

**TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME (TEQIP)
(PHASE-II)**

**REVISED
INSTITUTIONAL DEVELOPMENT PROPOSAL**

for

**Sub-Component 1.2 : Scaling-up Post Graduate Education and
Demand-driven R&D and Innovation**



Submitted by



NATIONAL INSTITUTE OF TECHNOLOGY, CALICUT

JUNE 2015

NATIONAL INSTITUTE OF TECHNOLOGY CALICUT

CERTIFICATE

Certified that this document is the revised version of the Institutional Development Plan of National Institute of Technology, Calicut, and is being submitted to the National Project Implementation Unit for the 5th Joint Review Mission being held in July 2015, towards the review of the implementation of the Technical Education Quality Improvement Programme-Phase II ,at the Institute during the period between the years 2010-2011 and 2016-2017.

Sd/-
TEQIP Coordinator

Sd/-
DIRECTOR

1. INSTITUTIONAL BASIC INFORMATION

1.1 Institutional Identity(Revised)

- Name of the Institution: **NATIONAL INSTITUTE OF TECHNOLOGY, CALICUT**
- Is the institution AICTE approved? : **Yes/No**
- Furnish AICTE approval no. : Institute of National Importance & Governed by NIT Act 2007
- Type of Institution : **Govt. funded/ Govt. aided/Private unaided/ Autonomous/ other**
- Status of Institution : **Autonomous Institute as declared by University / Non-Autonomous / Deemed University / Constituent College/ Centrally funded Institution**
- Names of Head of the Institution and Nodal Officers

Head & Nodal Officers	Name	Phone Number	Mobile Number	Fax Number	E-mail Address
Head of the Institution	Dr. G. R. C. Reddy	0495-2286100	09946163261	0495-2287250	director@nitc.ac.in
TEQIP Coordinator	Dr. Abraham T Mathew	0495-2286145	09447087949	0495-2287250	atm@nitc.ac.in
Project Nodal Officers for :					
Academic Activities	Dr. Deepthi P.P.	-	-	0495-2287250	deepthi@nitc.ac.in
Civil Works including Environment Management	Dr. George K. Varghese	-	-	0495-2287250	gkv@nitc.ac.in
Procurement	Dr Sreelekha G.	-	-	0495-2287250	lekha@nitc.ac.in
Financial Aspects	Dr. Sindhu T.K.	-	-	0495-2287250	sindhutk@nitc.ac.in
Equity Assurance Plan	Dr Harikrishna M.	-	-	0495-2287250	harikrishna@nitc.ac.in

1.2 Academic Information(not revised)

- Engineering Programmes offered in Academic year 2008-2009

Sl. No.	Title of Programme	Level (UG,PG,PhD)	Duration (Years)	Year of starting	AICTE Sanctioned Annual Intake	Total Strength
1	Chemical Engineering	UG (B. Tech)	4 years	2008	82	328
2	Civil Engineering	UG (B. Tech)	4 years	1961	122	488
3	Computer Science & Engineering	UG (B. Tech)	4 years	1985	122	488
4	Electrical & Electronics Engineering	UG (B. Tech)	4 years	1961	122	488
5	Electronics & Communication Engineering	UG (B. Tech)	4 years	1980	123	492
6	Mechanical Engineering	UG (B. Tech)	4 years	1961	123	492
7	Production Engineering	UG (B. Tech)	4 years	1984	41	164
8	Bio Technology*	UG (B. Tech)	4 years	2008	30	90
9	Engineering Physics*	UG (B. Tech)	4 years	2009	30	60
10	B. Arch*	UG (B. Arch)	5 years	1999	41	205
11	Structural Engineering	PG (M.Tech)	2 years	1971	18	36
12	Traffic and Transportation planning	PG (M.Tech)	2 years	1985	18	36
13	Offshore structures	PG (M.Tech)	2 years	1987	18	36
14	Environmental Geotechnology	PG (M.Tech)	2 years	2006	18	36
15	Computer Science & Engineering	PG (M.Tech)	2 years	1998	18	36
16	Information Security	PG (M.Tech)	2 years	2006	18	36
17	Power Systems	PG (M.Tech)	2 years	1985	18	36
18	Power Electronics	PG (M.Tech)	2 years	1987	18	36
19	Instrumentation & Control	PG (M.Tech)	2 years	1971	18	36
20	Industrial Power & Automation	PG (M.Tech)	2 years	2006	18	36
21	Electronics Design & Technology	PG (M.Tech)	2 years	2001	18	36
22	Microelectronics & VLSI	PG (M.Tech)	2 years	2006	18	36
23	Signal Processing	PG (M.Tech)	2 years	2006	13	26
24	Telecommunication	PG (M.Tech)	2 years	2006	13	26
25	Industrial Engineering & Management	PG (M.Tech)	2 years	1984	18	36
26	Thermal Sciences	PG (M.Tech)	2 years	1989	18	36
27	Manufacturing Technology	PG (M.Tech)	2 years	1989	18	36
28	Material Science & Technology	PG (M.Tech)	2 years	2000	18	36
29	Energy Management	PG (M.Tech)	2 years	2000	18	36
30	Nanotechnology	PG (M.Tech)	2 years	2008	13	26
31	Mathematics & Scientific Computing*	PG (M. Sc.)	2 years	2006	18	36
32	Photonics*	PG (M. Sc.)	2 years	2008	13	26
33	Polymer Science & Technology*	PG (M. Sc.)	2 years	2008	13	26
34	MCA*	MCA	3 years	1988	41	123

*Will be included in TEQIP if permitted by NPIU

New PG Courses (Revised)

1.	High Voltage Engineering	PG (M.Tech)	2 years	2014	15	12
2.	Machine Design*	PG (M.Tech)	2 years	2014	15	15
3.	Water Resources Engineering	PG (M.Tech)	2years	2014	15	13
4.	Chemical Engineering	PG (M.Tech)	2years	2015	15	-
5.	Master of Planning	PG(M.Plan)	2years	2015	15	-

• **Accreditation Status of Engineering UG Programmes(Revised)**

Title of UG Programmes being offered	Whether eligible for accreditation or not	Whether accredited as on 31 st Dec. 2009	Whether "Applied for" as 30 th June 2015
Chemical Engineering	YES	-	Yes
Civil Engineering	YES	YES	Yes
Computer Science & Engineering	YES	YES	Yes
Electrical & Electronics Engg	YES	YES	Yes
Electronics & Comm. Engg	YES	YES	Yes
Mechanical Engineering	YES	YES	Yes
Production Engineering	YES	YES	Yes
Bio Technology	YES	-	Yes
Engineering Physics	NO	(NEW)	-

Accreditation Status of Engineering PG Programmes(Revised)

