G	M.Sc.,M.Phil,B.Ed.	Asst.Professor (Special grade)	Applied Mathematics	12	Nil
Mr. Jill K Mathew	M.Sc., Ph.D (Thesis submitted)	Asst.Professor	Graph Theory	6	Nil
Mr. Sumesh G	M.Sc.	Asst.Professor	Applied Mathematics	9	Nil
Mr. Prince Joseph	M.Sc.,M.Phil.,B.Ed.	Asst.Professor	Applied Mathematics	8	Nil
Mr. Shinoy George	M.Sc.,B.Ed. Ph.D.pursuing	Asst.Professor	Optimization	9.5	Nil
Dr. Sunny Kuriakose A	M.Sc., Ph.D.	Professor & Dean, Student Affairs	Fuzzy Mathematics	33	14
Dr.Molly Joseph	M.A.,M.Phil.,Ph.D.,P GDTE	Professor in English	Post War American Poetry	35	Nil
Ms. Sajana Shamsuddin	MA, B.Ed. SET	Asst.Professor English(Special Grade)	Phonetics	11	Nil
Dr.Reethamma Thomas	M.Sc.,M.Phil.,Ph.D.	Professor in Physics	Laser Spectroscopy	17	Nil
Ms. Nyci Ignatious	MA,M.Phil.,B.Ed. SET	Asst.Professor in Economics	Economics	5.5	Nil
Ms. Ayswarya E P	M.Sc., Ph.D. (Thesis submitted)	Asst. Professor in Chemistry	Polymer Nanocomposites	2	Nil
Mr. Thomas Philip	M.A., M.B.A, B.Ed.	Asst.Professor in English	HR Marketing	6	Nil
Dr. Palson T I	M.Sc.,Ph.D.	Professor in	Thin Film	31	Nil

		Physics	Physics		
Dr.Ajalesh B Nair	M.Sc., PGDIRI, Ph.D.	Asst. Professor in Chemistry	Polymer Chemistry	3	Nil
Ms. Geethu M. Jose	M.A.	Asst.Professor in English	Communicative English	1	Nil
Mr. Anand P B	M.Sc., PhD. (Thesis submitted)	Asst.Professor in physics	Lithium Ion Battery	1	Nil
Mr. Sreejesh P.R	M.Sc, pursuing Ph.D., CSIR-NET	Asst.Professor in Chemistry	Cellulose Biocomposites	4	Nil
Mr. Arun S	MPE NET	Assistant Professor(Special Grade)	Physical Education	14	Nil

Table E 77

11. List of senior visiting faculty : Prof. N.V. Usha
12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty : 5%
13. Student-Teacher Ratio (Programme wise) : 15:1
14. Number of academic support staff (technical) and administrative staff; sanctioned and filled : Lab Demonstrators 3 (with PG).
15. Qualifications of teaching faculty with DSc./D.Litt/Ph.D/MPhil/P

Faculty with Ph. D. as highest qualification	Dr. C Sheela	Total - 7
	Dr. Binimol Punnoose	
	Dr. Sunny Kuriakose A	
	Dr.Reethamma Thomas	
	Dr.Molly Joseph	
	Dr. Palson T I	
	Dr. Ajalesh B Nair	
Ph.D. thesis submitted	Jill K Mathew	Total - 3
	Ayswarya E P	
	Anand P B	
Faculty with M.Phil. as highest qualification	Honeymole P Chacko	Total - 4
	Dhanya T G	
	Prince Joseph	
	Nyci Ignatious	
Faculty with PG as highest qualification	Antu P J	Total - 10
	Gisha P S	
	Sumesh G	
	Sajana Shamsuddin	

	Shinoy George	
	Thomas Philip	
	Geethu M. Jose	
	Arun S	
	Sreejesh P.R	

Table E 78

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: 136

a) Publication per faculty

Faculty	Number of Publications
Dr.C.Sheela	8
Dr.Sunny Kuriakose A	60
Dr. Molly Joseph.M.	6
Dr.Binimol Punnoose	6
Dr.Palson.T.I	5
Dr.Reethamma Thomas	9
Jill K Mathew	8
Shinoy George	2
Dr.Ajalesh.B. Nair	17
Anand P.B.	6
Sreejesh P.R	2
Ayswarya E.P	7

Table E 79

b) Number of papers published in peer reviewed journals (national/international) by faculty and students :136

c) 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.).

d) Monographs : Nil

e) Chapter in Books : 3

f) Books Edited : 1

g) Books with ISBN/ISSN numbers with details of publishers.

<p>1. Dr. Ajalesh. B. Nair:</p> <p>i. Engineering Chemistry: Theory and Practice ISBN 978-81-87198-23-9(Text Book), Educational Publishers</p> <p>ii. Engineering Chemistry: Theory and Practice ISBN 978-81-87198-25-3 (Lab.Manual), Educational Publishers</p>
<p>2. Dr. Molly Joseph. M:</p> <p>Aching Melodies ISBN 978-1-4828-1432-3, Patridge India, Penguin.</p>

- Citation Index
- SNIP
- SJR
- Impact factor
- h- index

20. Areas of consultancy and income generated : Nil

21. Faculty as members in a) National committees b) International Committees
c) Editorial Boards:

Name	National committees	International Committees	Editorial Boards
Dr. C. Sheela	<ul style="list-style-type: none"> • Advisory board member '<i>Kerala Ganithashastra Parishad</i>' • Life member, Kerala Mathematical Association, • Life member ISTE 		
Dr. Sunny Kuriakose A	<ul style="list-style-type: none"> • Academic Secretary Kerala Mathematical Association • Reviewer of Mathematical Reveiws of the Americal Mathematical Society • Life member ISTE 		Bulletin of Kerela Mathematics Association (Intl. Journal)
Dr. Ajalesh B Nair		Jl.of Materials Physics and Chemistry, Journal POLIMERI,	Modern Research Publications
Dr. Binimol Punnose, Honeymol P Chacko, Jisha P.S, Sumesh G, Jill K Mathew, Antu P.J, Dhanya T.G, Shinoy George, Prince Joseph	Life member Kerala Mathematical Association, Life member ISTE		

Table E 80

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.

23. Awards / Recognitions received by faculty and students:

1. Best Performers Award by FISAT on the institution day to

- Dr.C.Sheela
- P.J.Antu
- Dr. Binimol Punnoose.

