

Annexure IV  
**INSTITUTIONAL DEVELOPMENT PROPOSAL  
(REVISED)**

**For Sub-component 1.1**

under

**TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME**

**[TEQIP]**

**PHASE - II**



**RAJIV GANDHI INSTITUTE OF TECHNOLOGY**

**Kottayam, Kerala – 686 501**

**April 2015**

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## 1. INSTITUTIONAL BASIC INFORMATION

### 1.1 Institutional Identity

Name of the Institution : Rajiv Gandhi Institute of Technology,  
Kottayam, Kerala

Is the Institution AICTE approved? : Yes

Furnish AICTE approval No : F. No. 770-54-208/RC/94

Type of Institution : Government Funded

Status of Institution : Affiliated to Mahatma Gandhi University,  
Kottayam

Name of Head of the Institution : Prof. (Dr.) K.P. Indiradevi

Name of Head of Institution and project Nodal Officers					
Head and Nodal Officer	Name	Phone Number	Mobile Number	Fax Number	E mail Address
Head of the Institution	Prof. (Dr.) K.P. Indiradevi	0481 2506153	94474222 12	0481 2506153	principal@rit.ac.in
TEQIP Coordinator	Prof. Gymmy Joseph Kattoor	0481 2505963	94965 41587	0481 2506153	gjkattoor@ yahoo.co.in
Project Nodal Officers for:					
Academic Activities	Prof. Vijayakumari C .K.	0481 2505963 (510)	94956368 16	0481 2506153	vijayakumari@rit. ac.in
Civil Works including Environment Management	Dr. Bino I. Koshy	0481 2505963 (204)	094478 61107	0481 2506153	bino@ rit.ac.in
Procurement	Prof. R. Sasikumar	0481 2505963 (301)	090377 89852	0481 2506153	aaskk20@ yahoo.com
Financial Aspects	Dr. David Solomon George	0481 2505963 (505)	99464491 26	0481 2506153	david@rit.ac.in
Equity Assurance Plan Implementation	Mr. Manoj Kumar M	0481 2505963 (401)	94952433 56	0481 2506153	manoj_m@yahoo .com

## 1.2 Academic Information:

- Engineering UG and PG programmes offered in Academic year 2014-15

Sl. No	Title of programmes	Level (UG, PG, PhD)	Duration (Years)	Year of starting	AICTE sanctioned annual intake	Total student strength
1	B. Tech. in Civil Engineering	UG	4	1991	60*	267
2	B. Tech. in Mechanical Engineering	UG	4	1991	60*	268
3	B. Tech. in Electrical & Electronics Engineering	UG	4	1991	60*	264
4	B. Tech. in Electronics & Communication Engineering	UG	4	1991	60*	270
5	B. Tech. in Computer Science & Engineering	UG	4	1999	60*	264
6	M. Tech. in Industrial Engg. & Management	PG	2	2005	18	36
7	M. Tech. in Industrial Drives & Control	PG	2	2005	18	36
8	M. Tech. in Transportation Engineering	PG	2	2011	18	35
9	M. Tech. in Advanced Communication & Information Systems	PG	2	2011	18	36

10	M. Tech. in Advanced Electronics & Communication Engineering	PG	2	2012	18	36
11	M. Tech. in Computer Science & Engineering	PG	2	2014	18	18
12	MCA	PG	3	2002	60*	120

\*Intake of MCA enhanced from 30 to 60 last year

- **Accreditation Status of UG programmes:**

Title of UG programmes being offered	Whether eligible for accreditation or not?	Whether accredited ?	Whether "Applied for" as on 31st March 2015 ?
B. Tech. in Civil Engineering	Yes	Yes*	Applied
B. Tech. in Mechanical Engineering	Yes	Yes	Applied
B. Tech. in Electrical & Electronics Engineering	Yes	No	Applied
B. Tech. in Electronics & Communication Engineering	Yes	Yes	Applied
B. Tech. in Computer Science & Engineering	Yes	Yes	Applied

\*Accredited in 2007

- **Accreditation Status of PG programmes:**

Two P.G programmes in the institution are eligible for accreditation as on date. The preparation is going on and the eligible P.G programmes will apply for accreditation once the visit by NBA team is completed for U.G programmes

Title of PG programmes being offered	Whether eligible for accreditation or not?	Whether "Applied for" as on 31st March 2015?
M. Tech. in Industrial Engg. & Management	Yes	under process
M. Tech. in Industrial Drives & Control	Yes	under process

### 1.3 Faculty Status (Regular/On-Contract Faculty as on March 31st, 2015)

Faculty Rank	No. of Sanctioned Regular Posts	Present Status : Number in Position by Highest Qualification												Total Number of regular faculty in Position	Total Vacancies	Total Number of contract faculty in Position
		Doctoral Degree				Masters Degree				Bachelor Degree						
		Engineering Disciplines		Other Disciplines		Engineering Disciplines		Other Disciplines		Engineering Disciplines		Other Disciplines				
		R	C	R	C	R	C	R	C	R	C	R	C			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15= (3+5+7+9+11+13)	16= (2-15)	17= (4+6+8+10+12+14)
Prof	10	5	-	-	-	2	-	-	-	-	-	-	-	7	3	0
Assoc Prof	19	9	-	-	-	8	-	-	-	-	-	-	-	17	2	0
Asst Prof	69	8	-	1	-	34	17	7	3	2	0	-	-	50	19	20
Total	98	22	0	1	0	44	17	7	3	2	0	0	0	74	24	20

R- Regular C-contract

#### 1.4 Baseline Data (all data restricted to engineering disciplines only)

Sl. No	Parameters	Nos
1	Total strength of students in all programmes and all years of study in the year 2009 – 2010	1482
2	Total women students in all programmes and all years of study in the year 2009 – 2010	733
3	Total SC students in all programmes and all years of study in the year 2009 – 2010	103
4	Total ST students in all programmes and all years of study in the year 2009 – 2010	12
5	Total OBC students in all programmes and all years of study in the year 2009 – 2010	853
6	Number of fully functional P-4 and above level computers available for students in the year 2009 – 2010	286
7	Total number of text books and reference books available in library for UG and PG students in the year 2009 – 2010	25850
8	%of UG students placed through campus interviews in the year 2009 – 2010	45.27
9	%of PG students placed through campus interviews in the year 2009 – 2010	25
10	% of high quality undergraduates (>75 % marks) passed out in the year 2009 - 2010	15.83
11	% of high quality postgraduates (>75 % marks) passed out in the year 2009 - 2010	26.6
12	Number of research publications in Indian refereed journals in the year 2009 – 2010	4
13	Number of research publications in international refereed journals in the year 2009 – 2010	3
14	Number of patents obtained in the year 2009 – 2010	0
15	Number of patents filed in the year 2009 – 2010	0
16	Number of sponsored research projects completed in the year 2009 – 2010	3
17	The transition rate of students in percentage from 1 <sup>st</sup> year to 2 <sup>nd</sup> year in the year 2009 – 2010 for: (i) all students (ii) SC (iii) ST (iv) OBC	100%
18	IRG from students' fee and other charges in the year 2009 – 2010 (Rs in lakh)	92.72
19	IRG from externally funded R&D projects, consultancies in the year 2009 – 2010 (Rs in lakh)	10.17
20	Total IRG in the year 2009 – 2010 (Rs in lakh)	102.89
21	Total annual recurring expenditure of the applicant entity in the year 2009 – 2010 (Rs in lakh)	480.94



## 2. INSTITUTIONAL DEVELOPMENT PROPOSAL(REVISED)

### 2.1 Executive Summary

Rajiv Gandhi Institute of Technology (RIT), Kottayam is one of the most preferred institution by the students aspiring for engineering education in the state of Kerala. Since its inception, the college has taken significant steps to train, motivate and transform the young aspirants to become competent and committed engineers capable of providing solutions to the global challenges through appropriate use of technology for the service of humanity. The college started functioning in the year 1991 and within a span of 19 years R.I.T. was able to attain a significant position among other colleges in the state.

The institution has signed MoU for participating in TEQIP-II on 18/11/2011. Since then through the collective efforts all the stake holders the institution have been striving to implement the project so as to achieve targets as envisaged in the Institutional Development proposal(IDP) which aims at the all round development of the institution. The project is presently being implemented as per the detailed action plan has been prepared for implementing project. Implementation of the project is done through the Institutional TEQIP Unit. Different TEQIP committees ie. Academic, Procurement, Civil works, Finance, Equity Actions and Research have been formed and each committee is headed by a nodal officer. The institution is one of the best performing TEQIP institutions in Kerala.

The purpose of implementing TEQIP in the institution is to enhance the existing facilities of institutions to become more dynamic, demand-driven, quality conscious, efficient and forward looking, responsive to rapid economic and technological developments occurring both at national and international level. The programs aim at reinforcing the performance of institutions and diffusing their special qualities throughout the technical educational system and thus strengthening the institution to improve quality of learning and thus employability of Graduates.

Beyond, the regular academic activities, Rajiv Gandhi Institute of Technology, Kottayam has been undertaking large number of programmes for improving the quality of students and enhancing the professional competence of the students. All the students are admitted from the merit list published through the common admission test conducted by Government of Kerala and the admission process satisfies the prevailing norms proposed by the government. The institution provides a good exposure to co-curricular and extra curricular activities of the students within the

resources available to them. In order to help the students to earn an employment while being in the campus, the Career Guidance and Placement Cell regularly undertake training programmes using both internal and external resources. In addition, the college also invites experienced faculty members from premier institutions from the country under the Visiting Faculty Programme to benefit the learning requirement of the students. Large number of clubs and associations are actively involved to give avenues for students to showcase their abilities.

The faculty members too have enormous opportunities for improving their professional competence. The Quality Improvement Programme (Q.I.P.) helps the faculty members to acquire higher qualifications like M.Tech and PhD. Also, the faculty members are allowed to undertake consultancy assignment and projects with the objective of improving the professional abilities of the faculty members. The research support extended by Centre for Engineering Research and Development (CERD) is an opportunity for all the teachers to start a small research schemes along with their teaching activity. Realizing the need for increasing the intellectual capital of the members regular awareness programmes on Intellectual property rights are also being conducted regularly among teachers and students. Further, college has been organizing conferences on various themes for researchers, teachers and scientists to give both internal and external members an exposure on research and presentation work.

The college is strengthening its activities for improving the learning and employability of the students under TEQIP-II. In addition, it understands to need to improve the research outputs and more involvement with consultancy assignments by the faculty members of the institution. The revised Institutional Development Plan has been prepared with the objective of further enhancing the strengths of the institution exploring the opportunities offered by TEQIP-II

The overall strategy followed in the implementation programmes is to improve the capability of human resources and also to establish the necessary infrastructure to ensure better learning, research and innovative interventions in future. Some of the important steps in this direction is by training the staff members, establishing better earning resources, strengthening and starting new courses at post graduate level, improving the research involvement of staff members, etc. To improve the employability of students it is planned to strengthen the career guidance cell, enhance the functioning of the finishing school and improve the entrepreneurship cell activities.