Sl.No.	Title of PG Programmes being offered (2 Year Master of Technology)	Whether eligible for accreditation or not	Whether accredited as on 31 st Dec. 2009	Whether "Applied for" as 30 June 2015
1.	Structural Engineering	YES	*	YES
2.	Traffic and Transportation Planning	YES	*	YES
3.	Offshore Structures	YES	*	YES
4.	Environmental Geotechnology	YES	*	YES
5.	Computer Science & Engineering	YES	YES	YES
6.	Computer Sci. & Engineering Information Security	YES	YES	YES
7.	Power Systems	YES	*	YES
8.	Power Electronics	YES	YES	YES
9.	Instrumentation & Control	YES	*	YES
10.	Industrial Power & Automation	YES	*	YES
11.	Electronics Design & Technology	YES	YES	YES
12.	Microelectronics & VLSI Design	YES	*	YES
13.	Signal Processing	YES	*	YES
14.	Telecommunication	YES	*	YES
15.	Industrial Engineering & Management	YES	*	YES
16.	Thermal Science	YES	*	YES
17.	Manufacturing Technology	YES	YES	YES
18.	Material Science & Technology	YES	*	YES
19.	Energy Management	YES	*	YES
20.	Nanotechnology	YES	-	YES

*

1.3A Faculty Status (Regular/On-Contract Faculty as on December 31, 2009)

Faculty Rank	No. of Sanctioned Regular Post	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						
		Engg. Discipline		Other Discipline		Engg. Discipline		Other Discipline		Engg. Discipline		Other Discipline				
		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	38	28	-	3	-	-	-	NIL	NIL	NIL	NIL	NIL	NIL	31	7	NIL
Asso Prof	86	27	-	11	-	2	-	NIL	NIL	NIL	NIL	NIL	NIL	40	46	NIL
Asst Prof	158	21	-	7	1	52	6	10	2	NIL	NIL	NIL	NIL	90	68	9
Lec	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	282	76	-	21	1	54	6	10	2	NIL	NIL	NIL	NIL	161	121	9

1.3B Revised Faculty Status (Regular/On-Contract Faculty as on 30 June, 2015)

Faculty Rank	No. of Sanctioned Regular Post	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						
		Engg. Discipline		Other Discipline		Engg. Discipline		Other Discipline		Engg. Discipline		Other Discipline				
		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	43	41	-	6	-	-	-	NIL	NIL	NIL	NIL	NIL	NIL	47	-4	NIL
Asso Prof	80	29	-	11	-	7	-	NIL	NIL	NIL	NIL	NIL	NIL	47	33	NIL
Asst Prof	159	40	-	15	-	30	6	-	-	NIL	NIL	NIL	NIL	91	68	9
Lec	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	282	110	-	32	-	37	6	-	-	NIL	NIL	NIL	NIL	185	97	9

Note: Faculty in Architecture are not included.

Prof = Professor, Asso Prof = Associate Professor, Asst Prof = Assistant Professor, Lec=Lecturer, R=Regular, C=Contract

1.4A Institute Level Baseline Data(As on 31 December 2009)

S. No.	Parameters	
1	Total strength of students in all programmes and all years of study in the year 2009-10	3679
2	Total women students in all programmes and all years of study in the year 2009-10	765
3	Total SC students in all programmes and all years of study in the year 2009-10	566
4	Total ST students in all programmes and all years of study in the year 2009-10	184
5	Total OBC students in all programmes and all years of study in the year 2009-10	419
6	Number of fully functional p-4 and above level computers available for students in the year 2009-10	400
7	Total number of syllabus Text books and Reference books available in library for UG &PG students in the year 2009-10	40580
8	% of UG student placed through campus interviews in the year 2008-09	97.2%
9	% of PG student placed through campus interviews in the year 2008-09	54.3%
10	% of High quality under graduates(75% marks) in the year 2008-09	32.3%
11	% of High quality post graduates(75% marks) in the year 2008-09	48.1%
12	Number of research publications in Indian refereed Journals in the year 2008-09	5
13	Number of research publications in International refereed Journals in the year 2008-09	125
14	Number of Patents obtained in the year 2008-09	NIL
15	Number of Patents filed in the year 2008-09	NIL
16	Number of sponsored research projects completed in the year 2008-09	10
17	The transition rate of students in percentage from 1 st year to 2 nd year in the year 2008-09 for: (i) All students (ii) SC (iii) ST (iv) OBC	95.08% 88.12% 80.00% 98.78%
18	IRG from students fee and other charges in the year 2008-09 (Rs. In lakhs)	916.40
19	IRG from commercialization of R & D products, consultancy & other sources in the year 2008-09 (Rs. in lakhs)	94.84
20	Total IRG in the year 2008-09 (Rs. in lakhs)	1081.89
21	Total recurring expenditure in the year 2008-09 (Rs. in lakhs)	3275.78
22	Number of Joint publications with National authors in the year 2008-09	5
23	Number of Joint publications with International authors in the year 2008-09	125
24	Number of R & D products commercialized in the year 2008-09	NIL
25	Number of Joint M.Tech programmes with institutions undertaken in the year 2008-09	NIL
26	Number Joint M.Tech programmes with Industry undertaken in the year 2008-09	NIL
27	Number of joint Ph.D with institutions undertaken in the year 2008-09	NIL
28	Number of joint Ph.D with Industry undertaken in the year 2008-09	NIL
29	Number of Joint consultancies undertaken with Institutions in the year 2008-09	NIL
30	Number of Joint consultancies undertaken with Industry in the year 2008-09	NIL

1.4 B Institute Level Data(Revised as on 30 June 2015)(Revised)

S. No.	Parameters	
1	Total strength of students in all programmes and all years of study in the year 2014-15	5608
2	Total women students in all programmes and all years of study in the year 2014-15	1468
3	Total SC students in all programmes and all years of study in the year 2014-15	699
4	Total ST students in all programmes and all years of study in the year 2014-15	268
5	Total OBC students in all programmes and all years of study in the year 2014-15	1381
6	Number of fully functional p-4 and above level computers available for students in the year 2014-15	1200+
7	Total number of syllabus Text books and Reference books available in library for UG &PG students in the year 2014-15	41701
8	% of UG student placed through campus interviews in the year 2014-15	72%
9	% of PG student placed through campus interviews in the year 2014-15	34%
10	% of High quality under graduates(75% marks) in the year 2014-15	21.85%
11	% of High quality post graduates(75% marks) in the year 2014-15	46.31%
12	Number of research publications in Indian refereed Journals in the year 2014-15	43
13	Number of research publications in International refereed Journals in the year 2014-15	170
14	Number of Patents obtained in the year 2014-15	NIL
15	Number of Patents filed in the year 2014-15	2
16	Number of sponsored research projects completed in the year 2014-15	6
17	The transition rate of students in percentage from 1 st year to 2 nd year in the year 2014-15for: (i) All students (ii) SC (iii) ST (iv) OBC	75.7% 44.8% 30.0% 83.3%
18	IRG from students' fee and other charges in the year 2014-15 (Rs. In lakhs)	3360
19	IRG from commercialization of R & D products, consultancy & other sources in the year 2014-15 (Rs. in lakhs)	55
20	Total IRG in the year 2014-15 (Rs. in lakhs)	3415
21	Total recurring expenditure in the year 2014-15 (Rs. in lakhs)	7981
22	Number of Joint publications with National authors in the year 2014-15	55
23	Number of Joint publications with International authors in the year 2014-15	35
24	Number of R & D products commercialized in the year 2014-15	NIL
25	Number of Joint M.Tech programmes with institutions undertaken in the year 2014-15	NIL
26	Number Joint M.Tech programmes with Industry undertaken in the year 2014-15	NIL
27	Number of joint Ph.D with institutions undertaken in the year 2014-15	NIL
28	Number of joint Ph.D with Industry undertaken in the year 2014-15	NIL
29	Number of Joint consultancies undertaken with Institutions in the year 2014-15	3
30	Number of Joint consultancies undertaken with Industry in the year 2014-15	2