2. Dr.C.Sheela: CSIR-SRF Award

3. Dr. Ajalesh B Nair: UGC-BSR Fellowship, Brain Korea BK-21 Plus Post Doctoral Fellowship.

4. Aiswarya E P:UGC-BSR Fellowship

5. Sreejesh P R: CSIR Award

24. List of eminent academicians and scientists / visitors to the department

Name	Designation
Dr. V Kannan	Ex. Pro Vice-Chancellor, Professor, Hyderabad Central University
Dr. Baldev Banerjee	Professor, Dibrugarh University, Assam
Dr. V K Balachandran	Formerly Director, Professor, Ramanujan Institute, Chennai
Dr. V Swaminathan	Professor, Ramanujan Research Centre, Madurai
Dr. M Sethumadhavan	Professor, Amrita Viswa Vidyapeedom, Coimbatore
Dr. R Sivaramakrishnan	Former Head, Professor, Dept. of Mathematics, University of Calicut
Dr. R Balakrishnan	Professor, Sasthra, Kumbhakonam
Dr. M I Jinnah	Professor, University of Kerala, Trivandrum
Dr. P S Sathidevi	Professor, Dept. of Electronics Engineering, NIT Calicut
Dr. Arjun K Rathie	Visiting Professor, Kannur University, Kannur
Dr. G Sreevani	Associate Professor, R V C E College of Engineering, Bangalore
Dr. Lakshma Gomathi Nayakam	Associate Professor, NIT, Trichy
Dr. T Thrivikraman	Emeritus Professor, Kannur
Dr. S Babusundar	Former Head, Dept. Computer Applications, CUSAT
Dr. A Krishnamoorthy	Emeritus Professor, CUSAT
Dr. R Parvathy	Vellalar College of Womens, Erode
Dr. K S Darshanambia	F N M College, Kollam
Dr. P T Ramachandran	Professor and Head, Dept. of Mathematics, University of Calicut

Table E 81

25. Seminars / Conferences/ Workshops organized & the source of funding:
- a) *National* : 2 (2007, 2013)
 - i) National Seminar on Discrete and Fuzzy Mathematics and their applications in Engineering and Technology and Annual Conference of Kerala Mathematical Association (Sponsored by CSIR, DST 2007)
 - ii) National Conference on Applications of Discrete and Fuzzy Mathematics and Annual Conference of Kerala Mathematical Association (Sponsored by KSCSTE, CSIR, DST 2013)
 - b) *International* : Scheduled to be held during January 7- 9, 2016
 - i) International Conference on Advances in Applied Mathematics, Material Science and Nano Technology for Engineering and Industrial Applications (IC-AMMN 2K16)
 - c) *Workshops* : 2
 - i) Workshop on Introduction to Python and LaTeX 2014
 - ii) Workshop on Introduction to GeoGebra 2015
 - d) Maths quiz competition
All Kerala inter collegiate mathematics quiz 2015
26. Student profile programme/course wise : NA
27. Diversity of Students : NA
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 : NA
30. Details of Infrastructural facilities
- a) Library : Department Library & Main Library
The Department library has nearly 529 books.
 - b) Internet facilities for Staff & Students. : Wifi connection
 - c) Class rooms with ICT facility
 - d) Laboratories
 - (i) Language Lab.
 - (ii) Physics Lab.
 - (iii) Chemistry Lab.
31. Number of students receiving financial assistance from college, university, government or other agencies:
[Since the Department does not offer any programme, this is not applicable]

32. Details on student enrichment programmes (special lectures/ workshops/ seminar) with external experts:

Rolling stone conducted various student enrichment programmes:

1. Dr.Muse Mary George, renowned critic and writer inaugurated Rolling Stone activities in 2011.
2. Prof.P.J.Joseph, leading educationalist (ToCH institutions) gave an inspiring talk in 2012.
3. Book exhibition and book talk session was heralded by Dr. M D Baby, former Librarian, CUSAT.
4. The Game of the Gab, the first intercollegiate debate competition was organised on 19.09.2012.
5. Dr. Helen Macilwaine, linguist expert USA inaugurated Rolling Stone 2013.
6. Malala Solidarity Day was observed on 02.08.2013.
7. Dr. Mathew Joseph, subject expert in contemporary writing chaired the book release session *Aching Melodies* on 28.03.2014.
8. Mr.Jose Thomas,Chairman and MD Choice Group of Institutions inaugurated the creative cradle, compendium of creative works by students on 13.02.2015.
9. Toast Masters- International, international body of public speaking and skills enhancement is being held in the college on a regular basis (2 days a week).Students themselves organise it on the stipulated parameters and explore their speaking skills.

33. Teaching methods adopted to improve student learning

Learner centered teaching methods are practiced. Students are encouraged to prepare presentations and PPTs. The advanced learning in frontier areas in maths are explored and students make paper presentation.

Communication skills are enhanced through situational use of English and the presentation of them as role play. Peer feedback from students is elicited to build up their self esteem. A well equipped language lab reinforces right articulation practice and help them develop fluency.

- Group discussions
- Debate
- Presentations
- Demonstration
- Tutorial

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

The M G University syllabus offers 15 days of compulsory social work. Students are encouraged to do outreach programmes like visiting old age homes or the centres for the differently abled. There is whole hearted participation by the students in common projects like building homes for the less privileged or for collecting funds for disaster relief (like Chennai flood). Students themselves go out to nearby schools for awareness programmes, computer literacy, and skill sharing.

35. SWOC analysis of the department and Future plans

- ✚ Department of Science and Humanities has access to all streams of students irrespective of their subject specialization.
- ✚ It helps them mould the right attitude towards Mathematics, Physics, Chemistry, Economics and English.
- ✚ Enormous support from the Management.
- ✚ Mathematics courses are offered only upto fourth semester and so there is no access to students in higher semesters. Nevertheless the department offers remedial and reinforcement sessions of students in higher semesters.
- ✚ Always a challenge arises when we have to deal with students of different learning level, wherein we have to cope up with each student's need in a 63 member classroom.

Future plans

- Create a learning hub where competent students motivate and guide the less competent. This learning that occurs at peer level with the teacher as a mentor can foster unity and sharing.
- With the qualified faculty team the department aims at getting a research centre from APJ Abdul Kalam Technological University.
- Doctoral degrees to all faculty members and publish as many research papers in national and international research journals.
- An International Conference will be held on January 7th to 9th, 2016 in the area of Advances in applied mathematics, materials science and nano technology for engineering and industrial applications.
- Apply for major and minor projects to various government funding agencies.

* * * * *

Evaluative Report

DEPARTMENT OF COMPUTER APPLICATIONS

1. Name of the department : **Department of Computer Applications**
2. Year of Establishment : 2006
3. Names of Programmes / Courses offered: MCA – 3 year programme,
MCA – 2 Year Programme (Lateral Entry)
4. Names of Interdisciplinary courses and the departments/units involved: Nil
5. Annual/semester/choice based credit system (programme wise)
MCA-Semester system
MCA (Lateral)-Semester system
6. Participation of the department in the courses offered by other departments

MCA Faculty	Department	Year	Subject
Mr. Praveen S	FBS	2006, 2010	Data Processing, E-Commerce
Ms. Senu Abi	FBS, BTech	2007 – 2010	Data Processing, C
Ms. Manju Joy	BTech	2007, 2008	Language Processor, System Software
Dr. Sreeraj M	BTech, M.Tech	2012- till date	Bio-Metrics, Web Technology, E-commerce, Computer vision and Data Mining

Table E 82

7. Courses in collaboration with other universities, industries, foreign institutions, etc. : Nil
8. Details of courses/programmes discontinued (if any) with reason : Nil
9. Number of teaching posts

Designation	Filled
Professors	Nil
Associate Professors	Nil
Asst. Professor (Sr. Grade)	1
Asst. Professor (Sl. Grade)	5
Asst. Professors	10