Also, planned among the list of interventions are the improvements in the curriculum design, conduct of remedial classes for weak students, initiating innovation workshops, better collaboration with the industry by the faculty members and students etc. The project would also help the up gradation of the skills of various support staff working in different capacities. The technical staff in the laboratories and administrative staff involved with different functional areas of

the administrative works would be continued to be trained to use technology driven office management procedures and ensuring better relationship with all the other members in the institution. In order to achieve all the objectives specified in the project large number of key activities with specific plan of intervention has been prepared.

The activities has been planned up to October 2016. The successful completion of the project is expected to transform the academic delivery in the institution with significant improvements being made in the learning systems and active involvement of faculty in research and innovation.

### **2.1.1 Introduction**

Rajiv Gandhi Institute of Technology (RIT) is a Government engineering college, which started functioning in the year 1991. Over the last 24 years, RIT has attained a remarkable place as a technical training Institute in the State.

The college offers 6 UG programmes in Computer Science, Electrical Engineering, Electronics & Communication Engineering, Civil Engineering ,Mechanical Engineering and Architecture and 6 PG programs in Civil, Electrical, Mechanical , Computer Science and Electronics (two PG) and MCA Programmes.

AICTE has recognized RIT as a QIP centre in Civil Engineering and Electrical Engineering The vision and mission of the institution are as given below. The college is having excellent academic standards and good placement records. Majority of the ranks of the Mahatma Gandhi University are secured by our students. Being a government institution, students of the college enjoy the advantage of high quality technical education at affordable fees.

### **2.1.2 Vision**

To be a centre of technological excellence for the betterment of society

### **2.1.3 Mission**

To impart professional education to students from all sectors of the society to mould them to be competent, committed, research oriented and socially responsible citizens capable of deploying technology for the goodwill of society.

### **2.1.4 Revised Institutional Development Proposal**

This revised Institutional Development Proposal for Sub component 1.1 under project TEQIP II has been prepared, based on the previous SWOT analysis and based on the new threshold the institution has reached since the implementation of TEQIP-II.

In order to achieve the general objective, the following specific objectives were devised in tune with the mission and vision of the Institution.

- Faculty and staff development
- Starting of new PG programmes
- Enhancement of research and consultancy activities
- Enhanced interaction with industry
- Enhancement of Management Capacity

- Implementation of institutional reforms
- Academic support to weak students

The necessary infrastructure has been put in place by procuring the necessary equipments and learning resources under the project. At present the key thrust is on strengthening the human resource through the right training programmes thereby facilitating a better academic environment for molding industry ready professionals. It is expected that, implementation of this project will improve the employability of graduates and enhance the quality of Technical Education.

**2.2 Specific objectives and expected results in terms of “institutional strengthening and improvements in employability and learning outcomes of graduates”.**

**Specific objectives**

The specific objectives to be achieved are listed below.

<b>Specific objective 1</b>	<b>1. Faculty and staff development</b>
	<p>Training and development of faculty, technical staff and administrative staff essential for the overall improvement of the institution. Faculty has attended training programmes for enhancing expertise in subject domain as part of TEQIP-II (Details given in Annexure). The same is to be continued with more thrust on attending programmes which will enhance capabilities of faculty in doing research and for improving consultancy activities. In addition faculty need to be trained for acquiring specialization for handling courses in the new P.G programmes.</p> <p>For improvement of qualification, the Government has implemented Quality Improvement Programme (QIP) in the institution. As a result, there are only a few regular faculty with bachelor degree alone. It is targeted that at least 40% of the faculty with Masters degree only will be enrolled to Doctoral programmed at the end of the project.</p> <p>For young faculty members in addition to training in areas of specialization, pedagogical training is also proposed which will improve the competence of the faculty. At present faculty members are attending pedagogical training organized by SPFU Kerala in association with Teaching and learning centre of IIT Madras.</p> <p>Participation of faculty in seminars, conferences, workshops etc is to be encouraged which will help in getting a good exposure in the current developments in research areas.</p> <p>For support staff also, specific areas of training needs are identified.</p>
	<b>Expected results</b>
	<p>1. 100% of the faculty will be upgraded to Masters degree at the end of the</p>

	<p>project</p> <ol style="list-style-type: none"> <li>2. At least 40% of the faculty with Masters Degree only will be completed/enrolled to Doctoral programmed at the end of the project.</li> <li>3. All faculty will be training in their domain of specialization</li> <li>4. Training on pedagogy will be given to all young faculty</li> <li>5. Technical staff will be given training in subject area and other selected areas</li> <li>6. Administrative staff will be trained in areas like computer training, academic administration, personality development etc.</li> </ol>
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<b>Specific objective 2</b>	<b>2. Starting of new PG programmes</b>
	<p>It is observe that there is a demand for greater research facilities in Engineering and Technology in the state and country to bridge the gap between supply and demand of Engineering Post Graduates and Ph.D.s.</p> <p>In this context research centre's has been started in two departments ie. Civil Engineering and Electrical and Electronics Engineering. Concrete efforts are to be made for starting research centre's in other departments. AICTE has already sanctioned two more M. Tech. programmes</p> <ul style="list-style-type: none"> <li>▪ M.Tech in Engineering Design (ME Department)</li> <li>▪ Power Systems &amp; renewable energy (EE. Department)</li> </ul> <p>Granting Teaching and research assistantship for non GATE candidates is proposed to be continued.</p>
	<b>Expected results</b>
	<ol style="list-style-type: none"> <li>1. The number of annual PG enrolments will be increased to 144 by the end of the project</li> <li>2. Opportunity for value addition to graduates will enhance employability and demand in the job market</li> </ol>

<b>Specific objective 3</b>	<b>3.Enhancement of research and consultancy activities</b>
	<p>Research and consultancy activities have been enhanced with the support from TEQIP-II. Seed money is being granted to eligible projects after evaluation by the expert committee. Is to be further strengthened by encouraging faculty to take up more research project in emerging areas.</p> <p>As research centre's has been started in two departments it will lead to increase the research activities. Faculty will be encouraged to take up sponsored research projects. Journal publication of PG thesis will be made mandatory.</p> <p>Enhanced interaction with industry which is targeted in this project will help in improved research and consultancy activities. Joint research activity with industry will benefit the institution. Industrial needs are to be identified and should be used for mutual benefit.</p> <p>Interaction with local bodies is to be improved to identify the local technical expertise required for the society.</p>
	<b>Expected results</b>
	<ol style="list-style-type: none"> <li>1. Enhanced research culture of the institution</li> <li>2. Increased number of publications in national and international referred journals</li> <li>3. Increased sponsored research projects</li> <li>4. More research projects and outputs are expected to give the institution a status of preferred destination for R&amp;D solution</li> <li>5. Intervening in the technical needs of society by interaction with local self governments</li> </ol>



<b>Specific objective 4</b>	<b>4. Enhanced interaction with industry</b>
	<p>Industry Institute Interaction Cell (IIIC) was started as per plan in original IDP and IIC has taken initiatives for increased collaboration with industry and for giving more exposure to students through training by Industry experts. In industrial training to faculty and industrial visits by students is to be continued . The college already has signed seven MoU's in this connection and continuous and fruitful interaction is to be done.</p> <p>Seminars and workshops will be conducted for students by industry people. Students will be encouraged to do live projects in the industry.</p>
	<b>Expected results</b>
	<ol style="list-style-type: none"> <li>1. Increased number of collaborative programs with industry</li> <li>2. Increased number of industrial training programmes for faculty and students</li> <li>3. Increased number of student projects in industry</li> </ol>

<b>Specific objective 5</b>	<b>5. Enhancement of Management Capacity</b>
	<p>Head of institution and senior faculty members are attending Management capacity enhancement programmes for enhancing the administrative abilities through specially designed training programmes. The same is to be continued.</p>
	<b>Expected results</b>
	<ol style="list-style-type: none"> <li>1. Training to be imparted to all senior administrative staff and faculty thereby increasing efficiency of the system</li> </ol>

<b>Specific objective 6</b>	<b>6. Implementation of institutional reforms</b>
	<p>For the effective implementation of project, academic and non academic institutional reforms are to be continued. The state government has taken a large stride in this connection by launching Kerala Technological university (KTU) with an aim to give leadership to the technology related policy formulation and engineering planning for the state. It also emphasizes to improve the academic standards of the graduate, post graduate and research programmes in engineering science, technology and management and regulate the academic standards of all colleges affiliated to the University. Rajiv Gandhi Institute of Technology is the lead college selected by KTU for coordinating the clusters in Kottayam and Idukki region.</p> <p>KTU has granted autonomy to the cluster for framing and approving the syllabus for M.Tech programmes. From this academic year the institution will be affiliated to KTU.</p> <p>Academic reforms like design of industry ready curriculum, improved student performance evaluation, performance appraisal of faculty by students etc to be continued. The institution has applied for accreditation of all eligible UG programmes.</p> <p>Establishment of Corpus Fund, Faculty Development Fund, Equipment Replacement Fund, Maintenance fund and steps for utilization of revenue generated are some of the major non academic reforms which have already been done.</p>
	<b>Expected results</b>
	<ol style="list-style-type: none"> <li>1. Increased learning outcome and employability through academic autonomy</li> <li>2. State of the art curriculum</li> <li>3. Flexible electives will help the students in orienting to a domain of interest</li> <li>4. Improved performance of faculty and students</li> <li>5. Accreditation of all programmes</li> </ol>

<b>Specific objective 7</b>	<b>7. Academic support to weak students</b>
	Activities under Equity Action Plan are to be continued for increasing the pass percentage and for enhancing the employability of graduates. Remedial classes for the weak students are being conducted training programmes for increasing the employability of graduates is being done with the support of Career Guidance and placement cell.
	<b>Expected results</b>
	The overall pass percentage and better quality students will be attained by remedial coaching and sustained effort. The pass percentage is targeted to be enhanced to 80-85% from 70%-75% at present.

### 2.3 a) Action plan for Improving the employability of graduates

The present issues facing the employability of the students are

- (i) Lack of adequate professional competence in the respective field of study.
- (ii) Lack of awareness on potential employer and their industrial requirements.
- (ii) Poor interpersonal skills and communication abilities.
- (iii) Poor perception of career planning and motivation.