1.5A Institutions to be eligible for participation in the project under the sub-component 1.2 must fulfill the following benchmarks:

S. No	Attainment Parameters	Benchmark Values	Institution's response (Yes/No)
1	Does the Institution agree to implement all academic and non-academic reforms given as below: <ul style="list-style-type: none"> • Implementation of Curricular Reforms • Exercise of autonomies • Establishment of Corpus Fund, Faculty Development Fund, Equipment Replacement Fund and Maintenance Fund • Generation, retention and utilization of revenue generated through variety of activities • Institutions to fill-up all existing teaching and staff vacancies • Delegation of decision making powers to senior functionaries with accountability • Improve Student Performance Evaluation • Provide faculty incentive for continuing education(CE), consultancy and R&D • Obtaining accreditation 	YES	YES
2	Availability of academic autonomy as recognized by UGC for both UG and PG programmes	YES	YES
3	Presence of Board of Governors with an eminent academician or industrialist as the Chairman	YES	YES
4	Percentage of eligible UG programmes accredited or applied for	60%	70%
5	Percentage of eligible PG programmes accredited or applied for	40%	80%
6	Cumulative number of Ph.Ds produced in the last three academic years (2006-07, 2007-08, 2008-09) Or Cumulative number of M.Tech. produced in the last three academic years (2006-07, 2007-08, 2008-09)	5 50	25 679
7	Faculty positions filled on regular full time basis as percentage of total faculty positions sanctioned in accordance with the AICTE prescribed student to faculty ratio	65%	82%
8	Percentage of regular faculty with PhD in engineering* as percentage of total faculty	15%	65%

*PhD in engineering and science for special Category States

1.5B TEQIP-II Benchmarks(Revised Attainment Parameters as on 30 June 2015)

S. No	Attainment Parameters	Benchmark Values	Institution's response (Yes/No)
1	<p>Does the Institution agree to implement all academic and non-academic reforms given as below:</p> <ul style="list-style-type: none"> • Implementation of Curricular Reforms • Exercise of autonomies • Establishment of Corpus Fund, Faculty Development Fund, Equipment Replacement Fund and Maintenance Fund • Generation, retention and utilization of revenue generated through variety of activities • Institutions to fill-up all existing teaching and staff vacancies • Delegation of decision making powers to senior functionaries with accountability • Improve Student Performance Evaluation • Provide faculty incentive for continuing education(CE), consultancy and R&D • Obtaining accreditation 	YES	YES
2	Availability of academic autonomy as recognized by UGC for both UG and PG programmes	YES	YES
3	Presence of Board of Governors with an eminent academician or industrialist as the Chairman	YES	YES
4	Percentage of eligible UG programmes accredited or applied for	60%	100%
5	Percentage of eligible PG programmes accredited or applied for	40%	100%
6	Cumulative number of Ph.Ds produced in the last three academic years (2012-2013, 2013-2014, 2014-2015) Or Cumulative number of M.Tech. produced in the last three academic years (2012-2013, 2013-2014, 2014-2015)	5 50	75 1048
7	Faculty positions filled on regular full time basis as percentage of total faculty positions sanctioned in accordance with the AICTE prescribed student to faculty ratio	65%	70%
8	Percentage of regular faculty with PhD in engineering* as percentage of total faculty	15%	50%

2. INSTITUTIONAL DEVELOPMENT PROPOSAL (IDP)

2.1 Give the executive summary of the IDP(revised)

This Institutional Development Proposal (IDP) has been revised by consolidating the progress made so far and also by adding the revised future plan that has been prepared based on the individual proposals received from all major Departments of the Institution that offer Post graduate and Ph. D programs. Faculty of all allied departments are pooled with the engineering departments

The overall objective of the scheme has been is to increase enrolment in postgraduate education and research and also to enhance research, development and innovation in engineering. Institute has started four engineering PG programs, upgrading the quality of existing PG programs, establishing new PG labs, upgrading existing PG labs, attracting good quality students for the postgraduate education and research, developing an atmosphere conducive for research in the department, strengthening industry institute collaboration as well as collaboration with reputed institutes, organizations and professional bodies within and outside the country, training of faculty and supporting staff, encouraging faculty to attend seminars, workshops and conferences etc. It is expected that these measures will improve the visibility of the Institution and this, in turn, is expected to attract good quality students for post graduate education and research. The Institution will thus be able to contribute to the task of nation building much more effectively.

The fund requirements for the various action plans envisaged to achieve the above are highlighted in the following sections. The year wise fund allocations over the project period have been revised to ensure speedy utilization.

2.2 SWOT Analysis(not revised)

As the strength, weakness, opportunities and threats of the various departments are different; it was decided to carry out the SWOT analysis at department level. The general guidelines stipulated in the PIP document were followed. The data collected from the various departments are consolidated and presented. The details are given in appendix A.

Strengths

- Well qualified and dedicated faculty
- Creamy layer of students through AIEEE for UG and through GATE for PG

- Good image due to 50 years standing Alumni in Senior / influential positions spread across the globe
- Periodic revision of curriculum – once in five years; incorporating latest trends in technologies.
- Well established credit based curriculum and a very credible examination system
- Academic/financial and functional autonomy
- Excellent central facilities – Computing / Library, digital library etc
- Sports facilities: Gym, Swimming Pool, Courts and Play grounds
- Very good placement in the past decades. High repute amongst corporates for recruiting from the campus
- Good performance in TEQIP (Phase I)
- Fully residential campus
- Institute's stature as next best option after IIT/IISc system for postgraduate studies.