Table E 83

10. Faculty profile with name, designation, qualification and specialisation

Name	Qualification	Designation	Specialization	Years of Experience	Ph.D. guided for the last 4 years
Mr. Santhosh Kottam	MCA	Asst. Prof Sr.Grade	Data Mining	15 years 7 Months	Nil
Ms. Deepa Mary Mathews	MCA, MTECH	Asst. Prof Spl.Grade	Fractal Analysis	9 Years 6 Months	Nil
Ms. Senu Abi	MCA	Asst. Prof Spl.Grade	Software Sustainability	10 years 6Months	nil
Mr. Jiby James	MCA	Asst. Prof Spl.Grade	Network Security	8yrs 4 Months	Nil
Ms. Manju Joy	MCA	Assistant Professor (Spl. Grade)	Machine Learning	12 Years 5 Months	Nil
Dr. M Sreeraj	MCA, Ph.D	Assistant Professor (Spl. Grade)	Natural Language Processing	10 Years	Nil
Ms. Shahna K.U	MCA	Assistant Professor	Algorithms	10 Years	Nil
Ms. Nisha P John	MCA	Assistant Professor	Networks	9 years 6months	Nil
Mr. Sujesh P Lal	MCA, MTECH , NET	Assistant Professor	Distributed Computing, WSN	12 years 6 months	Nil
Ms. Joice T	MCA	Assistant Professor	DBMS	6 years 6 months	Nil
Ms.Nirmala George. K	MCA, PGDHRM	Assistant Professor	Networks	6 Years 7 Months	Nil
Ms. Shidha M.V	MCA, MPhil	Assistant Professor	Data Mining	14 Years 6 Months	Nil
Mr. Jomon M.C	MCA	Assistant Professor	Networks	2 Years 6 Months	Nil
Ms. Rose Mary Mathew	MCA	Assistant Professor	Database Management Systems	5 Years 6 months	Nil
Mr. Blessan P. Varghese	MCA,RHC E,OCP	Assistant Professor	Database Management Systems	7 years 9 months	Nil
Ms. Reshma Remanan	MCom, NET	Assistant Professor	Finance	1 Year	Nil

Table E 84

11. List of senior visiting faculty: Nil

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty

Temporary faculty - 1

MCA-3 year

Percentage of lectures delivered per week - 14.28 %

MCA-Lateral

Percentage of lectures delivered per week - 14.28 %

13. Student-Teacher Ratio (programme wise) : 15:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled.

Lab Instructors - 2

Technical staff - 1

Administrative staff - 1

15. Qualifications of teaching faculty with DSc/D.Litt/Ph.D/MPhil/PG.

Name	Qualification
Mr. Santhosh Kottam	MCA
Ms. Deepa Mary	MCA, M.TECH
Ms. Senu Abi	MCA
Mr. Jiby James	MCA
Ms. Manju Joy	MCA
Dr. M Sreeraj	MCA, Ph.D
Ms. Shahna K.U	MCA
Ms. Nisha P John	MCA
Mr. Sujesh P Lal	MCA, MTECH
Ms. Joice T	MCA
Ms. Nirmala George. K	MCA, PGDHRM
Ms. Shidha M.V	MCA, M.Phil.
Mr. Jomon M.C	MCA
Ms. Rose Mary Mathew	MCA
Mr. Blessan P. Varghese	MCA, RHCE, OCP
Ms. Reshma Remanan	MCom.

Table E 85

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:

* Number of papers published in peer reviewed journals (national / international) by faculty and students - 10

* 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 - 9

* Chapter in Books - 3

* Books Edited - Nil

* Books with ISBN/ISSN numbers with details of publishers

* Citation Index - Nil

* SNIP - Nil

* SJR - Nil

* Impact factor - Nil

* h-index - Nil

20. Areas of consultancy and income generated: Nil

21. Faculty as members in

a) National committees b) International Committees c) Editorial Boards....

Name	Committee
Ms. Deepa Mary Mathews	CSI
Mr. Sujesh P. Lal	CSI
Dr. Sreeraj M	ACM, ISTE

Table E 86

22. Student projects

a) Percentage of students who have done in-house projects including interdepartmental/programme

(i) 100% (Mini Project – In –house Programme in every year)

(ii) 3 students from each batch for main projects

(iii) Selected Students involved in projects of HPC

b) Percentage of students placed for projects in organizations outside

the institution i.e.in Research laboratories/Industry/ other agencies :
99% students

23. Awards/Recognitions received by faculty and students

Name	Award/ Recognition
Ms. Nimmy George	I Rank –MG university (2007-'10 Batch)
Ms. Soumya K.U	III Rank –MG university (2008-'11 Batch)
Ms.Suman Eliza Sebastian	I Rank –MG university (2009-'12 Batch)
Mr. Jojo Jacob	Developed an Android application “Smart Meter” as part S6 MCA project (2012-'15 Batch)

Table E 87

24. List of eminent academicians and scientists/visitors to the department

Name	Designation	Purpose of visit
Dr. R Vijayakumar	Director, School of Computer science, MG University	15 th Dec 2011, Inauguration NCACA
Dr. Ravindra Guruvannar	Professor, Dept. of Computer Science, IIT, Hyderabad	Technical session on Research trends in performance optimization of Database Applications on 15 th Dec 2011
Dr. Navin Sivadasan	Professor, Dept. of Computer Science, IIT, Hyderabad	Technical session on Data stream Algorithms & Applications on 16 th Dec 2011
Dr. G Raju	Associate Professor, Dept. of IT, Kannur University	Technical session on Fuzzy Based Image Enhancement Techniques on 16 th Dec 2011
Dr. K Bindu	Reader, UCAS,Pullarikunnu	Technical session on Open –GL on 24 th Jan 2014
Dr. M C Dileep Kumar	VC, Sree Sankaracharya University, Kalady	Inauguration of FIESTA on Nov 1 st 2013
Dr. Paulose Jacob	Pro VC, CUSAT	MCA 2010-2013 batch Induction
Dr. Bindya M Varghese	HOD, Dept. of MCA, RCSS, Kalamassery	Workshop on Data mining on 24 th March 2011
Mr. Gigo Joseph	Chief Executive Officer, Info Park, Kochi	MCA 2012-2015 batch Induction
Dr. Mini Ullanat	Systems Manager, CUSAT	Inauguration of Algorithm on 25 th April 2014
Dr M V Judy	Asst Professor (SG),Amrita Vishwa Vidhyapeedam	Talk on Bioinformatics on 8 th February 2012

Table E 88

25. Seminars/Conferences/Workshops organized & the source of funding

a) National

Event	Event Type	Date	Source of Fund
National Conference on Advancements in Computer Applications	Conference	DEC 15-16, 2011	CSIR
Workshop on Latex	Workshop	July 22, 2011	
Workshop on Open-GL	Workshop	Jan 24, 2014	
Workshop on Data Mining	Workshop	Mar 24, 2011	
Hardware Workshop	Workshop	Mar 21, 2007, Mar 8, 2008	
Seminar on Bioinformatics	Seminar	Feb 8, 2012	

Table E 89

26. Student profile programme/course wise:

Name of the Course/programme	Applications received	Selected	Enrolled		Pass percentage
			*M	*F	
MCA (2006- 2009)	122	60	23	37	91.66
MCA (2007- 2010)	117	47	21	26	80.88
MCA (2008- 2011)	120	60	26	34	89.27
MCA (2009- 2012)	119	52	15	37	86
MCA (2010- 2013)	135	60	23	37	81.66
MCA (2011- 2014)	125	60	17	43	76.78
MCA (2012- 2015)	115	59	34	25	89.09 (upto v sem)
MCA (2013- 2016)	110	59	28	31	91.52 (upto 2nd sem)
MCA (2014- 2017)	185	46	15	31	pursuing
MCA LATERAL(2014- 2016)		58	20	38	pursuing
MCA (2015- 2018)	175	46	18	28	pursuing
MCA LATERAL (2015- 2017)		59	15	44	pursuing

Table E 90

*M=Male *F=Female

*The annual intake for MCA - three year and MCA-Lateral entry programme is 60.