The important employment opportunities available to the students are the options available through the campus placement programmes, opportunities available from various job fairs and conventional approaches of responding to the advertisements. Large numbers of reputed companies visit the campus to recruit the students. The major hurdle the institution faces during the campus placement programme is the lack of professional competence of the students and their poor communication skills. The poor communication skills have prevented large number of academically good students to get a good job offer during this process. The measures recommended for improving the employability of students are as follows

#### ❖ **Enhanced activities under finishing school**

The student though found to be academically good often fall short of the professional requirement. The gaps in the learning need to be eliminated for their easy migration into a full fledged professional. Hence, an effective finishing cell at the institution would be able to provide the essential components required for each branch of study and help students to build their career

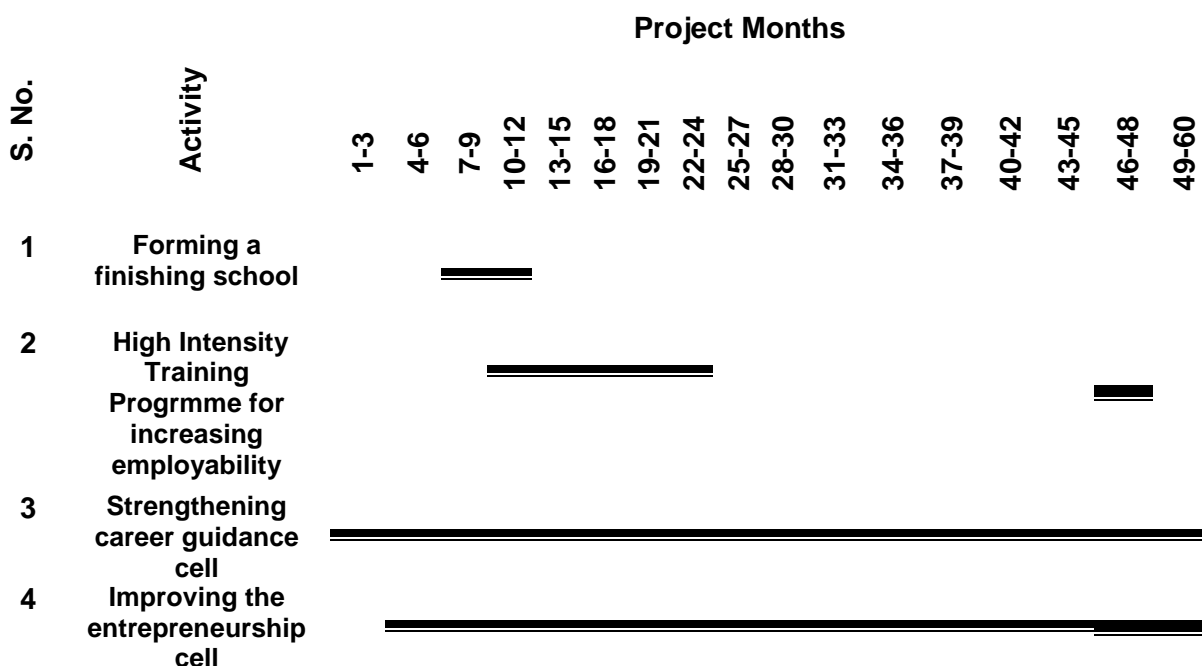
successfully. Four week intensive training programme is to be organized for increasing the employability of students.

❖ **Strengthening career guidance cell**

The career guidance cell at the college shall be strengthened to give the students wider exposure about different opportunities available for them. This would help the student to set early goals for their career and help to improve their employability. Activities like group discussion, group assignment, mock interview etc. will enable students to meet the employment challenges.

❖ **Improving the entrepreneurship cell**

For the students who would like to set up their own venture, the cell would be able to give necessary assistance. The cell could network with other TBIs and also help the students to establish linkages with other centre’s working within and out of the state. There are four start up companies in the campus at present and more number of startups are to be started and necessary environment is to be provide for their survival in the initial stages.



**2.3 b) Action plan for Increased learning outcomes of the students**

The learning outcome of the student is specified by the scheme and syllabus of a particular course. Often the end of the course assessment shows a dismal picture of incomplete learning undergone by major share of the students. Thus efforts to improve the learning outcome need to be

evolved for the large cross section of student community. The primary intervention required for improving the learning outcome is through effective design of assignments and other course works. Often the course works and assignments are delivered in a conventional mode across most of the branches of the study. The specific interventions proposed to improve the learning outcomes of the students are:

❖ **Modernizing curriculum**

Launch of Kerala Technological university is presently providing the platform for up-gradation of curriculum which can be modified considering the demand of technological advancements, industry requirements and social commitments. In the long run the institution should determine its own curricula, course content, curricula implementation and methods of training. Flexibility in the choice of elective courses will help the students in getting oriented towards a particular field of interest. The institution will be able to effectively revamp the curricula once it becomes a constituent college of the proposed Technological University.

ICT based learning and e learning techniques are to be continued. New techniques like peer learning, group learning, and peer assessment can increase the learning outcomes. More thrust need to be given to Activity Oriented Learning(AOL)

❖ **Infrastructure improvement**

While restructuring of curricula, modernization of existing laboratories and establishment of new labs is essential. Labs has been modernized and upgraded using the funds provided through

**TEQIP-II. List of modernized labs is given in table below.**

No.	Labs	Infrastructure Development through Purchase under TEQIP-II
1.	Communication lab	Digital Storage Oscilloscope, Function Generator, DC Power Supply, Signal Generator
2.	Electronic Systems Lab	Logic Analyzer, FPGA Kit, ARM Kit, Spectrum Analyzer, Signal Generator, DC Power Supply, Keil, Function Generator, Digital Storage Oscilloscope
3	Hardware Lab	Microprocessor Kit, PC Assembling
4	Transportation lab	Gyratory Compactor, Roughometer, Deflectometer, Marshall Stability Equipment, Viscometer, Traffic Simulation Software, Road Design Software, Digital Camera, Transyt Software,

5	Material Testing lab	Microbalance, Weather Station, Load Frame
6	Heat Engine lab	Computerized Multi cylinder MPFI - Petrol Engine Test Rig
7	Heat Transfer lab	Heat Transfer System
8	Machine Shop	Machine Tools
9	Advanced Computing lab	Laptop, Application Software, Computer Table & Chair, Video Conferencing Facility, Servers and Desktops, Apple Work Station, UPS
10	CAD Lab	CNC Lathe, CAD/CAM, CATIA Software, Ansys Academic Research Version, MVTA Multimedia Video Task Analysis software, Work Station Computer

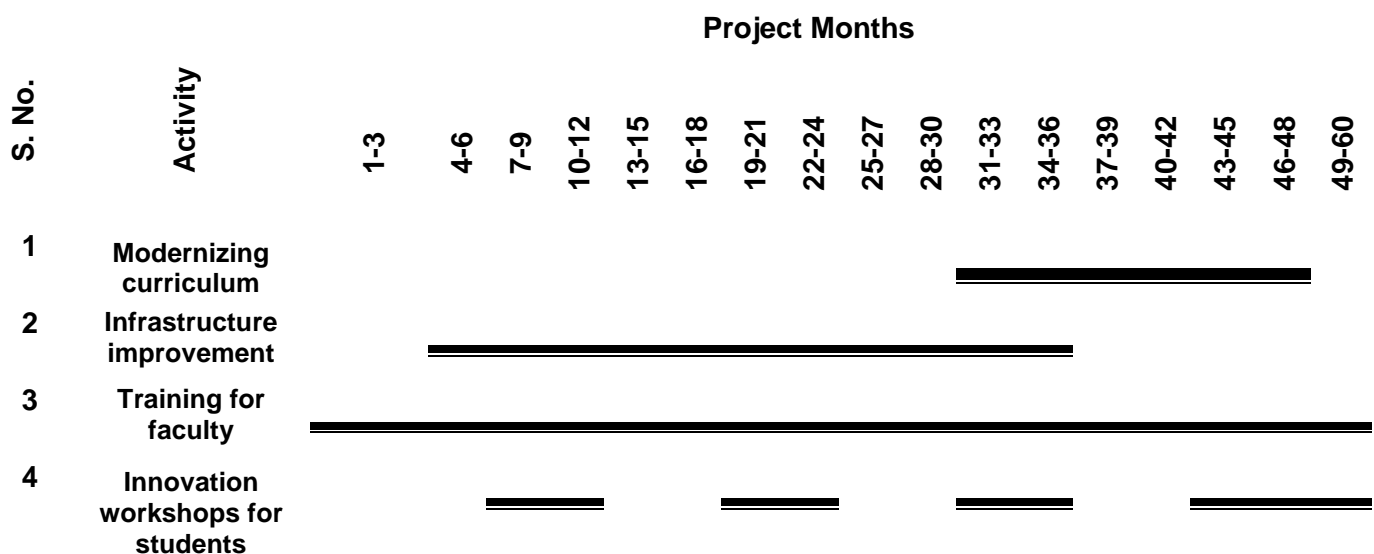
#### ❖ Training for faculty

The teacher training sessions with the significant emphasis on the assessment design and course planning is necessary. These would be able to identify the learning outcomes for every course delivered for each semester/year. All the activities for that particular course could be designed to achieve the proposed learning outcome.

Faculty should also be trained for pedagogy and their area of interest/ specialization. Faculty should be made aware of new learning techniques like self learning, participatory learning and group learning.

#### ❖ Innovation workshops for students

As the students are subjective to conventional classroom learning environment, the teacher plays a critical role in their learning process. Using the innovation workshops, the students would be able to develop skills for critical thinking and evolving innovative self learning exercises to make the engineering education more purposeful.



**2.3 c) Action plan for Obtaining autonomous institution status**

Rajiv Gandhi Institute of Technology is a Government Engineering College, fully owned by the Government of Kerala. Currently the institute is affiliated to Mahatma Gandhi University, Kottayam. In this academic year the institution will be affiliated to Kerala Technological University. The university is planning to grant academic autonomy to affiliated colleges in incremental steps. For M.Tech programmes KTU has already granted freedom for designing the syllabus and conduct of examinations through a cluster mechanism.

Some of the functions that can be carried out as an autonomous institution are

- Determine own curricula
- Develop credit based curricula
- Introduce flexibility with choice of electives
- Develop new methods of evaluation etc.





training programmes, collaboration with industry and by proper documentation of academic and non academic activities.

		Action Plan																
		Project Months																
S. No.	Activity	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	31-33	34-36	37-39	40-42	43-45	46-48	49-60
1	Attaining the accreditation														=====			
2	Improvising teaching-learning process	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
3	Augmenting the Research activities	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
4	Enhancing the consultancy competence	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====				

**2.3 e) Action plan for Implementation of academic and nonacademic reforms**

Vide G.O(Ms) No. 207/10/H Edn. dated Thiruvananthapuram, 31-7-2010, Government of Kerala have constituted BoG for Rajiv Gandhi institute of Technology, Kottayam with the members as appended below for performing the following functions

**Functions of BoG:**

- Take all policy decisions with regard to smooth, cost effective and timely implementation of the institutional sub project,
- Form, supervise and guide various committees required for project implementation and internal project monitoring,
- Ensure overall faculty development,
- Enable implementation of all academic and nonacademic institutional reforms,
- Ensure proper utilization of project fund and timely submission of Financial Management Reports (FMR) and Utilization Certificates,
- Ensure compliance with the agreed procedures for procurement of goods, works and services and financial management ,

- Ensure compliance with other fiduciary requirements under the project such as Equity Assurance Plan (EAP), Environment Management Framework (EMF) and Disclosure Management Framework (DMF) , and Monitor progress in the carrying out of all the proposed project activities, resolve bottlenecks, and enable the institution to achieve targets for all key indicators.