Weaknesses

- Inadequate and not qualified supporting staff
- Attracting students for higher studies in Engineering
- Journals and internet connectivity not par with that IITs
- Overloaded faculty members (very poor faculty–student ratio)
- Difficulty in prioritizing (teaching / research / short term courses / projects / institute responsibilities/ consultancy)
- Lack of meaningful collaboration with outside world – Industry /other Institutes
- Very poor teaching-Non Teaching staff ratio
- Few inter departmental research programs
- Procedural delay in administrative and academic activities
- Inadequate space for labs
- Deficiencies in certain outcomes in graduating students - Communication skills, Design/real world applications, Laboratory experience
- Inappropriate mode of teaching - Spoon-feeding, lack of active learning, inadequate classroom assessment, increasing proportion of new faculty with limited teaching experience, large proportion of faculty with limited industrial and research experience
- Lack of merit-based system or incentive/reward system for employees, inconsistencies in the quality of support staff, insufficient space for expansion, complicated and restrictive purchasing procedures, complicated and restrictive hiring procedures

- Administration/support/funding functions are lacking - there is unstable staffing for support functions, lack of support for assessment activities. Programs with national recognition need vigorous national publicity
- Infrastructures and labs need extensive maintenance and renovating with little funds to do so
- Failure to find sufficient alternative sources of revenue.

Opportunities

- Increased intake of UG and PG students
- Innovative academic programs like Dual degree
- Large demand for quality education -Exchange Programmes & tie up with foreign universities
- Funding from TEQIP and other sources for improving infrastructure for Research
- Research Activities in terms of Ph.D work and sponsored research projects
- Training of technical supporting staff
- Tapping rich experience of Alumni and also tapping potential for building corpus fund, developing labs, collaborative programs with universities / industries etc
- Academic interaction with industry and other institutes
- A good number of alumni in very good positions in academics /Industry
- Institute stature attracting better M.Tech students
- Responding to pressures for outcomes assessment (accreditation) and for public accountability will push us to develop a culture of continuous improvement and apply to ourselves rigorous standards for performance and achievement
- Growing demand for graduate programs in teaching could lead to Masters/Specialist programs that appeal to teachers at variety of levels and expertise
- Use budget crisis as a way to become more innovative, eliminate non-essential elements in order to become more productive at essential functions.
- Make sure lack of funds does not cause NIT to give into lowering standards and having less qualified professors in their field of study.

Threats

- Lack of incentives on par with IITs and other Institutes
- Inadequate fund allocation by government
- Foreign universities opening shops (under GATS education is under trade in services)

- Increase in self financing institutions – growing in infrastructure as well academic with foreign tie up etc.
- Lack of conducive environment for attracting good faculty/ retaining the existing faculty
- Deterioration of quality in teaching: Priorities get changed to more R & D and administrative activities without giving importance to teaching
- Quality of incoming students (language, analytical thinking, motivation)
- Improving retention rates by lowering academic standards which leads to decreased institutional value, reputation, and negative perception from the community
- Faculty recruitment suffers due to more emphasis on teaching than research and NIT's small town location
- Decrease in faculty and staff morale due to NIT's threatened reputation for quality

STRATEGIC OBJECTIVES

A close examination of the SWOT analysis reveals that the Institute Strategic Plan should focus on the improvements that are related to students, teaching methods and faculty. Therefore, the following strategic objectives are proposed to address the weaknesses and threats related to various aspects of those issues.

- Recruit, nurture and retain outstanding students
- Recruit, nurture and retain outstanding faculty and staff
- Promote a strong sense of community and collegiality among the students, faculty, staff and alumni
- Improve teaching and learning through continuous assessment
- Promote research and consultation that address the immediate and long-term needs of the society
- Create a strong relationship with society in particular with industry to cooperate in the advancement of the country's economy
- Continue to develop and maintain an adequate infrastructure

2.3 State the specific objectives and expected results of your proposal in terms of, "Scaling-up post graduate education and demand-driven R&D&I". These objectives and results should be linked to the SWOT analysis.

The overall objective is to increase enrolment in postgraduate education and research and enhance research, development and innovation in engineering. Under this

component, the Institution proposes to start new postgraduate programs in addition to the existing programs, to provide an opportunity for aspiring, qualified students to improve their quality, to acquire higher degrees in their preferred specialization, to make technical manpower available in these areas to help in development and research activities as part of our task of nation building, to utilize the available technical skill and knowledge available in the Department more effectively etc.

It is proposed to offer M. Tech teaching assistantships to non-GATE qualified students. Also, the Institution proposes to offer PhD research assistantships every year. The existing number of fellowships is quite small and the above measure is expected to provide a big boost to R&D activities in the Institution.

The Institution also looks forward to improving facilities in the existing PG laboratories besides establishing a few new laboratories to cater to the needs of the new PG programs. The objective is to improve the quality of postgraduate education and research significantly.

The Institution intends to strengthen the already existing strong ties with the industry and extend it to the R&D&I as well. This will improve the quality of teaching at all levels besides improving the quality of research and making it more relevant and appropriate.

It is proposed to improve the skills of faculty and technical staff in the Institution by deputing them to undergo training in different specialized areas of engineering/management of their choice. This will benefit students at all levels and also improve the capability to perform consultancy and R&D activities. Also, it will help in enhancing institutional management capacity. Providing improved access to knowledge resources and strengthening the library is also envisaged as this is very vital to achieve the goals of this project. These measures would directly / indirectly help in networking with other institutes and working out arrangements for collaborative work. Expected results include attracting good quality students for the masters and research programs, increasing the enrolment in these programs, increasing the number of publications and enhancing the quality of publications, scaling up R&D&I activities, improving industry-institute linkage, enhancing the status of the institute among the general public as well as in the industry, thereby increasing the employment potential of graduating students, improving profiles and capabilities of faculty and technical staff etc.

2.4 Provide an Action Plan for scaling-up enrollment into Masters and Doctoral Programmes (include measures to attract qualified students and maintain high quality standards).

Sl.	Key Activities	Project Months
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No		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
1	Strengthening existing programs																
2	New programs																
3	Increasing intake in PG																
4	Increasing intake in Ph. D																
5	Offering Teaching Assistance ship																
6	Part-time Ph. D																
7	Sending students to leading labs. & other institutions																
8	Training to Faculty and Technical Staff																

2.5 Provide an Action Plan for improving collaboration with industry.

The following activities are envisaged to improve collaboration with Industry.

- The existing Industry-Institute Linkage cell of the Institute will be strengthened and its composition to be maintained as per the guidelines
- Conducting training programs catering to the requirements of the industry
- Conducting training programs, symposia, conferences etc in collaboration with the industry as well as professional bodies
- Taking up R&D activities of relevance to the industry
- Encouraging P G students to do their projects in Industry
- Sending U G students to do summer internships in Industry
- Combined Ph. D guidance for researchers working in industry, to work on problems of common interest.
- Increased enrollment of industry sponsored personnel for PG courses
- Working out MoUs, wherever feasible, for joint activities
- Enhance the existing consultancy activities by starting new extension centers.

2.6 Provide an Action Plan for:

- Quantitatively increasing and qualitatively improving research by the faculty individually, jointly and collaboratively.