*50% of total seats in MCA (Three Year) programme is set apart for centralized allotment by the Agency authorized by, the Govt. of Kerala.

*All seats in MCA – Lateral entry programme filled under management quota.

27. Diversity of Students

Name of the Course	%of students From the	%of students from other States	%of students from abroad
MCA -3 Yr	100%	Nil	Nil
MCA- Lateral	100%	Nil	Nil

Table E 91

28. How many students have cleared national and state competitive examination such as NET, SLET, GATE, Civil services, Defense services, etc.?
: Nil

29. Student progression

Student progression	Against %enrolled
UGtoPG	---
PGtoM.Phil.	---
PGtoPh.D.	---
Ph.D.toPost-Doctoral	----
Employed	
•Campus selection	30.39%
•Other than campus recruitment	65.52%
Entrepreneurship/Self-employment	2%

Table E 92

30. Details of Infrastructural facilities

a) Library

MCA reference Library - 1

Departmental Library - 1

Students are accessing books, Journals, CDs, Magazines and News papers from General library.

b) Internet facilities for Staff & Students

Three internet connections are maintaining in the campus.

Provider	Speed	Type	Project

Asianet	60 Mbps	1:1	Self
BSNL	20 Mbps	1:1	Self
BSNL	10 Mbps	1:1	NMICT-MHRD

Table E 93

- Staff and students are supporting with internet facility to browse e-textbooks, journals and study materials.
- MCA labs have internet connection, which help students to access online tutorial, project works and programs.
- Wi-Fi facility covers whole college - Class rooms, Hostels, Library and Labs. It facilitates students to access internet connection in their laptops.

c) Class rooms with ICT Facility

Five class rooms equipped with LCD projector and computer.

d) Laboratories

MCA Computer Lab- 1

Accessing facilities of other computing Laboratories, HPC Lab and Hard ware Lab

31. Number of students receiving financial assistance from college, University, government or other agencies: 35
32. Details on student enrichment programmes (special lectures/workshops/seminar) with external expert

Programme	No. of programmes conducted
Special Lectures	9
Workshops	5
Seminars	11
Orientation programmes	10
CRT (Campus Recruitment Programmes)	7

Table E 94

33. Teaching methods adopted to improve student learning
- Interactive Communication Techniques
 - Remedial classes for weaker students

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

- i. National Service Scheme
- ii. Social outreach programmes like Orphanage visit, old age home visit, tribal school visit etc.

35. SWOC analysis of the department and Future plans

Strengths	<ul style="list-style-type: none"> • Good academic results, Infrastructure, well experienced faculty members, healthy relationship among teachers and students, good discipline Student admissions are mostly based on merit
Weakness	<ul style="list-style-type: none"> • Placement rate and lack of time for conducting co-curricular activities.
Opportunities	<ul style="list-style-type: none"> • Opportunity to do projects and consultancy services with various government and private sector firms, by utilizing the skilled faculty.
Constraints	<ul style="list-style-type: none"> • Curriculum defined by the University are not updated periodically • Examination results from university not being published on time, reduces the opportunities of students when compared to other universities.

Table E 95

Evaluative Report

DEPARTMENT OF BUSINESS ADMINISTRATION

1. Name of the department : **Department of Business Administration**
2. Year of Establishment : **2006**
3. Names of Programmes / Courses offered: **Masters in Business Administration**
4. Names of Interdisciplinary courses and the departments/units involved: Nil
5. Annual/ semester/choice based credit system (programme wise): **Semester system**
6. Participation of the department in the courses offered by other departments:

Faculty	Department	Year	Subject
Sindhu George	B.Tech.	2007	Economics
Dhanya M.Rajeev	M.Tech.	2013 - 14	Research Methodology

Table E 96

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

Designation	Numbers
Professors	4
Associate Professors	2
Asst. Professor (Sr. Grade)	2
Assistant Professors	7

Table E 97

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./Ph.D. / M. Phil. etc.)

Name	Qualification	Designation	Specialisation	No. of years of experience	No. of students guided
Dr. P.A. Mathew	MBA, MA, M.Phil, Ph.D.	Professor (Dean & Director)	Economics	20 years	-
Dr.K.P.Saraswathy	M.Com,	Professor	Finance	38	8

Amma	M.Phil, MBA, Ph.D				
Dr. A.J. Joshua	B.Tech., MBA, Ph.D	Professor	Marketing	25	8
Dr. Molly Joseph	MA,M.Phil, PGDTE (EFLU), Ph.D	Professor	Business Communication	35	-
Mr. K.Sreekumar	M.Com, FCMA	Professor	Finance	26	-
Dr. Anoo Anna Antony	MBA, Ph.D	Associate Professor	Marketing & Operations	15	-
Dr. Dhanya Alex	M.Com, MBA, Ph.D	Associate Professor	Finance	12	-
Mr. Krishnabhaskar Mangalasserri	MBA, MMM, PGDC Advertising (UK)	Assistant Professor (Senior Grade)	Marketing	16	-
Mr. Jose Varghese	MBA, MSc, MS	Assistant Professor (Senior Grade)	Marketing	16	-
Mr. Prasanth P. John	MBA, M.Phil, MSc. Psychology, MA (PM & IR)	Assistant Professor	Human Resources & General Management	13	-
Ms. Delma Thaliyan	MBA, M.Phil	Assistant Professor	Human Resources & General Management	10	-
Ms. Dhanya M.	M.Sc, MBA, M.Phil	Assistant Professor	Operations Research & QT	11	-
Ms. Smarty Mukundan	MBA, MHRM	Assistant Professor	Human Resources Management	12	-
Ms. Biji U. Nair	B.Tech, MBA	Assistant Professor	Operations Management & Systems	12	-
Ms. Sindhu George	MBA	Assistant Professor	Marketing & General Management	10	-
Mr. Praveen V.	B.E, MBA	Assistant Professor	Systems	9	-

Table E 98

11. List of senior visiting faculty:

- 1) Gopakumar C. N. M.A, LLB
- 2) Mr. Lionel Aranha, Adjunct faculty, IIM Kozhikode
- 3) Mr. Abraham George, HR Trainer
- 4) Adv. Jayaprakash, Guest Lecturer
- 5) Mr. C.J. George, M.D, Geojith BNP Paribas
- 6) Dr. P. Rameshan, IIM, Kozhikode
- 7) Mr. M.S.A. Kumar, Managing Director, AVUT Natural Products
- 8) Dr. K. Kalyanaraman, Industrial Consultant, Chennai
- 9) Mr. Vijay Narayan Govind, Varma & Varma Associates
- 10) Mr. T.G. Paul, Chief Manager, Federal Bank STC, Staff College
- 11) Ms. Viny Abraham, Senior Manager, Federal Bank STC.