**Members of Board of Governors: Rajiv Gandhi Institute of Technology, Kottayam**

<b>Representatives</b>	<b>Names</b>
Government Nominees	<ol style="list-style-type: none"> <li>1. Dr. S. Mohan Professor, IIT Madras (Chairman)</li> <li>2. Dr. R. V. G. Menon Principal (Rtd.), College of Engineering, Kannur</li> <li>3. Sri. N. R. V. Kartha Director, BRAHMOS</li> </ol>
Institutional Nominees	<p>Dr. Bino I. Koshy Professor and Head Dept. of Civil Engineering</p> <ol style="list-style-type: none"> <li>1. Prof. P. R. Geetharanjin Professor Dept. of Electronics and Communication</li> </ol>
State Government Officials	<ol style="list-style-type: none"> <li>1. Mr. James Joseph / Joint Secretary to Govt. (Finance Dept.) ( Ex-Officio)</li> <li>2. Mr. M. Sherif, Additional Secretary Govt. (H. Edn. Dept.), Govt. of Kerala</li> </ol>
University Nominee	Dr. Sabu Thomas, School of Chemical Sciences
Director of Technical Education	Dr.K.Vijayakumar (Ex-Officio)
State Project Facilitation Unit (SPFU)	Dr. Gopa Kumar V. , Director
Principal of College	Dr.K.P. Indiradevi (Ex-Officio)

## Academic reforms

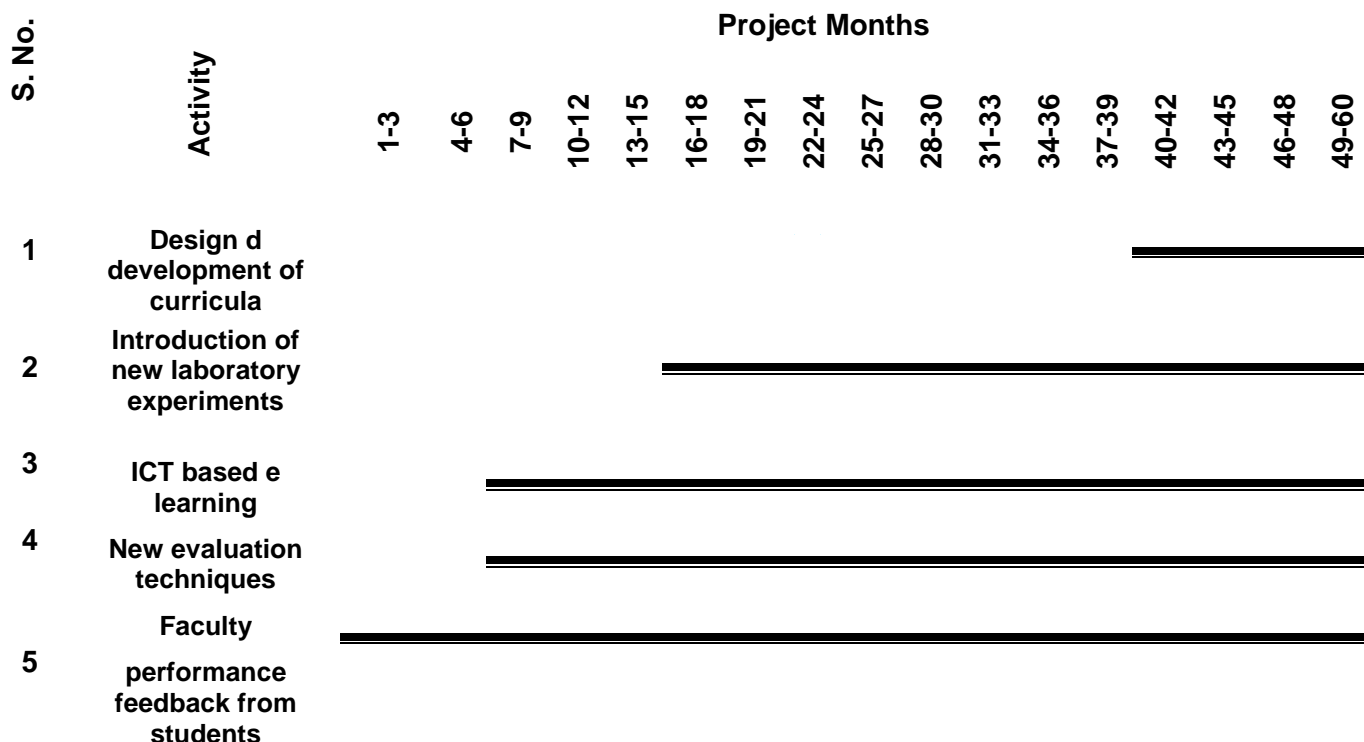
Academic reforms include

- Design and development of curricula
- Introduction of new laboratory experiments
- ICT based e learning techniques
- New evaluation techniques
- Faculty performance feedback from students

## Establishment of Four Funds

Following four funds has been established for the sustainability of the project and government has accorded sanction for retaining the tuition fee. Amount will be deposited in this funds based on recurring expenditure as specified in the project implementation plan.

- Corpus Fund
- Faculty development Fund
- Equipment Replacement Fund
- Maintenance Fund



### 2.3 f) Action plan for Improving Interaction with Industry

Interaction with the industry will continue to be coordinated with the formed Industry Institute Interaction Cell (IIIC) formed after beginning of TEQIP-II

The following activities are being done under the cell.

- Signing MoU with industry and Joint activities with industry
- Industrial visits shall be conducted during third and fourth year (Minimum four industries)
- Mini projects, if possible, shall be carried out in collaboration with local industries
- Invited talks from Industrial persons shall be conducted for UG program (one talk / semester)
- UG Project work, if possible, shall be carried out in collaboration with local industries to develop products / utilities for the society.
- Special training programs in relevant areas shall be conducted for the benefit of local industry and to generate revenue for the institution.

S. No.	Activity	Project Months																
		1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	31-33	34-36	37-39	40-42	43-45	46-48	49-60
1	Joint activities with industry			=====														
2	Industrial Training		=====		=====		=====		=====		=====		=====		=====		=====	
3	Industrial visits		=====															
4	Mini projects	=====																
5	Invited talks from Industrial persons		=====															
6	Special training programs		=====			=====				=====				=====				=====

## 2.3 g) Action plan for Enhancement of Research and consultancy activities

- Facilitate submission of projects to funding agencies
- Permitting students to carry out PG thesis in the research area of faculty
- Financial support / assistantship shall be given for selected research projects of students / faculty
- Financial support / assistantship shall be given for attending, presenting and publishing technical papers of students and faculty in national / international level conference / seminar
- Financial support / assistantship shall be given for attending workshops of relevant and thrust areas of research
- Financial support / assistantship shall be given for attending short term / long term training programs in India and abroad
- Financial support / assistantship shall be given for patenting innovative product / idea / concept
- Consultancy / Testing / Certification works shall be taken, in possible areas of expertise with the available infrastructure facilities to generate revenue for the institution
- MoA shall be made with other reputed institutions/ industries for research projects and consultancy services

S. No.	Activity	Project Months																
		1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	31-33	34-36	37-39	40-42	43-45	46-48	49-60
1	Facilitate submission of projects to funding agencies				=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
2	Seed Money to Projects	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
3	Financial support for selected research projects				=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
4	Financial support for attending research conferences	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====

5	Financial support for patenting innovative product/ idea/ concept	
6	Testing/ consultancy works	
7	MoA with institutions/ industries	

#### 2.4 Action plan for organizing a finishing School and improving the academic performance of weak students

A finishing school is established in the institution for enhancing the employability of students. The finishing school will support the Career Guidance and placement Cell (CGPC) functioning in the institution with the objective of coordinating placement and training activities of students.

Finishing school is mainly meant to develop soft/technical skill and thus to improve the employability of students. But along with this endeavor, SC/ ST/ OBC/ academically weak students are also to be specially taken care of. In this regard, remedial classes for these students are proposed. Effort is to be taken for identifying the weak students. The newly designed evaluation mechanism will effectively identify the needy students and their area in which special coaching is required. Remedial and skill development classes are being conducted. One faculty in each department will be entrusted with the coordination of special coaching. With effective intervention by the faculty, transition rate and pass rate will be improved, thereby improving their employability. Expertise from and outside the institution will be used in the effective functioning of the school.

The key activities of the finishing school are

- Conduct remedial classes for students who are admitted late to the course.
- Conduct remedial teaching throughout academic sessions for improving pass rate.
- Conduct soft skills and professional skill development training for the students.
- Conduct high intensity training for development of graduated students.



<b>Action Plan</b>	
To improve the Physical Infrastructure	<ol style="list-style-type: none"> <li>1. Subscribe National and International Journals</li> <li>2. Purchase more Text and Reference books in the Library.</li> <li>3. Improve student amenities like hostel, College Bus service, Canteen etc.</li> </ol>
To improve the Intellectual Infrastructure	<ol style="list-style-type: none"> <li>1. Encourage the faculty to do more research.</li> <li>2. Improve the quality of faculty members.</li> <li>3. Provide teaching and research assistance-ship to attract more good quality students to join the course</li> </ol>

### **Starting new PG Programs**

The institution has started four more P.G programme since the beginning of TEQIP-II. The Institute has already received permission from the AICTE to start two more M Tech programs Electrical and Mechanical branches .

Action Plan	
48 – 60 months	Start M. Tech in Engineering Design (ME) and Power Systems and Renewable energy (EEE) for which AICTE sanction is already obtained

The Institute has made a judicious choice of nurturing both UG and PG programmes. While our efforts to produce good quality undergraduates should continue unabated, the emphasis should be on projecting RIT Kottayam as a R&D institute as well.



S. No.	Activity	Project Months																	
		1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	31-33	34-36	37-39	40-42	43-45	46-48	49-60	
1	Provide high quality internet connection and Campus Network	█																	
2	Subscribe National and International Journals		█																
3	Purchase more Text and Reference books in the Library.		█																
4	Improve student amenities like hostel, College Bus service, Canteen etc.	█																	
5	To become a QIP Centre for its PG courses			█															
6	Start research centre in the Institution		█																
7	Encourage the faculty to do more research.	█																	
8	Improve the quality of faculty members.	█																	
					█														
9	Provide teaching and research assistance-ship to attract more good quality students to join the course		█																



## 2.6 Faculty and Staff Development

Faculty and staff has attended subject domain training, Communication and pedagogical training and Management capacity enhancement training under TEQIP-II. The skills of the faculty and staff need to be improved for enhancing the research culture, increasing consultancy activities and for attaining competency in subjects of the new P.G programmes. Training needs analysis (TNA) was done in the institution with the objective of finding out the need for training among the faculty, technical and the administrative staff.

Some of the major activities proposed to be carried out for faculty development are

- ◆ Upgradation of qualifications
- ◆ Improving competence in teaching-training
- ◆ Improving competence in research and consultancy
- ◆ Deputation to seminars, conferences and presentation of research papers
- ◆ Interaction with peer groups within India and abroad

### Methodology adopted for TNA

To identify the need for training, meetings were organized separately for the faculty and non teaching staff of the college. The entire staff members were classified into three groups, namely Support Staff (Admin/Establishment/Office, Class IV and others), Technical Staff and Faculty. Separate discussions were also held for consolidating the opinion of the Heads of the Departments and the Principal.