Many of the actions listed above (sections 2.3, 2.4 and 2.5) will help accomplish this objective. Other measures that could be taken up are:

- Providing attractive incentives to faculty & students and recognizing their contributions in time.
 - Promote publications in refereed Journals by providing incentives. The Institution has been doing this for the last 3 years. The number can be increased.
 - Attract more Industry and Government sponsored R & D and consultancy projects. The Institution has been doing this activities and it is proposed to enhance this activities.
- Developing research interest among under graduate students
 - Instill research interest among under graduate students through the normal teaching process in the classes and laboratories.
 - Tailor the project work of UG students to be part of the ongoing research activities in the Department so that they can know better about various research areas and its prospects and societal relevance.
 - Arrange Invited lectures by experts from premier R&D establishments and institutes like IITs, IISc etc as well as from the industry.
 - Encourage under graduate students to undertake summer internship in IIT/IISC/other reputed labs.
 - Encouraging participation in workshops and industry sponsored research
- Collaborating with Indian and foreign institutions in academic and research area through MoUs
 - Enhancement in R&D activities will naturally improve the visibility of the Department and bring faculty in contact with experts from Indian and foreign institutions
 - Facilitating movement of faculty and research/ masters students from the institution to other Indian and foreign institutions – Faculty/student exchange programs.
 - Networking with other Institutions for Joint research projects, degree programs etc.

2.7 Faculty Development Plan from the first 18 months to achieve improved competence based on Training Needs Analysis (TNA) in the following areas. Attach the summary of Training Needs Analysis carried out.

Training need analysis (TNA) was carried out among the faculty and presented below is a brief summary of the outcome of the TNA. The timing of training and the institution where the faculty intends to undergo training etc can be decided only at a later stage after examining the relevance & utility of the programs and the feasibility of attending the training.

- **Basic and advanced pedagogy training**

About 15% of the total faculties expressed their plans to undergo training in teaching methodology and academic quality management.

Short term courses on basic pedagogy, communication skills and teaching methodology are recommended for new faculty members and those with less than four years of teaching experience

Advanced courses on pedagogy are recommended for experienced faculty members. Many faculty members aim to write books on their respective areas, and many are involved in activities like reviewing course material, preparation of courses, curricula and syllabi. Suitable short or medium term courses are advised for all faculty members.

- **Subject / domain knowledge enhancement**

About 90% of the total faculties have plans to undergo training in areas related to their field of specialization/ work.

Short and medium term courses (3days, one week and two weeks programs) relating to subject and domain knowledge enhancement in all the major areas are recommended.

- **Attendance in activities such as workshops, seminars, etc.**

Almost 85% of the total faculties have expressed their willingness to attend such activities at both national and international level.

It is recommended for all the faculty members. Also it is proposed that faculty members may be allowed to attend good seminars and workshops even while the semester is on, after making suitable arrangements for rescheduling the lecture and lab classes, as many of the good workshops are held during such periods.

- **Improvement in faculty qualifications.**

Almost all the faculties are either having Ph. D already or are pursuing their PhD at IITs / IISc or have registered for their Ph. D in the Institution on part-time basis.

It is recommended that faculty members with Ph. Ds may be permitted to proceed with post doctoral research in the top universities in their area of research.

- **Improving research capabilities**

Efforts in this direction are already on and will be continued.

However, the greatest hindrance to research by faculty members is the extremely low faculty to student ratio, which leaves the average faculty member carrying the load of 2 faculty members, cutting out any room for research and development activities. Once the desired ratio is met, research output and capabilities will improve.

Exposure to new faculty members on the importance of research, research methodology, and skills such as research and technical report writing are also recommended.

2.8 Action Plan for training technical and other staff in functional areas.

Training need analysis (TNA) was carried out among the technical staff / other staff and almost all of them intend to undergo training to enhance capability in their domain work in reputed institutes offering such training.

The following areas are broadly identified in which the training are proposed.

- Medium and short term training courses are proposed in their domain areas (like web technology, Linux administration, networking, data base management, common software packages like MATLAB, MULTISIM and repair & maintenance of lab equipment etc).
- Further the technical and support staff are to be trained for supervisory and skill development in using state of the art equipment and technology.
- Medium and short term training programs for newly appointed technical staff to carry out routine laboratory tests as per BIS stipulations.
- Medium and short term training courses are proposed in office automation.

2.9 Describe the relevance and coherence of Institutional Development Proposal with State's/National (in case of CFIs) Industrial / Economic Development Plan.

Our nation intends to create a large number of highly qualified and trained personnel to meet the expected future needs of the industry and contribute to economic growth. These requirements are quite stringent as far as any academic institution is concerned, since quality and quantity rarely go together.

We envisage a situation where a small number of highly qualified professionals are created. The rationale is many-fold: a) Industries, as of now, do not require highly qualified engineers in large numbers, since they largely are involved in developmental activities, (b) A small number of highly qualified people are sufficient to meet most technological challenges, (c) Creating highly qualified people is very costly, unlike the assembly line creation of a homogeneous lot.

Students with remarkable potential often keep away from higher studies due to the urgent need of a job. It makes sense to help them out in a big way and keep them in the main stream. We intend to provide a small student population with all possible facilities which would help to be highly professional. At the same time, out of a social responsibility, our lab facilities and highly trained human force are available to any industry, albeit, at a price.

Thus, through this IDP:

- It is proposed to have a systemic and sustainable strategy to make effective use of Educational Resources for scaling educational opportunity and excellence in the Indian context.
- It is proposed to strengthen the existing research laboratories and increase publishing of papers in peer reviewed Journals. This enhances the visibility of the Institution.
- Set up Centers of Excellence there by enhancing demand driven research.
- It is proposed to improve services to community and economy.
- It is proposed to improve quality PG students and Ph. D scholars

2.10 Describe briefly the participation of departments/faculty in the proposal preparation and implementation.

At the Department level, a meeting of all faculty in each Department was initially held where a briefing on salient features of the proposal was made either by HOD or by the

TEQIP coordinator of the Department. This was followed by a discussion on the proposed action plan by the Department. The project document was circulated among the faculty groups working in different areas and they were asked to go through it and submit proposals in tune with the overall theme based on the discussions and consensus at the meeting. Simultaneously, a survey on training need analysis (TNA) was carried out among the faculty and technical staff to identify the needs and formulate a strategy for training. The proposals received from the faculty group were reviewed and consolidated. As in the previous stage of TEQIP funding, it is envisaged to implement the proposal with the active involvement of all faculty and technical staff of the Department.

2.11 Describe the Institutional Project implementation arrangements.

The following team will carry out the TEQIP implementation in the institute.

- Director of the Institute is the project Leader.
- A faculty at senior level is TEQIP Coordinator of the institute.
- There are 4 TEQIP Nodal Officers looking after procurement, Finance, Academic and Equity Plan working under a TEQIP Coordinator.
- Committees to be formed under these Nodal officers for looking after procurement, Finance, Academic and Equity Plan
- Each Department will have one TEQIP Coordinator who is responsible for liason work for all TEQIP activities.