12. Percentage of lectures delivered and practical classes handled by temporary faculty : Between 10% and 15%

13. Student -Teacher Ratio : 15:1

14. Number of academic support staff (technical) and administrative staff: 4 numbers

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.

Faculty with Ph. D. as highest qualification	Dr. P.A. Mathew	Total - 6
	Dr.K.P.Saraswathy Amma	
	Dr. A.J. Joshua	
	Dr. Molly Joseph	
	Dr. Anoo Anna Antony	
	Dr. Dhanya Alex	
Ph.D. thesis submitted	Jose Varghese	Total - 3
	K. Sreekumar	
	Dhanya M	
Faculty with M.Phil. as highest qualification	Delma Thaliyan	Total - 2
	Prasanth P.	
Faculty with PG as highest qualification	Krishnabhasker Mangalasseri	Total - 5
	Smarty Mukundan	
	Biji U Nair	
	Sindhu George	
	Praveen V.	

Table E 99

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received:

Name	Number of projects	Funding agency
Dr. K.P.Saraswathy Amma	2 + 1	UGC Minor research + Major research
Dr. Dhanya Alex	1	UGC Minor Research

Table E 100

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:

* Number of papers published in peer reviewed journals (National /International) by faculty and students - 126

Dr. P.A. Mathew - 17

Dr. K.P. Saraswathyamma – 18

Dr. A.J Joshua - 16

Dr. Anoo Anna Antony - 14

Dr. Dhanya Alex - 15

Jose Varghese - 8

Dhanya M. - 12

Smarty Mukundan - 10

Delma Thaliyan - 8

Sindhu George - 8

* 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 - 8

* Books Edited - 1

(Title of the Book: Value creation in Services; Excel Publishers. Editors – Dr. Joshua A.J & Dr. Anoo Anna Antony)

* Books with ISBN/ISSN numbers with details of publishers:

1. Dr. Anoo Anna Antony:

i. SMEs in Indian Textiles: The Impact of globalisation in a developing market. ISBN978 – 1- 137 – 44455- 4, Palgrave MacMillan UK

2. Dr. Dhanya Alex:

Economic Consequence of Corporate Risk Disclosures. ISBN 978 – 3 – 639 – 76910 – 4; Scholars’ Press, Germany

* Citation Index	- Nil
* SNIP	- Nil
* SJR	- Nil
* Impact factor	- Nil
* h-index	- Nil

20. Areas of consultancy and income generated : Nil
21. Faculty as members in a) National committees b) International Committees
c) Editorial Boards -
- a) Dr. K.P. Saraswathyamma –
- Member of selection committee for faculty recruitment for Kerala, M.G, Calicut and Kannur universities.
 - Examination Chairman, University of Calicut.
 - Member, Palakkad Management Association
 - Head of the Department of Economics and Banking, European University of Lefke, North Cyprus.
- b) Dr. A.J. Joshua -
Ph.D Evaluator of Bharathidasan University and Manipal University.
- c) K. Sreekumar
Member of Kerala Management Association
- d) Dr. Anoo Anna Antony
External Examiner for Rajagiri College of Social Sciences (Autonomous)
- e) Dr. Dhanya Alex
- Member of Syllabus Committee, Department of Commerce, Loyola College (Autonomous), Chennai
 - Advisory Board Member of Department of Commerce, S.H. College, Chalakkudy
 - External Examiner of Rajagiri College of Social Sciences (Autonomous)
- f) Prasanth P. John
External Examiner of Rajagiri College of Social Sciences (Autonomous)
22. Student projects
- a) Percentage of students who have done in-house projects including inter departmental/programme - 100%
- 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 - Ms. Sahla Parveen has won the Best Manager prize four times in various fests conducted by reputed management institutions. She is now a leading Mind Power trainer in Kerala.
24. List of eminent academicians and scientists / visitors to the department

Name	Designation
Aju Jacob	Director, Synthite Industries Ltd.
M.S.A. Kumar	MD, AVT Natural Ingredients, Kochi
Joshi Paul Veliyath	Circle Head, HDFC Bank
Mohammed Hanish IAS	MD, Roads and Bridges Corporation
Vimal M	Manager HR, Mahindra & Maindra Financial Services
Anitha Menon	Deputy GM, Aspinwall
Saji Gopinath	Dean and Professor, IIM Kozhikode
Ninan Thariyan	Vice President, Times of India
N. Ravichandran	Director, IIM Indore
Sudeepa S Nair	Manager, Business Development, Cognizant
Fr. Sebastian	Vice Chairman, PDDP
E. Nandakumar	Executive Director, BPCL Kochi Refinery
C.J.George	M.D, Geojith PNB Paribas
Roy Kurian K.K	CEO, Binani Zinc Ltd. Kochi

Table E 101

25. Seminars/ Conferences/Workshops organized & the source of funding
- a) National -3 (AICTE funding for 1 Conference)
- AICTE sponsored National Conference on “Value Creation in Services – Issues and Challenges”
 - National Conference on “Public Private Partnership – Policies, Practices and Perspectives”
 - National Conference on “Managing Turbulence: Aligning Business with Culture, Society and Consumers”.
- b) International - Nil
26. Student profile programme/course wise:

Name of the Course/programme MBA	Applications received	Selected	Enrolled		Pass %
			*M	*F	
2014 -15	386	120	46	74	41%
2013 -14	451	119	50	69	68%

2012-13	507	120	53	67	58%
2011 - 12	396	120	55	65	52%

Table E 102

*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
MBA	100	0	0

Table E 103

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defence services, etc.? - Nil

29. Student progression

Student progression	Against %enrolled
PG to M.Phil.	NA
PG to Ph.D.	NA
Ph.D .to Post-Doctoral	NA
Employed	
Entrepreneurship/Self-	15%

Table E 104

30. Details of Infrastructural facilities

a) Library

The Department library has nearly 4447 titles and 11310 volumes of Management text books, and 32 national and 26 international journals. 2935 new Management books have been added to the library.

b) Internet facilities for Staff and Students

Asianet and BSNL internet services are made available in faculty rooms, software labs and main library for faculty and students.

c) Class rooms with ICT facility

All classrooms are provided with LCD projectors for facilitating ICT enabled teaching.

31. Number of students receiving financial assistance from college, university, government or other agencies – 5

32. Details on student enrichment programmes (special lectures / workshops / seminars) with external experts

1. Industrial Visits

Every year the first year students go to different industries to have hands on experience on the operations. They have visited Kitex, HLL Ltd, Synthite Industries etc.