The areas of training required for different categories of staff are identified in a brainstorming session. Specific areas of training were identified for various categories of staff. Priority of training in different areas was obtained on the basis of the weighted score. The details are given in the TNA report submitted.

An educational institution, in the context of the changed teaching-learning environment and the demands on the institution need to have a mechanism for handling all issues related to staff development. Such a mechanism will be essential to plan, design, coordinate and monitor training programmes for the present and future.

### Training needs of Faculty

The areas of short term training identified for faculty during project period are listed below.

*Table 1 Areas of training/ development based on priority of Faculty*

No.	Area of Training / Development	No. of people trained/to be trained					
		2011-12	2012-13	2013-14	2014-15	2015-16	2016 (Till Project Completion)
1.	Subject updating in the field specialization	2	6	48	42	20	10
2.	E-learning tools	0	0	2	2	5	2
3.	Preparation of multimedia learning packages	0	0	0	2	5	2
4.	International collaboration programs/Conferences	0	2	5	2	2	1
5.	Curriculum Reforms	0	4	0	2	5	2
6.	Industrial training	0	0	4	5	5	2
7.	Instructional design and delivery	0	1	2	8	15	3
8.	Designing and carrying out research project and publishing papers	0	0	12	11	5	2
9.	Guiding student's projects	0	0	0	0	5	2
10.	Total	2	13	73	74	77	26

## 2.7 Training of Technical and Administrative Staff

**Technical Staff:** The Technical Staff in laboratories and workshops needs to be trained in their functional areas including operation and routine maintenance of both the existing and new equipment.

**Administrative Staff:** The Administrative Staff also needs training in respective functional areas, particularly in the use of modern office equipment, software, office automation, maintenance of records, procedures, etc. The training is envisaged to cover motivation for time and material efficiency, and friendliness towards faculty and students. Training on Office Administration and Automation is observed as the area having highest priority and is proposed to be conducted every year. More number of in house programmes are envisaged of the administrative staff.

*Table 2- Areas of training/ development based on priority of Administrative Staff*

No.	Area of Training / Development	No. of people trained/to be trained					
		2011-12	2012-13	2013-14	2014-15	2015-16	2016 (Till Project Completion)
1.	Office Administration and automation with maximum utilization of free software.	0	0	14	0	5	2
2.	Service rules (KSR, purchase procedure,)	0	0	10	0	10	5
3.	Written and verbal communication	0	0	0	0	3	2
4.	Any other suitable training	0	0	0	1	3	2
5.	Total	0	0	24	1	21	11

### Training needs of Technical Staff

The detailed analysis of the responses of technical staff members points to the need for training on maintenance & trouble shooting of computer system and Computer Networking and Administration. Table shows the requirement of the technical staff in the order of the priority assigned, the tentative schedule and the proposed duration of each programme. Knowledge

upgradation in respective fields is to be done by all technical staff. In addition to general areas, the technical staff requires training in their areas of specialization also.

*Table 3 - Areas of training/ development based on priority of Technical Staff*

No.	Area of Training / Development	Project Months/No. of people to be trained					
		2011-12	2012-13	2013-14	2014-15	2015-16	2016 (Till Project Completion)
1.	Maintenance and troubleshooting of computer system and accessories	0	0	0	0	5	2
2.	Computer networking and administration	0	2	9	12	5	2
3.	Software training on relevant fields	0	2	0	3	8	3
4.	Knowledge up gradation in relevant fields	0	3	6	8	15	5
5.	Soft skills	0	0	0	0	5	2
6.	Industrial Training	0	0	13	0	5	2
7.	Total	0	7	28	23	38	16

## **2.8 The relevance and coherence of institutional development proposal with states industrial / economic development plan**

The Key Policy objectives of the State is to enhance UG programmes in all Government Engineering Colleges and start new PG programmes with full financial support from the Government. The government is also coming up with a policy of granting academic autonomy to educational institutions and it has set up Kerala Technological University with the objective of altering the Technical Education scenario in the state.

The institutional proposal also gives emphasis on strengthening UG programmes enhancing seats for PG courses, starting new PG programmes and encouraging research. This is in line with the State policy.

To encourage and boost the research culture of faculty members of the Engineering Colleges, a Centre for Engineering Research and Development was established by the Government. Its satellite unit is functioning in the college. The State government is also promoting the use of Information and Communication Technology (ICT) in teaching-learning process, the Department of Technical Education has set up KBase – a knowledge / learning management system for its various Engineering Colleges and Polytechnic Colleges using Dspace and Moodle software. In the present proposal also, high emphasis is given for the use of ICT and e-learning resources. Thus the proposal has coherence with State policies.

The State Government provides necessary support for schemes like visiting faculty scheme, Industry- institute interaction, training the faculty and staff, etc. The State also encourages faculty to pursue higher studies through QIP scheme. Government of Kerala has decided to establish the Kerala Technological University with nine Government Engineering Colleges as constituent colleges including Rajiv Gandhi Institute of Technology. This will help the institution in achieving full academic autonomy.

The Board of Governors for the institution has already been constituted with Dr. S. Mohan, Director, NITTTR, Chennai as its chairperson.

## **2.9 Participation of the departments/ faculty in the IDP preparation**

An institute level core committee comprising of two faculty members from each departments were constituted. The College council consisting of all the heads of the departments broadly framed the guidelines of the proposed IDP. Based on the draft IDP norms formulated at the

council level, the core committee detailed the IDP considering the thrust areas and institution's vision and mission. Respective department level committees where in all the staff members were detailed to propose the development strategies. The department level proposals were consolidated and integrated with the overall institute level proposal by the core committee.

## **2.10 Institutional project implementation arrangement with participation of faculty and staff**

The project is presently being managed by (i) the Board of Governors (BoG) and (ii) an Institutional TEQIP Unit. The BoG is already constituted by the Government and details are given in this proposal. The TEQIP unit is having representatives from all sections of staff. The unit have different committees for procurement, financial management, faculty & staff development, Industry Institute Interaction and Research. The nodal officers for different project activities are already identified and are given in section 1.1 of this proposal.

A typical department level committee has to meet at least once a fortnight for project planning and review of progress of implementation and once a month for the review of fiscal achievements. The College level committee is meeting once every month and one week after the department level committee to review the progress. The BoG meetings are being held at regular intervals and all the policy decisions are taken during the meetings. The minutes of BoG meetings are being published in the institutional website.

**2.11 Institutional Project budget**

**Table 4**

**Institutional Project Budget for Sub – Component 1.1 (Revised)**

(Rs in Lakhs)

Sl. No.	Activities	Amount as per IDP( in Lakhs)	Revised Allocation ( in Lakhs)	Amount spent/ Committed as on 31/03/14	Amount to be utilised in the remaining months
1	Infrastructure improvement for teaching, Training & Learning	550	547.13	547.13	0
2	Providing Teaching and Research Assistantships	100	40.00	22.68	17.32
3	Enhancement of R&D and institutional consultancy Activities	20	20.00	3.33	16.67
4	Faculty and Staff Development	100	170.00	86.98	83.02
5	Enhanced Interaction with Industry	40	40.00	12.86	27.14
6	Institutional Management Capacity Enhancement	30	30.00	5.44	24.56
7	Implementation of Institutional Reforms	20	30.00	19.9	10.1
8	Academic Support for Weak Students	40	40.00	11.23	28.77
9	Incremental Operating Cost	100	82.87	34.51	48.36
	<b>Total</b>	<b>1000</b>	<b>1000</b>	<b>744.06</b>	<b>255.94</b>



**Budget - Providing Teaching and Research Assistantships**

<b>Sl No</b>	<b>Sub item</b>	<b>Details</b>	<b>Estimated Amount(Lakhs)</b>
1	Teaching and Research Assistance ships to P.G students in new P.G Programmes	Rs.6000/- per student per month for five P.G programmes	17.32
<b>TOTAL</b>			<b>17.32</b>

**Budget - Enhancement of R&D and institutional consultancy Activities**

<b>Sl. No.</b>	<b>Activities</b>	<b>Details</b>	<b>Total Amount allocated (in Lakhs)</b>
1	Seed money for Research projects taken by Faculty,UG/PG students	10 X 1.5 Lakhs	15.00
2	Expenditure incurred on research publications in engineering in journals	At actual for faculty members	1.00
3	Honorarium to Committee members and SRA for evaluation	At actuals	0.67
	<b>TOTAL</b>		<b>16.67</b>

**Budget FSD**

<b>Sl. No.</b>	<b>Activities</b>	<b>Details</b>	<b>Total Amount allocated (in Lakhs)</b>
1	Faculty development plan, for training in subject domain-outstation	60 Nos @ 30000/- (IIT, IISc, ESCI and premier Technical institutions)	<b>18.00</b>
2	In house training programmes/workshops/conferences planned (5 Days)	12 Nos X 1.5 L	<b>18.00</b>
3	In house training programmes/workshops/conferences planned (3 Days)	18 Nos X 1.0 L	<b>18.00</b>
4	Pedagogical Training for Faculty	15 Nos X 0.2 L	<b>3.00</b>
5	Faculty presenting papers at International conference abroad	9 Nos X 3.0	<b>27.00</b>
	<b>TOTAL</b>		<b>83.00</b>

**Budget - Enhanced Interaction with Industry**

		<b>(Amount in Lakhs)</b>					
<b>Sl. No.</b>	<b>Activities</b>	<b>CE</b>	<b>EEE</b>	<b>EC</b>	<b>ME</b>	<b>CSE</b>	<b>TOTAL</b>
1	Expert Lectures planned	4.78	5.84	4.72	3.42	3.38	22.14
2	TA for students for Industrial Training	1.00	1.00	1.00	1.00	1.00	5.00
	<b>TOTAL</b>	5.78	6.84	5.72	4.42	4.38	27.14

**Budget – Management Capacity Enhancement**

<b>Sl. No.</b>	<b>Activities</b>	<b>Details</b>	<b>Total Amount allocated ( in Lakhs)</b>
1	Management training for senior faculty in department at IIM's or other premier management institutions	2 Nos Per Dept X 5 X 1.0 Lakhs	10.00
2	Management Training for HoD's in premier International Institutions	5 Nos X 2.0 Lakh	10.00
3	Management Training for Principal at IIM's or other premier management institutions	2 Nos X 1 Lakh	2.0
4	Management Training for for Principal in premier International Institutions	1 Nos X 2.56 Lakhs	2.56
	<b>TOTAL</b>		<b>24.56</b>