2.12 Provide an Institutional Project budget in Table No.34

Table-34A

Institutional Project Budget for Sub-Component 1.2(Original)

(Rs. In Crore)

Sl. No.	Activities	Project Allocation	Financial Year				
			2010-11	2011-12	2012-13	2013-14	2014-15
	Infrastructure improvements for teaching, training and learning through:						
	(i) Establishment of new laboratories for new and existing PG programmes, faculty research, etc.	4.125	0.20625	1.2375	1.2375	1.03125	0.4125
	(ii) Updation of learning resources	0.375	0.01875	0.1125	0.1125	0.09375	0.0375
	(iii) Procurement of furniture	0.25	0.0125	0.075	0.075	0.0625	0.025
	(iv) Modernization and strengthening of libraries and increasing access to knowledge resources	0.5	0.025	0.15	0.15	0.125	0.05
1	(v) Refurbishment (Minor Civil Works)	0.375	0.01875	0.1125	0.1125	0.09375	0.0375
2	Providing Teaching and Research Assistantships for significantly increasing enrolment in existing and new Masters and Doctoral programmes in Engineering disciplines	2.5	0.125	0.75	0.75	0.625	0.25
3	Enhancement of R&D and institutional consultancy activities	0.625	0.03125	0.1875	0.1875	0.15625	0.0625
4	Faculty and Staff development for improved competence based on TNA	1.25	0.0625	0.375	0.375	0.3125	0.125
5	Enhanced interaction with Industry	0.625	0.03125	0.1875	0.1875	0.15625	0.0625
6	Institutional Management Capacity Enhancement	0.25	0.0125	0.075	0.075	0.0625	0.025
7	Implementation of Institutional Reforms	0.125	0.00625	0.0375	0.0375	0.03125	0.0125
8	Academic Support for weak students	0.25	0.0125	0.075	0.075	0.0625	0.025
9	Incremental Operating Cost	1.25	0.0625	0.375	0.375	0.3125	0.125
TOTAL		12.5	0.625	3.75	3.75	3.125	1.25

Table-34B

Institutional Project Budget for Sub-Component 1.2(Revised)

Sl. No.	Activities	Project Allocation	Financial Year				
			2012-13	2013-14	2014-15	2015-16	2016-17
1	Infrastructure improvements for teaching, training and learning through:						
	(i) Establishment of new laboratories for new and existing PG programmes, faculty research, etc.	4.125	0.495	0.7425	1.2375	1.2375	0.4125
	(ii) Updation of learning resources	0.375	0.045	0.0675	0.1125	0.1125	0.0375
	(iii) Procurement of furniture	0.25	0.03	0.045	0.075	0.075	0.025
	(iv) Modernization and strengthening of libraries and increasing access to knowledge resources	0.5	0.06	0.09	0.15	0.15	0.05
	(v) Refurbishment (Minor Civil Works)	0.375	0.045	0.0675	0.1125	0.1125	0.0375
2	Providing Teaching and Research Assistantships for significantly increasing enrolment in existing and new Masters and Doctoral programmes in Engineering disciplines	2.5	0.3	0.45	0.75	0.75	0.25
3	Enhancement of R&D and institutional consultancy activities	0.625	0.075	0.1125	0.1875	0.1875	0.0625
4	Faculty and Staff development for improved competence based on TNA	1.25	0.15	0.225	0.375	0.375	0.125
5	Enhanced interaction with Industry	0.625	0.075	0.1125	0.1875	0.1875	0.0625
6	Institutional Management Capacity Enhancement	0.25	0.03	0.045	0.075	0.075	0.025
7	Implementation of Institutional Reforms	0.125	0.015	0.0225	0.0375	0.0375	0.0125
8	Academic Support for weak students	0.25	0.03	0.045	0.075	0.075	0.025
9	Incremental Operating Cost	1.25	0.15	0.225	0.375	0.375	0.125
TOTAL		12.5	1.5	2.25	3.75	3.75	1.25

2.13 (a) Provide the targets against the deliverables given in Table 35.

Table-35

Project Targets⁵ for Institutions under Sub-Component 1.2(not revised)

Sl. No.	Deliverables	Baseline	Targets to be Achieved	
			At the End of 2 Years	By Project Closing
1	Number of Students Registered for (i) Masters in Engg. Program (ii) Doctoral Program in Engg.	400 50	550 100	650 150
2	Revenue from Externally Funded R&D Projects and Consultancies (Rs. in lakhs)	50	150	250
3	Number of (a) Research publications in refereed journals • National • International (b) Citations (c) Patents obtained/filed (d) Books (e) No. of R&D projects commercialized	10 150 300 10 10 10%	25 200 600 20 20 20%	50 400 1600 40 40 40%
4	IRG as % of total recurring expenditure	33%	40%	60%
5	Number of Co-Authored Publications in Refereed Journals (a) National (b) International	10 150	25 200	50 400
6	Student Credentials (a) Campus Placement Rate of • UG Students • PG Students (b) Average Salary of Placement Package for (Rs. in lakhs) • UG Students • PG Students	98% 55% 5.5 5	100% 75% 6 6	100% 100% 8 8
7	Number of Collaborative Programs with Industry	-	5	10
8	Accreditation Status (Obtained and applied for)	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED
9	Vacancy position for faculty and staff:	40% 40%	25% 25%	0% 0%
10	Percentage of regular faculty with Ph. D degree in Engineering disciplines	60%	75%	100%
11	Any Other Academic Deliverables	NIL	NIL	NIL
	(i)			
	(ii)			
	(ii)			

Note : The accreditation targets for Undergraduate and Postgraduate programme are for **NBA accreditation of programmes.**

(b) Describe the Plan in detail for achievement of the above targets enumerated in Table-35.

- For the item 1, the increase in enrolment is budgeted for, and the target is achievable.

- The plan for items 2, 3, 5 and 7 is detailed under Sections 2.5, 2.7, 2.9.
- The plan for item 6 is detailed under section 2.6 (developing research interest among students)
- Item 8 is already satisfied.
- Our Institute has the policy of conducting interviews for new appointments whenever a significant number of applicants apply. And the applications can be sent at anytime by the candidates. This is expected to take care of item 9.
- Regular faculty without Ph. D either registers as an internal candidate or goes on QIP to other institutions. Over the next 4 years, most of these faculty members are expected to complete their degree requirements. This is expected to take care of item 10.