2. Seminars

a) Mr. Brijesh J Mathew: CFO, LITMUS 7 system Consulting Ltd

Mr Brijesh J Mathew who has 14 years of corporate experience had a talk with the business management students on the topic “Power of Equity”. He delivered ideas on how to make good investments in the stock market. The talk made the students aware about how to create a career in stock market services and also about equity research and analysis certification.

b) Mr Joshi Paul Veliyath, the Vice President and Circle Head of HDFC Bank

Mr Joshi Paul’s talk was on the topic was on the topic “Career opportunity in Banking Sector”. He spoke about banking structure in India and the business segmentation in banking. Career prospects for a management graduate in banking, recruitment process in banks and pattern of aptitude test in selection process were the other relevant topics discussed on. A mock test for the bank aspirants was also conducted on the same day.

c) Mr. Anish Aravind, Associate Director, Organisational Effectiveness and Team Enabler, Arbitron Technologies

Mr. Anish Aravind gave a talk to the students on the topic ‘Social Media and its relevance to HR’. He talked about the importance of social media and how to use it to become unique in a corporate world. He talked about the importance of using Facebook, Twitter, LinkedIn and other social media in a better way to make good relationships with different professionals.

d) Mr. Mohammed Hanish IAS, MD, Roads and Bridges Corporation.

Mr. Mohammed Hanish IAS delivered a talk on ‘Infrastructure challenges in India. He spoke at length about how land property rights interfered with road infrastructure development initiatives.

e) Mr. Sanjit Ravi, AGM, ICICI Bank, Hyderabad

He delivered a talk on the importance of career oriented skills to be adopted by the students in order to pursue their goals in professional organisations. Recruiters were looking for specific skills and students were expected to deliver those capabilities. A mismatch seriously affected the quality of placement an institute was capable of offering.

f) Dr. Nissim Mannathukkaran

A talk on ‘Governance as Democracy:, India in 21st century’ was conducted by Dr. Nissim Mannathukkaran, Associate Professor, International Development Studies Department, Dalhousie University, Canada.

g) Dr. Andre Obler

A corporate interaction was conducted on the topic 'The Online Hate Challenges to Social Media' by Dr. Andre Obler, (IEEE Computer Society representative for R10 and the Chair for Society's Student Awards Committee).

h) Dr. V K Vijayakumar

A talk on 'Recent trends in Indian capital market' by Dr. V K Vijayakumar, Investment Strategist, Geogit PNB Paribas was arranged for the MBA IInd year students.

3. *Students Parliament IVth Bharatiya Chhatra Sansad'*

Indian Students Parliament was held at MIT (Maharashtra Institute of Technology), Pune under the coordination of Human Resource Department, GOI and UNESCO. Seven students-Noel Cyriac, Tojan Thomas, Rahul Raj, Vaishakh P. V, Riya Joju, Priyanka Dilip and Jithin Kumar attended the four day event. Talks were presented by eminent personalities in person and through video.

4. *Career development programs*

a) HR CONCLAVE December 7th, 2013

Under the aegis of FORUM a Human Resource managers' conclave was conducted on the theme "Fresh Talents in the Corporate Perspective: Experience and Expectation". It was held in two parts. The first was a seminar in which the distinguished speakers shared their views on the topic. The second part was a panel discussion which answered questions put forward by the viewers and the present trends in hiring, especially among the larger companies. Some of the speakers who enlightened the audience with their talks were Mr. Varghese Mathew, Chief People's Officer-Shapoorji Pallonji & Co Ltd., Mr.Ramakrishnan, Zonal Manager-South (HR and Admin), Voltas, Mr.Jaljith Narayanan, Senior HR –UST Global, Mr. Rajesh Nair, Associate Director

b) HR CONCLAVE October 17, 2014

In an attempt to comprehend the competency factor that leads to positive job transitions and to explore the psychological capital of new graduates, COLOSSEUM- the annual HR conclave was organized by FISAT Business School, on October 17, 2014 on "Fresh Talents in Corporates' Perspective:, Experiences and Expectations." COLOSSEUM is a platform where industry stalwarts can interact with each other through panel discussions, seminars and symposia with the active participation of the corporate houses. The chief guest of the event was Mr. Balaji and he delivered the key note address. It was mainly on the concept VUCA which has been gaining a lot of publicity in HR environments.The seminar/panel discussion brought out the past experiences of the corporates vis-a-vis the MBAs, and disseminated the expectations of the corporate houses, keeping in view the emerging trends in the prevailing economic scenario. Some of the speakers for the event were Mr. Anish

Philip (Chief Human Resources Officer at Sasken Communication Technologies, Mr. Rex Michael, Head of Talent Acquisition, Thomson Reuters, Ganesh S, VP, Human Resources at Citi Chennai, Mr. Balaji.V, Head HR, at Dorma, India Pvt Ltd, and Jaimon Antony, Head HR, Murugappa Group Chennai.

5. Training

a. *Moodle*- a learning management system of choice in the top tier business schools has been introduced to the batch of 2013-15 with a view to enable continuous learning and access to materials through individual faculty course sites. Instant grading systems a variety of testing options like daily updates, assignments and multiple choice questions and case write-ups are also enabled.

b. *Microsoft excel program for 50 hours over the first semester students*

The Microsoft advanced office skill program given to the first semester students every year is executed by the Corporate training MICROSOFT certified center 'the Strategist' based in Kochi. Exposure to basic and advanced operations, in house task conceptualization and execution and application of MS EXCEL in professional and academic spheres is part of the curriculum.

6. SAP Learning Hub

The SAP Learning Hub was launched at FBS on October for the MBA students in the presence of the Chairman Shri Paul Mundadan, Dr P.A. Mathew, Dean, FBS, and others. Mr. P.T. Tomas, Sr General Manager (HR) delivered the Key Note address. Ms. Joyce Priya Immaculate, Operations Specialist- SAP India, was the Chief Guest. The course was to be structured over fifty hours with specific SAP modules being examined and hands on training being provided in the lab on the use of the software. Dr George Issac, Principal, FISAT, Mr. A,K, Sahad, Managing Director of Electromech enterprises and Mr. Arun Jacob were others who felicitated the gathering.

7. Week long enrichment programme

Starting from the afternoon of the same day the entire batch of 120 students of 2014-16 were introduced to the week long training program held by Mr. Thomas of Lead Academy, a specialist in group dynamics, trainer par excellence and a regular visitor to the engineering department students for their personality training done in the Vth semester for students. This was a new experience for the fresh minds as he was able to help them think out of the box and towards a management perspective- this has enormously helped them tackle pressures during the course. His training titled "Turning Point" is structured as a six day workshop intended for identifying capacities of each individual, making each of them to fix a goal according to their capacities and then to program a plan for reaching the goal. It is also intended to develop the inter/intra personal relationship of individuals and to build their confidence while facing the

public, attending interviews, group discussions and so on. Each participant is made to identify the strengths that will help him to stand out in a crowd. Help is also provided to find out a career that will best suit each of them. The program uses subconscious mind programming to make use of subliminal suggestions to influence behaviour.