## 2.12 Targets

### Project Targets for institutions under Sub – Component 1.1

Sl. No	Deliverables	Baseline	Achieved as on 31 <sup>st</sup> March 2015	
			Achieved as on 31 <sup>st</sup> March 2015	Targets to be achieved By project closing
1	Number of student registered for <ul style="list-style-type: none"> <li>Masters in Engineering Programme</li> <li>Doctoral programme in engineering</li> </ul>	36	108	144
2	Revenue from externally funded R & D Projects and consultancies in total revenue (Rs. in lakhs)	28.90	55.00	100.00
3	Number of publications in refereed journals <ul style="list-style-type: none"> <li>International</li> <li>National</li> </ul>	4 3	24 2	40 10
4	Number of co-authored publications in refereed journals <ul style="list-style-type: none"> <li>(a) National</li> <li>(b) International</li> </ul>	4 3	24 2	40 10
5	Student credentials <ul style="list-style-type: none"> <li>(a) Campus placement rate of <ul style="list-style-type: none"> <li>1. UG Students</li> <li>2. PG Students</li> </ul> </li> <li>(b) average salary of placement package for (Rs in lakh) <ul style="list-style-type: none"> <li>3. UG Students</li> <li>4. PG Students</li> </ul> </li> </ul>	45.2% 33% 3 3.2	42% 15% 3.2 3.5	60% 30% 3.5 4.5
6	Number of collaborative programmes with industry	4	7	12
7	Accreditation status (obtained and applied for)	100%	minimum 60% of eligible programmes	100% of eligible programmes
9	Vacancy position for faculty and staff	40 %	25 %	10%
10	Percentage for regular faculty having a masters degree or a Doctorate degree in Engineering disciplines	95.45% 12.12%	98 % 30%	Increased to 100% and 40%
11	Transit rate from 1 <sup>st</sup> to 2 <sup>nd</sup> year for the following <ul style="list-style-type: none"> <li>All students</li> </ul>	72%	74%	85%

12	Autonomy status	Nil	Partial	Complete Autonomy
13	Enrolment of faculty with only bachelor degree for qualification upgradation	-	98%	100%
14	Any other academic deliverables (Maximum 3)			
(i)	Research Centre	Nil	2	4
(ii)	Centre of Excellence	Nil	1	2
(iii)	IPR	Nil	2	4

Note: The accreditation targets for under graduate and post graduate programme are for NBA accreditation of programmes

### 2.13 sustaining project activities

To ensure sustainability of TEQIP project beyond the project period, creation and establishment of four funds have started

- Corpus fund
- Faculty development Fund
- Equipment replacement Fund
- Maintenance Fund

The institution is building these funds with annual contribution into each fund, an amount of 0.5% of annual total recurring expenditure. The funds will not be used during the project period.

The IRG generated by consultancy activities, continuing education, sponsored training for industry, offering testing facilities, donation from alumni will also be used for building these funds.

## 2.14 Special Achievements

The institution has achieved remarkable progress in all spheres of activities since the beginning of the project. A summary of the same is shown in Table given below.

Item	Status at the beginning of the project	Present Status	Remarks
Number of U.G Courses	5	6	B.Arch Course Started in 2011
Number of P.G Courses	2	6	Four New P.G courses started two in Electronics and Communication Engineering, one each in Civil Engineering and Computer Science and Engineering
Number of Research Centers	Nil	3	Research Centres started under Civil Engineering Department and Electrical Department. Satellite centre of Centre for Engineering Research and Development also started
Number of Faculty members with Ph.D	9	22	Increased from 12% to 30% as on date
MoU with Industry	Nil	7	Active collaboration with industries and academic institutions
Number of books published by faculty	1	2	<ol style="list-style-type: none"> <li>1. Prof.Anil Kumar KN – Engineering Graphics-Unique Methods easy solutions- Edition 8</li> <li>2. Dr. Leena Mary - Extraction and Representation of Prosody for Speaker, Speech and Language Recognition</li> </ol>
Number of patents	Nil	2	<ol style="list-style-type: none"> <li>1. Dr. A Praveen- A System To Reduce Organic Load Of The Wastewater Treatment Plants</li> <li>2. Antony JK- Anthropomorphic Robotic hand for paralyzed</li> </ol>

			(Student Project)
Number of faculty members presented papers abroad	Nil	9	Presented papers abroad with the support of TEQIP
Centre of Excellence	Nil	1	Under Electronics and Communication Department
Technology Incubation centre startups	Nil	4	Four startup up companies started functioning under the Technology Incubation centre functioning in the campus

### 2.15 Procurement Completed and in progress

Details of Procurement SI No.	Department	Package Code	Package Name	Payment Completed
1	CE	TEQIP- II/KL/KL1G04/3	Gyratory Compactor	2991267
2	CE	TEQIP-II/KL/KL1G04/84	Roughometer	1896871
3	CE	TEQIP-II/KL/KL1G04/26	Deflectometer	675000
4	CE	TEQIP-II/KL/KL1G04/31	Marshall Stability Equipment	216558
5	CE	TEQIP-II/KL/KL1G04/144	Viscometer	692725
6	CE	TEQIP-II/KL/KL1G04/134	Traffic Simulation Software	489609
7	CE	TEQIP-II/KL/KL1G04/78	Road Design Software	76289
8	CE	TEQIP-II/KL/KL1G04/43	Digital Camera	19000
9	CE	TEQIP-II/KL/KL1G04/113	Microbalance	989280
10	CE	TEQIP-II/KL/KL1G04/45	Weather Station	68250
11	CE	TEQIP-II/KL/KL1G04/42	Total Stations	955500
12	CE	TEQIP-II/KL/KL1G04/44	Photo Micrography Attachment	307426
13	CE	TEQIP-II/KL/KL1G04/148	High end server Workstation	434700
14	CE	TEQIP-II/KL/KL1G04/116	Transyt Software	270596
15	CE	TEQIP-II/KL/KL1G04/103	Work Station & Printer	596246
16	CE	TEQIP-II/KL/KL1G04/41	Load Frame(Not Paid (Erection in progress))	998573



SI No.	Department	Package Code	Package Name	Payment Completed
17	CE	TEQIP-II/KL/KL1G04/30	Furniture Table & Chair	272391
18	CE	TEQIP-II/KL/KL1G04/25	Furniture Seminar Hall	729000
19	ME	TEQIP-II/KL/KL1G04/142	CNC Lathe(NCB)	1887000
20	ME	TEQIP-II/KL/KL1G04/145	Computerized Multi cylinder MPFI - Petrol Engine Test Rig	994500
21	ME	TEQIP-II/KL/KL1G04/57	CAD/CAM	971018
22	ME	TEQIP-II/KL/KL1G04/11	CATIA Software	530520
23	ME	TEQIP-II/KL/KL1G04/136	Ansys Academic Research Version	844000
24	ME	TEQIP-II/KL/KL1G04/55	Machine Tools	510930
25	ME	TEQIP-II/KL/KL1G04/117	Heat Transfer System	993300
26	ME	TEQIP-II/KL/KL1G04/146	MVTA Multimedia Video Task Analysis software	383250
27	ME	TEQIP-II/KL/KL1G04/143	Work Station Computer	598500
28	EE	TEQIP-II/KL/KL1G04/61	DSP Controlled electrical Machines	960000
29	EE	TEQIP-II/KL/KL1G04/115	dSpace Software	742720
30	EE	TEQIP-II/KL/KL1G04/58	Power Electronic Drives	131875
31	EE	TEQIP-II/KL/KL1G04/37	SAS Drives	288750
32	EE	TEQIP-II/KL/KL1G04/49	Virtual Instrumentation	1816772

Details of Procurement SI No.	Department	Package Code	Package Name	Payment Completed
33	EE	TEQIP-II/KL/KL1G04/35	Wireless Connectivity	957907
34	EE	TEQIP-II/KL/KL1G04/47	BLDC Drive	938950
35	EE	TEQIP-II/KL/KL1G04/49	Motor Generator Unit	995380
36	EE	TEQIP-II/KL/KL1G04/90	Power Electronic Equipment(NCB)	1233603
37	ECE	TEQIP-II/KL/KL1G04/16	ARM emulator	18990
38	ECE	TEQIP-II/KL/KL1G04/10	Digital Storage Oscilloscope	963900
39	ECE	TEQIP-II/KL/KL1G04/17	DSP Starter Kit	269025
40	ECE	TEQIP-II/KL/KL1G04/19	Digital IC Trainer Kit	36383
41	ECE	TEQIP-II/KL/KL1G04/12	Function Generator	541800
42	ECE	TEQIP-II/KL/KL1G04/6	HFSS	633000
43	ECE	TEQIP-II/KL/KL1G04/13	Keil	310170
44	ECE	TEQIP-II/KL/KL1G04/22	DC Power Supply	52721
45	ECE	TEQIP-II/KL/KL1G04/21	Signal Generator	56228
46	ECE	TEQIP-II/KL/KL1G04/107	Simulation Package	750000
47	ECE	TEQIP-II/KL/KL1G04/9	Spectrum Analyzer	830550
48	ECE	TEQIP-II/KL/KL1G04/14	ARM Kit	28319

Details of Procurement SI No.	Department	Package Code	Package Name	Payment Completed
49	ECE	TEQIP-II/KL/KL1G04/15	FPGA Kit	41291
50	ECE	TEQIP-II/KL/KL1G04/24	Logic Analyzer	808500
51	CSE	TEQIP-II/KL/KL1G04/33	Laptop	1208655
52	CSE	TEQIP-II/KL/KL1G04/5	Digital Lab Software	100000
53	CSE	TEQIP-II/KL/KL1G04/80	Antivirus Software	290225
54	CSE	TEQIP-II/KL/KL1G04/20	Application Software	229172
55	CSE	TEQIP-II/KL/KL1G04/28	Computer Table & Chair	698706
56	CSE	TEQIP-II/KL/KL1G04/36	MFD	400699
57	CSE	TEQIP-II/KL/KL1G04/69	Microprocessor Kit	119952
58	CSE	TEQIP-II/KL/KL1G04/127	Video Conferencing Facility	978803
59	CSE	TEQIP-II/KL/KL1G04/39	Server fot Net	2720325
60	CSE	TEQIP-II/KL/KL1G04/125	Servers and Desktop	4489275
61	CSE	TEQIP-II/KL/KL1G04/62	Network Accessories	254460
62	CSE	TEQIP-II/KL/KL1G04/52	LCD Projector	254808
63	CSE	TEQIP-II/KL/KL1G04/67	PC Assembling	136080
64	CSE	TEQIP-II/KL/KL1G04/133	Apple Work Station	317999
65	CSE	TEQIP-II/KL/KL1G04/4	UPS	1363950
66	Institution	TEQIP-II/KL/KL1G04/139	Wifi Connectivity	108150

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67	Institution	TEQIP-II/KL/KL1G04/152	Smart Class Room Item (Interactive Board -3Nos.)	92516
68	Institution	TEQIP-II/KL/KL1G04/79	Library Books	652876
69	Institution	TEQIP-II/KL/KL1G04/132	Library Books	933290
70	Institution	TEQIP-II/KL/KL1G04/114	Book Rack(Library)	106485
71	Institution	TEQIP-II/KL/KL1G04/60	Pump Set	714021
72	Institution	TEQIP-II/KL/KL1G04/54	Tally	14400
73	Institution	TEQIP-II/KL/KL1G04/7	Air Conditioner	827830
74	Institution	TEQIP-II/KL/KL1G04/51	Diesel Generator Set (NCB)Supplied (90% payment made)installation by PWD	179000
75	Institution	TEQIP-II/KL/KL1G04/34	Hostal Net	619185
76	Civil Work	TEQIP-II/KL/KL1G04/102	Modification to CCFNot Paid (Electrification work by PWD)	527057
77	Civil Work	TEQIP-II/KL/KL1G04/129	Renovation Work	963113
			<b>Total</b>	<b>54711165</b>
	<b>(Rupees Five Crore forty seven lakhs eleven thousand one hundred and sixty five only)</b>			