8. *Participation in Management Fests*

An ideal institution like FBS has got a broad educational mission: to develop the 'whole student'. For this, the college focuses on extracurricular activities along with curricular activities and our students are rich in vibrant talents. Every year our students participate in various management fests and always excel in whichever items they participate.

Sahla Parveen of 2nd year MBA won Best Manager Award from School of Management Studies, Thiroor as well as Rajasooya conducted by John Mathai Center Trissur. She has been winning prizes in the same category ever since her first year in FBS and is one of the most promising student FBS has.

Second year students Gladia Joy, Anju Varghese, Gokul C, Satyajith Kumar won the first prize in the Marketing Game of INFLORE 2015 held at Rajagiri Center for Business, on October 15th and 16th. Naufal Latheef, Suraj Rajendran, Rarichan Mathew and Swathi Venugopal won third prize in the Finance Game at the same event.

CALIGO 2K15 held in Marian International Institute of Management Kuttikkanam on October 19th and 20th, 2015 saw winners all the way. Gladia Joy, Akhil Paul, Surabhi Balakrishnan and Jomy Mathew won first Prize in the Marketing game that had a cash prize of Rs. 15000/- rupees.

KARMANTA 2K15 held in Vimal Jyothi Institute of Management Studies at Kannur in October saw the team of Aleen George, Shilpa Francis, Athira Prabhakaran and Renjusha K.B winning first prize in the finance game.

In SIMTHESIS 8.0 organised by Saintgist Institute of Management, Kottayam on 27th and 28th 2015 Gladia Joy, Anju Varghese, Akhil Paul and Arun Jacob John won first prize for the Marketing Game

33. Teaching methods adopted to improve student learning

The following are the various methods used to deliver the courses:

- i. Lecture with discussions.
- ii. Lecture with quizzes.
- iii. Tutorial.
- iv. Demonstration (field visit, laboratory etc.)
- v. Group discussions.
- vi. Presentations.
- vii. Industrial Visits.
- viii. Summer internships in companies (preferably outside Kerala).

ix. Dissertation

FBS has a certificate course in banking as a value addition course to the existing MBA programme.

34. Participation in Institutional Social Responsibility (ISR) and Extension Activities

1. Orphanage Visits

One of the first events that were taken up by the batch 2014-16 was the visit to Emmanuel Orphanage Azhakam, in August 2014. A home for orphaned and destitute children of a wide age group from 5-18 years, of both sexes, it was an eye opener to the students. The need for societal responsibility became clear to them as they organised a fine day of enjoyment for the students starting with games for the children, a Thiruvathira organised by the girls, and programs organised by the inmates, finishing with a sumptuous Onasadya, served by the students themselves.

2. Say no to plastics -Drive by FBS students

The students of FISAT put thoughts into actions by carrying out a plastic waste collection drive initiated under the aegis of Aluva based Plan @ Earth NGO- which is doing stellar work in trying to reuse and recycle plastic waste into products of worth, besides advocating the cause of reducing or completely abolishing the use of plastics in everyday life. 120 second semester students of the batch 2014-16, under the guidance of their faculty for Environmental Management Ms. Sindhu George, put into practice the lessons learnt in the classroom. Plastic wrappers, bottles and other non-biodegradable waste had been carelessly dumped by tourists at Thommankuthu, a hill station near Thodupuzha. The students and teachers collected more than 12 bags of waste, which would be further processed by the NGO. The event had wide coverage in all the prominent news papers.

3. Rashtriya Ekta Divas

Under the directive of the Central Government all educational institutions commemorated 31st October as 'Rashtriya Ekta Diwas. They delivered speeches on the importance of unity in diversity, the challenges faced by youth, the turbulent external environment and how India as a country was a model of achieving singular growth despite intensely diverse cultures, traditions and attitudes. It was beautifully conducted and was well appreciated by all.

4. Blood donation camp and organ donation drive

In tune with the theme "the Joy of giving" with a focus on donation- of Blood and Organs was done in association with the department fest Karma 2K14. Ms. Rima Kallingal, chief guest of the day floored the gathering with her simplicity, her positive energy, her frank attitude and her friendliness. A true giver, she spoke about how the social cause was the lesson for us all. Ms Lekha Nambisan was the other guest of the day- a true pillar of giving- showing how selflessness doesn't come in words but action. The students

actively carried out a blood donation drive and collected forms for organ donation.

5. Seminar on Rain Water Harvesting

Taking into consideration the increasing importance of the management of water resources to the human existence and to the government and local governance “*Nirthullikal*” was held on 12th September, 2013. It was inaugurated by Sri Anoop Jacob, Hon’ble Minister for Food and Civil Supplies and Registration. This was a seminar on rain water harvesting and its benefits to the local community. The program was held in association with the gram Panchayat of Mookkannoor, Karukutty, Thuravoor and Manjappra. Dr. V. Subhash Chandra Bose, C.C.D.U (Communication and Capacity Development Unit) spoke on the topic ‘*Well recharging and rainwater Harvesting*’. The CCDU has been instrumental in communicating and disseminating to the general public and to the local government machinery the importance of sanitation and rainwater harvesting.

35. SWOC analysis of the department and Future plans

Strengths	Dynamic faculty with 5 Ph.D.s and good publication record Student admissions are mostly based on merit Central Library with good collection books, periodicals and online journals Membership in Professional Associations Good placement record of students High ratio of applications to seats for the programme
Weakness	The locational disadvantage reduces the chances for better industry exposure to the students.
Opportunities	Increased job opportunities and demand for the course Opportunity to do projects and consultancy services with various Government and private sector firms, by utilising the skilled faculty.
Constraints	Curriculum defined by the University are not updated periodically Examination results from university not being published on time, reduces the opportunities of students when compared to other universities

Table E 105

Future Plans: The Department is working towards obtaining NBA Accreditation. With the qualified faculty team, the department aims at getting a research centre from APJ Abdul Kalam Technological University and the faculty members have applied for guide ship.

* * * * *



"Focus on Excellence"

FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT)TM

(An ISO 9001:2008 Accredited Engineering College - Managed by Federal Bank Officers' Association Educational Society)

HORMIS NAGAR, MOOKKANNOOR P.O., ANGAMALY - 683 577, ERNAKULAM DT., KERALA, S. INDIA.

(Approved by AICTE - Affiliated to Mahatma Gandhi University, Kottayam)

Tel: (O) 0484-2725272, 2616403, 2616404 Fax: 0484 - 2725250, 2725272

E-mail: mail@fisat.ac.in Web site: www.fisat.ac.in

Declaration by the Head of the Institution

I certify that the data included in the self-study report (SSR) are true to the best of knowledge.

This SSR is prepared by the Institution after internal discussions, and no part of there has been outsourced.

I am aware that the Peer Team will validate the information provided in this SSR during the Peer Team visit.