## Annexure-I

### INHOUSE PROGRAMMES ORGANISED

#### CIVIL ENGINEERING

1	Dr. Praveen A. (CE)	Instructional Design & Delivery System	3 days, July 2012
2	Dr. Vinish V Nair & Shibu A. (CE)	Geographic Information System	5 days, Jan 2013 (1/1/2013 to 5/1/2013)
3	Prof. (Dr.) A.K. Padmini & Dr. Bindhu B.K (CE)	Recent Advances in Civil Engg.	5 days, Jan 2013 (21/1/2013 to 25/1/2013)
4	Prof.(Dr.) A.K. Padmini & Smt. Jiji Anna Varghese, (CE)	Earthquake resistant design & Structural Rehabilitation	5 days, July 2013(01/07/2013 to 05/07/2013)
5	Dr.Bino I Koshy & Dr. Bindhu BK (CE)	Data Analysis & Modeling Techniques for Engineering Research	17/06/2014 to 20/06/2014

#### MECHANICAL ENGINEERING

1	Dr. K.P. Indiradevi(Principal) & Dr. R. Sasikumar (ME)	Migration to Free Software	3 days, June 2013 (27/6/2013 to 29/6/2013)
2	Shri. Mr.Biju Augustin & Mr.Sajumon K.T( ME)	CAD Software for Technical Staff	6 days, June 2013(10/06/2013 to 14/06/2013)
3	Dr. G. Venugopal & Mr. Manoj Kumar M.( ME)	Data Processing using Spread Sheet	3 days, July 2013
4	Mr.Manojkumar & Mr.Antony JK	Modern manufacturing Technique	11 <sup>th</sup> to 16 <sup>th</sup> Nov 2013
5	Mr. Sabu K T & Mr.Venugopal G	Engineering Optimization methods & Application	28/02/2014 to 6/3/2014
6	Mr.Vikas & Mr.Jinesh N	Open Source software for research purpose	11 <sup>th</sup> to 13 <sup>th</sup> March 2014
7	Mr.Antony J K	Rapid Prototyping	6/6/2013
8	Dr. G Venugopal & Dr.Vinish V Nair	International Conference (ICEE)	12-13 Dec-2013
9	Mr.Biju Augustine (ME)	One day workshop on Report Writing(IOC)	30/06/2014
10	Dr R Sasikumar & Mr.Swapnesh S (ME Dept)	Research Avenues in Operation Management	08/07/2014 to 14/07/2014

11	Mr. Jayakumar(ME)	Servicing and Maintenance of Electronic Lab Equipments	2 days, October 2012
12	Mr.Swapnesh & Mr.Anish K John	Computational Techniques for Engineering Analysis	05th to 09th Jan 2015

#### ELECTRICAL & ELECTRONICS ENGINEERING

1	Dr. K P Indiradevi (ECE)& Dr.Prince A (EE)	Renewable Energy Technology and Energy Conservation with emphasis on Solarification	15/07/2014 to 17/07/2014
2	Mr. Johnson Mathew (EE)	Document Preparation using Latex	5 days, June 2013 (24/06/2013 to 28/6/2013 )
3	Smt. Jiji K.S, (EE)	Autocad for Electrical Engineers.	5 days, March 2013 ( )
4	Dr.Prince A & Mrs. Dolly Mary A(EE)	Potential Research Areas in Drives and Power Systems	08/07/2014 to 12/07/2014
5	Prof. Mary George & Mr.Rijil V.R (EEE)	Electrical Installation and Solarification Practices For technical staff	14/07/2014 to 16/07/2014
6	Mrs. ShanifaBeevi & Mr.Peter k Abraham(EE)	Modern Trends In Substation Design	24/06/2014 to 26/06/2014
7	Mr. Prince A. & Mr.Lalu K Varghese (EE )	Familiarization of advanced equipment & Simulation Tools.	4 days, Jan 2013 (1/1/2013 to 4/1/2013)
8	Smt. Sreelekha V & Smt.Radhika R, (EE)	Electrical CAD	3days , Jun 2013(17/06/2013 to 22/06/2013)
9	Mr.Joseph KD	Smart Power Electronic Controllers using Programmable logic Device	19 <sup>th</sup> to 23 <sup>rd</sup> Nov 2013

#### ELECTRONICS & COMMUNICATION ENGINEERING

1	Shri.Jose Martin M J( ECE)	Advanced Communication Technologies	3 days, August 2013
2	Mr. Umesh A.C( ECE)	Arm Processor in Embedded Systems	5 days, Nov 2013 19 <sup>th</sup> to 23 <sup>th</sup>
3	Mrs.Nimmy George	3 day workshop on training on tools and software for advanced communication	11 <sup>th</sup> to 13 <sup>th</sup> Dec 2013
4	Dr.Leena Mary( ECE)	Workshop on speech processing-	9th to 10th Dec 2013
5	Prof.Geetharanjin P R	Simulation Tools in Communication Systems ns-2 (network simulator)	22 <sup>nd</sup> to 24 <sup>th</sup> Nov 2013
6	Mr. ShinojSukumaran (ECE)	Advanced Ideas on Computer System s & Network	5 days ,Dec 2012 (10/12/2012 to 14/12/2012)

7	Mr.Ebin M Manuel	Advanced Computer Networks and Queuing Theory	6 <sup>th</sup> to 8 <sup>th</sup> March 2014
8	Mrs.Preethi M Nair	Testing and Calibration of electronic Equipments	19 <sup>th</sup> to 21 <sup>st</sup> March 2014
9	Dr. Leena Mary & Dr. David Solomon George	Research Methodology	01st to 05th Dec 2015
<b>COMPUTER SCIENCE AND ENGINEERING</b>			
1	Dr. Sobhana N V (CS)	Predictive Analytics	25/06/2014 to 27/06/2014
2	Smt. ReenaMurali& Mr.Ashik M (CSE)	Network Administration For technical staff	16/07/2014 to 18/07/2014
3	Mr. Tomsy Paul (MCA) & Mrs.Shyla P K (Library)	KOHA Software	23/07/2014 to 25/07/2014
4	Shri. Vipin Kumar & Shri. Ashik M. (CSE)	Computer & Internet Literacy	3 days, Dec 2012 (12/12/2012 to 14/12/2012)
5	Smt. Kavitha N. (CSE )	System Administration & Shell Scripting in Linux	5 days , June 2013 (17/6/2013 to 21/6/2013)
6	Dr. Leena Mary & Mrs.Raji R Pillai (CSE)	Pattern Recognition	5 days, June 2013 (24/6/2013 to 28/06/2013)
7	Mrs.Nisha K K	Web semantics and data mining	24 <sup>th</sup> to 29 <sup>th</sup> Sep 2013
8	Mr.John C John (CSE)	Natural Language Processing	1 day ,October 2013
9	Mrs.Kavitha N	System Administration and Shell Scripting in Linux	7 <sup>th</sup> to 21 <sup>st</sup> Jun 2013
10	Mr.Padmakumar(CS)	Administration Through DDFS	01/08/2013 to 03/08/2013
11	Mr.Padmakumar(CS)	Cyber security	25 <sup>th</sup> to 29 <sup>th</sup> March 2014
12	Mr.Ashik M(CS)	Web designing	12 <sup>th</sup> to 14 <sup>th</sup> Feb 2014
13	Mr.RameshanMaroli(AA)	Workshop on Kerala service store purchase manual	17 <sup>th</sup> to 19 <sup>th</sup> Oct 2013

## Annexure-II

### OUTSTATION PROGRAMMES ATTENDED

CIVIL ENGINEERING			
1	Dr.A.K.Padmini (CE)	Concrete technology - MACE kothamangalam	8th to 15th Dec2012
2	Dr.A.K. Padmini (CE)	Advances in Building Science & Rehabilitation and restoration of structures-IIT madras	12th to 16th Feb 2013
3	Mrs.Jiji Anna Varughese(CE)	Innovative Techniques and practices in building Technology - Govt. Engg College Barton Hill TVM	12th to 17th Apr 2013
4	Dr.Praveen A(CE)	Dynamics and Space in State Control - IIT Mumbai	6th to 10th May 2013
5	Mrs.Geeva George(CE)	Recent Advances inland Surveying and testing of Civil Engg Materials GovtEngg College TVM	18th to 20 Jun 2013
6	Mrs.Vandana R K(CE)	Application of sensors in Civil Engineering Research (ASCER -13) - College of Engg TVM	26th to 28th Jun 2013
7	Dr.Bino I.Koshy(CE)	Urban Transport Planning & Operation Management- ESCI Hyderabad	24th to 26th Sep 2013
8	Mrs.Jiji Anna Varughese(CE)	Bridges and Culverts - ESCI Hyderabad	28th to 30th Sep 2013
9	Mrs.Bindhurani P(CE)		
10	Mr.Shibu A(CE)	Planning, Design and Layout of Water Distribution Network with Software Applications-ESCI Hyderabad	3rd to 5th Oct 2013
11	Mrs.Raji M	Soil Stabilization for Highways- Modern and Technologies - ESCI Hyderabad	19th to 21rd Nov 2013
12	Dr.Bindhu B K - CE	Water quality data analysis and interpretation- NITTTR Chennai	24/2/2014 TO 28/02/2014
13	Prof.Gymmy Joseph Kattoor - CE	Advanced Concrete Technology-IIT Madras	23rd to 28th Feb 2014
14	Mrs.Roshina Babu (CE)	Leakages and water proofing in buildings,ESCI Hyderabad	09/06/2014 to 13/06/2014
15	Dr.Bindhu BK	Paper titled Aerobic Treatment of Waste Water in Sequencing -Batch reactors NIT Thiruchirappally	27-29 Sep 2014



MECHANICAL ENGINEERING			
1	Mrs.Ciby Thomas(ME)	Paper Presentation in Internatioal Conference on Energy Resourses and Technologies for sustainable Development ,ICERTSD - Bengal Engineering & Science University,Shibpur,Hourah	7th to 9th Feb 2013
2	Mr.RenjuKurian(ME)	Essentials of Opimization Techniques in Engineering- GovtEngg College Trissur	10th to 14th Jun 2013
3	Mr.Reghunathan Rajesh(ME)	Service Science - IIT Kharagpur	8th to 13th Jul 2013
4	Dr.R Sasi Kumar	Procurement Procedures for the World bank aided Projects-ASCI Hyderabad	8th to 19th Jul 2013
5	Mr.Reghunathan Rajesh(ME)	Ergonomics and user Centered Design -National Institute of design campus Ahmadabad	18th to20th Sep 2013
6	Mr. Antony J K(ME)	Workshop -AICTE –CII Global university industry congerss – New Delhi	7 <sup>th</sup> to 8 <sup>th</sup> Nov 2013
7	Mr .Reghunathan Rajesh (ME)	Statistical Modeling for Data Analysis.- IIT Kharagpur	9 <sup>th</sup> to 14 Dec 2013
8	Mr. BijuAugustine (ME)	Statistical Modeling for Data Analysis.- IIT Kharagpur	9 <sup>th</sup> to 14 Dec 2013
9	Mr.Jinesh N	Advanced Finite Element Engg.IIT Madras	22 <sup>nd</sup> to 24 <sup>th</sup> Dec 2013
10	Mr.Manoj Kumar ME	Workshop to share experience and good practces on improving transition rate-Coimbatore	28/01/2014
11	Mr.Anish K John - ME	Cryogenic air separation 2014 IIT Kharagpur	22 <sup>nd</sup> to 27 <sup>th</sup> March 2014
12	Mr.Anish K John - ME	Prevention of fire in oxygen-enriched systems-2014 IIT Kharagpur	28 <sup>th</sup> to 29 <sup>th</sup> March 2014
13	Mr.Swapnesh S	Leading with Joy-Leveraging the Mind to Achieve greater Impact -IIM Bangalore	03/07/2014 to 05/07/2014
14	Mr.Anil Kumar K N	Renewable Energy Sources-IIT Madras	9-10 Dec 2014
15	Mr.Sajumon K T		
16	Mr. Swapnesh. S	FDP (Pedagogical Training) at IIT Madras	23 – 26 April 2015

ELECTRICAL & ELECTRONICS ENGINEERING			
1.	Mr.Dinesh Pai (EE)	workshop on NBA Accreditation– CUSAT	10th to11th Dec 2012
2.	Mr.M T RajappanPillai		
3.	Dr.Vincent G	Design and Control of Grid -Connected Power Converters-NamPET Govt of Indiaand CERD-COE TVM	17/12/2012 to 19/12/2012
4.	Mrs.Shanifa Beevi Mr.Johnson Mathew		
5.	Mrs.ShanifaBeevi(EE)	Converter Topologies for Grid connected solar PV	24th to 26th Apr 2013

6.	Mrs.Sreelekha V(EE)	system IIT Bombay	
7.	Dr.Vincent G(EE)		
8.	Mr.Johnson Mathew(EE)	Labview Real time & FPGA - National Instruments Bangalore	13th to 17th May 2013
9.	Dr.Prince A(EE)	Workshop on solar roof top –Priyadarsini hills Kakknad	22 /05/2013
10.	Prof.Vijayakumari C.K (EE)	Workshop on Electronic Design tools and its Applications-CUSAT Kochi	27/05/2013 to 31/05/2013
11.	Dr.Prince A(EE)	Economics and Financing of Renewable Energy - IIT Delhi	24th to 27th Jul 2013
12.	Mrs.Sreelekha V(ME)	Electrical CAD to Teaching Staffs- KELTRON Knowledge Center,EKM	4th to 16th Nov 2013
13.	Mr.Rajesh K(ME)		4th to 16th Nov 2013
14.	Mrs.Radhika R(ME)		4th to 16th Nov 2013
15.	Prof Vijayakumai C K(EEE)	Managing creativity and innovation- ESCI Hyderabad -	11 <sup>th</sup> to 13 Nov 2013
16.	Dr.Prince A(EE)	Soft Computing Applications in Electrical Engg-Anna University ,BIT ,Campus,Tiruchchirappalli	05/08/2013 to 19/08/2013
17.	Mr.Johnson Mathew(EE)	Advance to Finite Element Engg- IIT Madras	22/12/2013 to 24/12/2013
18.	Mr. Joseph K D(EEE)	Real time simulator training for drives, controls, power electronics and power systems-OPAL RT	6 <sup>th</sup> to 10 <sup>th</sup> Jan 2014
19.	Mr.Joseph K D - (EEE)	Grid connected roof top PV Power plants- at IIT Bombay.	19/02/2014 to 21/02/2014
20.	Mr.Binoj Kumar AC - (EEE)	Smart grid Technology and Applications –Central Power Research Institute (CPRI) Bangalore	10 <sup>th</sup> to 14 March 2014
21.	Prof.Mary George (EEE)	Dynamics & Control in State –Space (DCSS_2014)-IIT Bombay	19/05/2014 to 23/05/2014
22.	Mrs.Dolly mary A		
23.	Mrs.Shanifa Beevi & Mr.Johnson Mathew	Lab View Programming for Engineering Research -GEC Kannur	19/05/2014 to 23/05/2014
24.	Prof.Vijayakumari CK(EE)	Workshop on Firefly Algorithm in SCILAB and micro Controller -NIT Thiruchirappally	10th to 11th Oct 2014
25.	Dr.Prince A(EE)		
26.	Dr.Vincent G(EEE)	STTP on Small Hydropower Development - Alternate Hydro Energy Centre IIT Roorkee,Uttarakhand	17th to 21st Nov 2014
27.	Prof.Vijayakumari C K	Paper Presentaion on Genetic Algorithm Based Design of Combinational Logic Circuits using Universal Logic Modules ICICT-2014 Cusat	3-5 Dec 2014
28.	Mr.Binoj Kumar AC - (EEE)	Experimental Comparison of conventional and Bus clamping PWM methods based on Electrical and Acuostic Noise Spectra -IICPE 2014-NIT Kurukshethra	08th to 10th Dec 2014

29.	Mr.Binoj Kumar AC - (EEE)	IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES 2014) IIT Bombay	16-19th Dec 2014
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ELECTRONICS & COMMUNICATION ENGINEERING			
1	Dr KP Indiradevi	Counsellor Development Workshop-GEC Kannur	13/10/2012 to 14/10/2012
2	Mr. Joseph Zacharias (EC)	Fiber optics communication - NITTTR Calcutta	19th to 23rd Nov 2012
3	Dr.K.P. Indiradevi (Principal)	IEEE workshop in medical imaging- IIT Kharagpur	18th Nov to 1st Dec 2012
4	Dr. Leena Mary	Speech and Audio Processing (WISSAP) IIT Madras	22/02/2013 to 25/02/2013
5	Mr. Anish Babu	Speech and Audio Processing (WISSAP) IIT Madras	22/02/2013 to 25/02/2013
6	Mr. Joseph Zacharias (EC)	Emerging Trends in Communication Engg. - Govt. Engg College Barton Hill TVM	18th to 23rd Mar 2013
7	Dr. K P Indiradevi (Principal)	Workshop on solar roof top - Priyadarsini hills Kakkannad	22 /05/2013
8	Prof. Geetharenjin (ECE)	Managing creativity and innovation- ESCI Hyderabad -	11 <sup>th</sup> to 13 Nov 2013
9	Mr. Renu Jose - EC	QEEE Workshop IIT Madras	17/12/2013 to 18/12/2013
10	Mr. Riyas (ECE)	Winter school on speech and audio processing 2014 (WISAAP)-IIIT Hyderabad	17 <sup>th</sup> to 20 <sup>th</sup> Jan 2014
11	Dr. Leenamary - EC	Winter school on speech and audio processing 2014 (WISAAP)	17 <sup>th</sup> to 20 <sup>th</sup> Jan 2014
12	Mr. Renu Jose - EC	Incorporation of Pedagogy in Engineering Education-IISc Bangalore	3 <sup>rd</sup> to 7 <sup>th</sup> Feb 2014
13	Mr. Ebin M Manuel	predictive Analytics-IIT Hyderabad	6 days, 18/06/2014 to 22/06/2014
14	Mr. Ebin M Manuel	Advanced Computational Mechanics-Dept of Mathematics of Defense Institute of Advanced Technology (DIAT)(DU), Girinagar, Pune	14/07/2014 to 18/07/2014
15	Dr. David Solomon George	DSP System Design, Coding and Optimization with OMAP L138 -Crane software international LTD Bangalore	30/08/2014 to 01/09/2014
16	Mr. Renu Jose		
17	Mr. Premson		
18	Mrs. Rizwana		
19	Mr. Shinoj Sukumaran		
20	Mr. Umesh A C		
21	Prof. Geetharanjin P R (EC)	Workshop on Firefly Algorithm in SCILAB and micro Controller -NIT Thiruchirappally	10th to 11th Oct 2014

22	Dr.Leena Mary	Workshop on Speech Processing (WISP-2014) IIT Hyderabad	Dec 13th 2014
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COMPUTER SCIENCE AND ENGINEERING			
1	Mrs.Dhanya P S	108th Man Catching programme on Facilitation /Mentoring and Conselling Residential Workshop-2012	17/10/2012 to 20/10/2012
2	Mrs.Dhanya P S	Counsellor Development Workshop-GEC Kannur	13/10/2012 to 14/10/2012
3	Mr.John C John	12th International Conference on Intelligent Design Systems and Applications (ISDA 2012) - CUSAT	27/11/2012 to 29/11/2012
4	Mrs.Raji R Pillai(CS)	Second state level workshop on preparedness for NBA Accreditation- CUSAT	11th to 12th Mar 2013
5	Mrs.ReenaMurali (CS)	Telecommunication Networks with Sate of the Art Hands On Experiments - IIT Kharagpur	8th to 13th Jul 2013
6	Mrs.Kavitha N(CS)		8th to 13th Jul 2013
7	Dr.Sobhana N V	Predictive Analytics - IIT Hyderabad	17th to 21st July 2013
8	Mrs.Raji R Pillai(CS)	Design and Analysis of Algorithms - IIITM -K ,Technopark TVM	6th to 10th Sep 2013
9	Sobhana N V	Network Security Administration -Engg. Staff College of India, Hyderabad	21 Oct 2013 to 25 <sup>th</sup> Oct 2013
10	Mr.Ashik M (CS)		21st to 25th Oct 2013
11	Mrs. Reenamurali(CSE)	Statistical Modeling for Data Analysis.- IIT Kharagpur	9 <sup>th</sup> to 14 Dec 2013
12	Dr.Sobhana N V(CSE)	Cryptography & Network Security -IIT Kharagpur	18th to24th May2014
13	Mrs.Reena Murali	Paper presentation on Computational Model for Predictng Effective siRNA Sequence for Gene Silencing - 8th Int.Conf. on Data Mining and Warehousing(ICDMW-2014) -University of Visvesvaraya College of Engg.Bangalore	25/07/2014 to 27/07/2014
14	Dr.Sobhana N V(CSE)	Academic leadership IIM Kozhikode	25th to 30th Aug 2014
15	Mrs.Kavitha N (CS)	Web Designing using PHP and MySQL.- ESCI Hyderabad	29th Oct 2013 to 02nd Nov 2013
16	Mr.Tomcy Paul(CSE)	Presented a Paper titled Parallel For Loop and Parallel Reduction : A SMP Comparision of Four Languages(ICICI 2014)-CUSAT	3rd to 5th Dec 2014