Hormis Nagar

19th December 2015




PRINCIPAL
FEDERAL INSTITUTE OF
SCIENCE AND TECHNOLOGY (FISAT)
ANGAMALY, KERALA - 683 577



FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT)TM

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"Focus on Excellence"

Certificate of Compliance

This is to Certify that **Federal Institute of Science and Technology** fulfils all norms

1. Stipulated by the affiliating University and /or
2. Regulatory Council/Body [such as NCTE, AICTE, MCI, BCI, etc.] and
3. The affiliation and recognition [if applicable] is valid as on date


In case the affiliation/ recognition is conditional, then a detailed enclosure with regard to compliance of conditions by the institution will be sent.

It is noted that NAAC's accreditation, if granted, stand cancelled automatically, once the institution loses its University affiliation or Recognition by the Regulatory Council, as the case may be.

In case the undertaking submitted by the institution is found to be false then the accreditation given by NAAC is liable to be withdrawn. It is also agreeable that the undertaking given to NAAC will be displayed on the college website.

19th December, 2015
Hormis Nagar.




PRINCIPAL
FEDERAL INSTITUTE OF
SCIENCE AND TECHNOLOGY (FISAT)
ANGAMALY, KERALA - 683 577



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PROCEEDINGS

Kerala Technological University - Affiliation of Technical Institutions for the Academic Year 2015-2016 – Affiliation of Technical Institutions - FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT) , Hormis Nagar Mookkannoor P O ERNAKULAM - 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 FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT),Hormis Nagar Mookkannoor P O ERNAKULAM 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 conducts 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

The Honourable Vice-Chancellor exercising the powers under Section 15 (6) & 59 has granted provisional affiliation to the FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT), Hormis Nagar Mookkannoor P O ERNAKULAM 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	MECHANICAL ENGINEERING	120
3	UG	COMPUTER SCIENCE & ENGINEERING	120
4	UG	ELECTRICAL AND ELECTRONICS ENGINEERING	60
5	UG	ELECTRONICS & INSTRUMENTATION ENGINEERING	60
6	UG	ELECTRONICS & COMMUNICATION ENGG	120
7	PG	COMMUNICATION ENGINEERING	24
8	PG	COMPUTER INTEGRATED MANUFACTURING	18
9	PG	COMPUTER SCIENCE AND INFORMATION SYSTEM	24
10	PG	POWER ELECTRONICS AND POWER SYSTEMS	24
11	PG	STRUCTURAL ENGINEERING AND CONSTRUCTION MANAGEMENT	24
12	PG	VLSI AND EMBEDDED SYSTEMS	24

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, FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT), Hormis Nagar Mookkannoor
P O ERNAKULAM
2. The Chairman, Federal Bank Officers Association Educational Soc, FBOA Centre, FBOA Road, ERNAKULAM
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.**



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/1-2017614839/2014/EOA

Inward No: 0097/14
Date: 19-6-2014
File No: P-I
Signature: [Signature]

Date: 04-Jun-2014

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

Sub: Extension of approval for the academic year 2014-15

Ref: Application of the Institution for Extension of approval for the academic year 2014-15

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	1-2017614839
		Permanent Id	1-3538990
Name of the Institute	FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT)	Institute Address	HORMIS NAGAR, MOOKKANNOOR P.O, ANGAMALY, ANGAMALY, ERNAKULAM, Kerala, 683577
Name of the Society/Trust	FEDERAL BANK OFFICERS ASSOCIATION EDUCATIONAL SOCIETY (FBOAES)	Society/Trust Address	FBOA CENTRE, FBOA ROAD, ALUVA, ALUVA, ERNAKULAM, Kerala, 683101
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 2014-15

Application Number: 1-2017614839*

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Application Id: 1-2017614839			Course	Full/Part Time	Affiliating Body	Intake 2013-14	Intake Approved for 14-15	NRI Approval status	PIO Approval status	Foreign Collaboration Approval status
Program	Shift	Level								
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	COMMUNICATIONS ENGINEERING	FULL TIME	Mahatma Gandhi University, Kottayam	24	24	NA	NA	N
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	COMPUTER INTEGRATED MANUFACTURING	FULL TIME	Mahatma Gandhi University, Kottayam	18	18	NA	NA	N
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	COMPUTER SCIENCE AND INFORMATION SYSTEM	FULL TIME	Mahatma Gandhi University, Kottayam	24	24	NA	NA	N
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	POWER ELECTRONICS AND POWER SYSTEMS	FULL TIME	Mahatma Gandhi University, Kottayam	24	24	NA	NA	N
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	STRUCTURAL ENGINEERING AND CONSTRUCTION MANAGEMENT	FULL TIME	Mahatma Gandhi University, Kottayam	0	24	NA	NA	N
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	VLSI AND EMBEDDED SYSTEMS	FULL TIME	Mahatma Gandhi University, Kottayam	0	24	NA	NA	N
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	CIVIL ENGINEERING	FULL TIME	Mahatma Gandhi University, Kottayam	120	120	Yes	NA	N
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	COMPUTER SCIENCE AND ENGINEERING	FULL TIME	Mahatma Gandhi University, Kottayam	120	120	Yes	NA	N
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	ELECTRICAL AND ELECTRONICS ENGINEERING	FULL TIME	Mahatma Gandhi University, Kottayam	60	60	Yes	NA	N

Application Number: 1-2017614839*

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Application Id: 1-2017614839			Course	Full/Part Time	Affiliating Body	Intake 2013-14	Intake Approved for 14-15	NRI Approval status	PIO Approval status	Foreign Collaboration Approval status
Program	Shift	Level								
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	ELECTRONICS AND INSTRUMENTATION ENGINEERING	FULL TIME	Mahatma Gandhi University , Kottayam	60	60	Yes	NA	N
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	ELECTRONICS & COMMUNICATION ENGG	FULL TIME	Mahatma Gandhi University , Kottayam	120	120	Yes	NA	N
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	MECHANICAL ENGINEERING	FULL TIME	Mahatma Gandhi University , Kottayam	120	120	Yes	NA	N
MANAGEMENT	1st Shift	POST GRADUATE	MASTERS IN BUSINESS ADMINISTRATION	FULL TIME	Mahatma Gandhi University , Kottayam	120	120	NA	NA	N
MCA	1st Shift	MCA 2nd Year Direct	MASTERS IN COMPUTER APPLICATIONS	FULL TIME	Mahatma Gandhi University, Kottayam	0	60	NA	NA	N
MCA	1st Shift	POST GRADUATE	MASTERS IN COMPUTER APPLICATIONS	FULL TIME	Mahatma Gandhi University , Kottayam	60	60	NA	NA	N

- 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 FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT) 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 and subsequently upload and update the student/faculty/ other data on portal as per the time schedule which will be intimated by AICTE.

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.

Application Number: 1-2017614839*

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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. Kuncheria P. Isaac)

Member Secretary, 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,**
FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT)
HORMIS NAGAR, MOOKKANNOOR P.O, ANGAMALY,
ANGAMALY, ERNAKULAM,
Kerala, 683577
5. **The Secretary / Chairman,**
FEDERAL BANK OFFICERS ASSOCIATION EDUCATIONAL SOCIETY (FBOAES)
FBOA CENTRE, FBOA ROAD, ALUVA,
ALUVA, ERNAKULAM,
Kerala, 683101
6. **Guard File(AICTE)**

Application Number: 1-2017614839*

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