2.14 Give an action plan to ensure that the project activities would be sustained after the end of the project.(Revised)

- **Faculty Development**-Institute has earmarked funds for R&D from its revenues to sustain the R&D activities of faculty. Also, there is Professional Development Allowance given by the Government which will be available for faculty for their career and professional development.
- **Staff Development**-Institute shall form a Human Resource Development Cell under the Administrative Wing and will be provided with grants from the revenues to regularly conduct the training and skill development programmes to improve the efficiency and build the career for the technical and administrative staff.
- **Maintenance of Equipment**-Institute has provisions in the budget for providing support for the Departments to meet the recurring expenditure through DOC. Also, the 60/40 percent of the receipts from testing & consultancy are retained by the Institute under the head "Research & Consultancy" for meeting various requirements of operation and maintenance.
- **Modernization of Laboratories**-Faculty have been securing R&D funds from various agencies for research purposes and a portion which are available for capital expenditure for equipments. Further to this, Institute also earmark funds from the revenue
- **Intellectual Property & Patents**

- With sufficient faculty strength, faculty members will be able to sustain the project activities by devoting time to continue the R&D and consultancy activities to generate funds for the sustenance of the project.
- Sufficient revenue would be generated during the Project phase through consultancy projects, industry sponsored projects, testing and calibration etc. It is expected that these activities are possible through the various action plan envisaged in the TEQIP Project.

2.15 Provide Procurement Plan for the first 18 months for Goods and Civil Works in Table-36 and Consultant Services in Table-37 with budget and timeframe.

Separate Annexure is added for the revised procurement plan

2.16 Provide any other information related to special academic achievements of the institution.(not revised)

Publications (Papers, books, manuals, etc.),

patents, innovations : 650 (In the last 3 years)

Conferences organized in the last 3 years

and proceedings published : 2

Seminars and workshops organized : 38 (In the last 3 years)

Awards and recognition received by the faculty : 18 (In the last 3 years)

Collaboration with foreign Universities :

Collaboration with MNC etc. :

2.17 Provide an action plan for organizing a Finishing School and for improving the academic performance of SC/ST/OBC/academically weak students through innovative methods, such as remedial and skill development classes for increasing the transition rate and pass rate with the objective of improving their employability.(Revised)

- **One training program on soft skills for weaker section of students.** The Centre for Research and Education for Social transforms-Calicut (CREST) is a Governemnt funded professional agency which has developed time tested packages for soft skill development targeting basically the students weaker sections. Institutions like IIT Delhi, KNIT Surathkal and NIT Trichy have been engaging CREST for the induction training of UG freshers. NITC also had conducted a self enrichment programme for the first year students of the Department of Civil Engineering in 2012 and it was

found to be very effective. It is proposed to conduct similar program for selected academically weak students of our Institution. This shall be conducted for two batches 50 each students.

- **Two numbers of Finishing school**-One finishing school for the *circuit branches* “CS,EC &EE” and another one for the Civil, Mechanical & Chemical Engineering students will be conducted targeting the 6th Semester UG students. Tentative period – 60 hours per batch of 50 each selected based on application.
- **Special classes for select subjects to improve transition rate**-Special classes are already conducted outside class hours by senior students for academically weak students, of the various departments. This initiative is taken through the Student Guidance Cell, and the classes are arranged with due guidance from the faculty handling various subjects. It is proposed to further strengthen this initiative by arranging classes for academically weak students on a regular basis and provide suitable honorarium for those handling the classes.
- **Student Counseling**-One of the reasons identified for the poor transition rate among the students is the lack of initiative on the part of the students. It is proposed to take the help of trained Clinical Psychologists to give counseling and emotional support to the identified weak students so that they become capable to tackle the various challenges.
- **Placement training**-It is also proposed to conduct a training session specially to help the third year and final year students for facing group discussion and interview, as a part of preparing the students for on campus / off campus placements. Agencies having a proven track record of conducting such programmes shall be engaged on a competitive basis by procuring their services through PMSS.
- **Workshops for Skill Development**-Skill development programmes such as hands – on training in modern software tools and specialty laboratory equipments, that are not included in the curriculum shall be arranged for UG and PG students. One workshop each for the Engineering Departments shall be conducted.
- **Workshop on Research Methodology**- Renowned faculty and retired Professors shall be engaged for conducting Workshop on Research Methodology for the PG students and Research Scholars of various Departments- One workshop each for the Engineering Departments shall be conducted.

ANNEXURE

NATIONAL INSTITUTE OF TECHNOLOGY CALICUT

REVISED PROCUREMENT PLAN UNDER TEQIP-II

SUBCOMPONENT 1.2

NATIONAL INSTITUTE OF TECHNOLOGY CALICUT

REVISED PROCUREMENT PLAN UNDER TEQIP-II

SUBCOMPONENT 1.2

Institute's allocation: Rs.12.50 Crores

Allocation for procurements of Goods & Services: Rs.5.00 Crores

Funds received by the Institute: Rs.7.00 Crores

Allocation for procurements from funds received: Rs.2.80 Crores

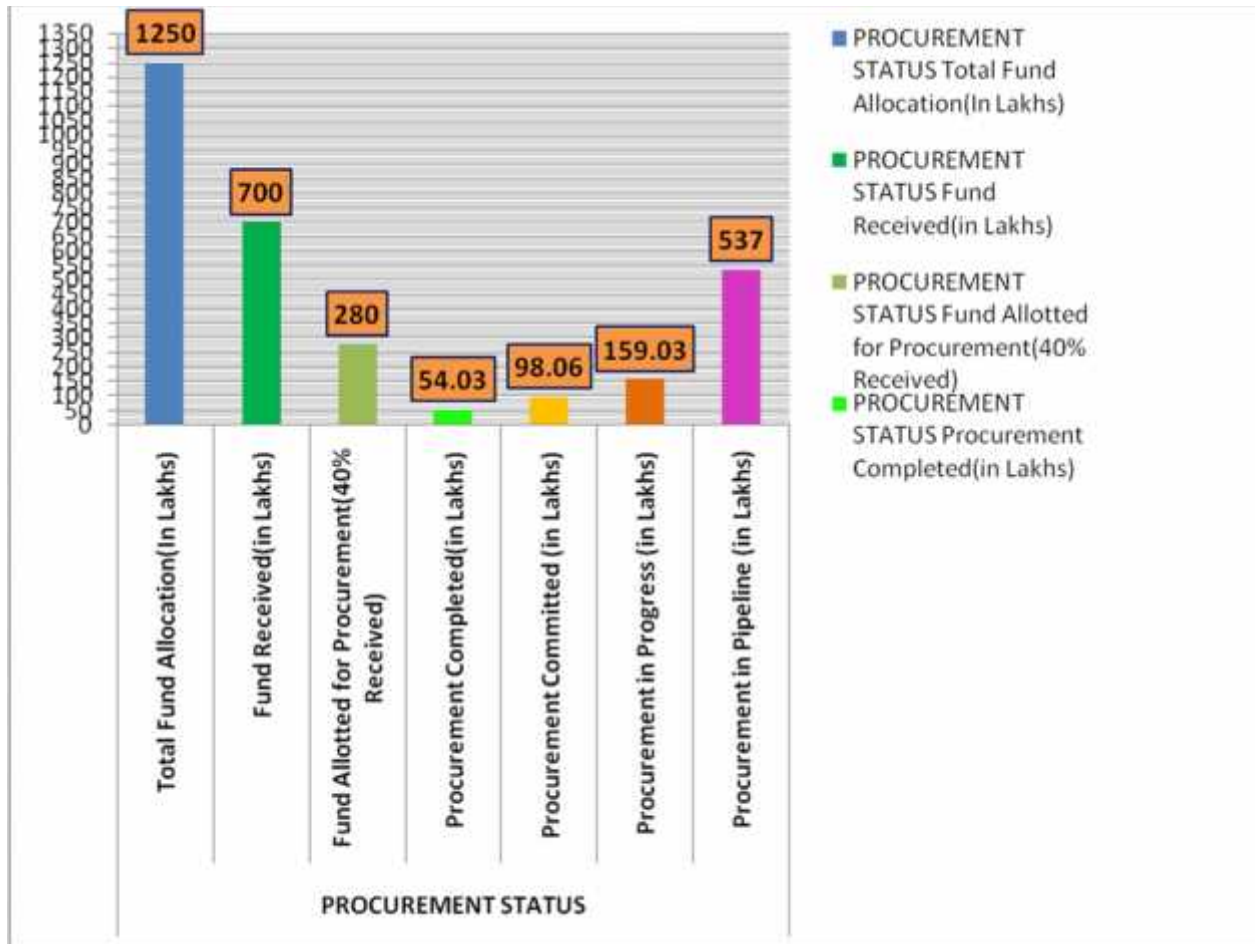
Total Procurement Plan amount:

Plan Phase 1- Rs. 3.11 Crore, (See Table A.1)

Plan Phase 2- Rs 5.37 Crore (See Table A.2)

Overview of the progress in Procurement

It may be seen from the following Figure that 100% of the funds received has been booked for the purchase. Plan of purchase for Rs. 3.11 Crores is in various stages of realization already.



Procurement Plan Phase 1

Table A.1 Procurement Plan Phase 1 (Tentative)-approved

Sl. No.	Name of Department	Total Estimated Budget
1	Civil Engineering Department (CED)	Rs. 42,40,000/-
2	Computer Science & Engineering Department (CSED)	Rs 41,00,000/-
3	Electronics & Communication Engineering Department (ECED)	Rs. 39,80,000/-
4	Electrical Engineering Department (EED)	Rs. 39,71,000/-
5	Mechanical Engineering Department (MED)	Rs. 45,58,366/-
Total		Rs. 208,49,366/-
6	Library & ETL	Rs. 17,00,000/-
7	Furniture CSED	Rs. 6,50,000/-
8	Procurement of Services	Rs. 5,00,000/-
9	Civil Works - Smart Class rooms	Rs. 37,50,000/-
10	Furniture	Rs. 20,00,000/-
11	Special Equipment for SNST	Rs. 24,00,000/-

Details of the Progress in Procurement

Table A.1.1 Procurement Completed:

Name of the item	Dept.	Associated PG Programme	Estimated Cost in Rs.	Actual Cost
Server Machine	Lib & ETL	--	6,90,000/-	5,42,981/-
Desktop PCs	Lib & ETL	--	10,00,000/-	12,60,000/-
CSED Furniture	CSED	--	6,50,000/-	5,84,154/-
Hot-Wire Anemometer	MED	M.Tech. Energy Engineering	2,00,000/-	1,33,313/-
Software Radio Educational Lab Station	ECED	M. Tech. Telecommunication	10,00,000/-	9,63,472/-
Analog Device's DSP Kits	ECED	M. Tech. Signal Processing	8,60,000/-	9,57,448/-
Coating Thickness Gauge	MED	M.Tech. Materials Science and Technology	4,50,000/-	4,47,300/-
Schematic and PCB Design software - Ntuple	ECED	M. Tech. Electronic Design & Technology. M. Tech Microelectronics & VLSI	4,50,000/-	4,60,000/-
Statutory Auditor: Services : 2013-14	--	--	1,00,000/-	53,933/-
TOTAL (purchase completed)				Rs. 54,02,602/-

Table A.1.2 Procurement in Progress:

Name of the item	Dept.	Associated PG Programme	Estimated Cost in Rs.	Actual Cost	Current Status
Data Logger Unit – Innovative Instruments	MED	M. Tech. Thermal Sciences	3,00,000/-	2,45,744/-	Item Supplied; Waiting for Payment release.
LEGO EV3 KIT & Accessories	EED	M. Tech Instrumentation & Control	60,000/-	66,525/-	Item Supplied; Waiting for Payment release.
Vitrex-6 FPGA board - XC6VLX240T	ECED	M. Tech. Electronic Design and Technology	2,40,000/-	4,48,846/-	Purchase Order Issued
Single Cylinder Constant Speed Diesel Engine	MED	M. Tech. (Energy Engineering)	2,56,366/-	1,31,250/-	Purchase Order Issued
DIgSILENT Power factory Software	EED	M. Tech Power System	7,00,000/-	7,87,500/-	Purchase Order Issued
Computer controlled, Triaxial Electronic Conversion Kit, Constant Pressure System	CED	M. Tech. Environmental Geotechnology	20,90,000/-	17,68,500/-	Purchase Order Issued
Semi Automatic Capacitance and tan test set	EED	M. Tech High Voltage Engineering	8,00,000/-	8,70,200/-	Purchase Order Issued
New controller compatible for existing 500 kg payload uni-axial shake table (Model no. Bi-00-300)	CED	M. Tech. Structural Engineering	21,50,000/-	19,60,240/-	Purchase Order Issued
BLDC Motor trainer kit	EED	M. Tech Power Electronics	8,00,000/-	1,96,770/-	Purchase Order Issued
dSPACE DS 1104 R&D Controller Board with software	EED	M. Tech Industrial Power & Automation	4,50,000/-	6,85,355/-	Purchase Order Issued
NI Lab View myRIO	EED	M. Tech Industrial Power & Automation	1,20,000/-	1,20,000/-	Purchase Order Issued
OMNI BUNDLE QBOT	EED	M. Tech Instrumentation & Control	7,40,000/-	10,40,666/-	Purchase Order Issued
RTOS Simulator	ECED	M. Tech. Electronic Design and Technology	7,50,000/-	7,77,000/-	Purchase Order Issued
Proteus VSM and PCB Hardware Simulator	ECED	M. Tech. Electronic Design and Technology	6,00,000/-	5,88,000/-	Purchase Order Issued
Industrial Hydraulics and Pneumatics Equipment	MED	M. Tech. Manufacturing Technology	4,50,000/-	1,20,268/-	Purchase Order Issued
TOTAL(PO Issued)				Rs. 98,06,864/-	

Parabola Explorer Pro - HEVC Bit Stream Analyzer and conformance test tool.	ECED	M. Tech. Signal Processing	60,000/-	--	Purchase Order Ready to issue
MINITAB 17 (Software)	MED	M. Tech. (Industrial Engineering and Management)	50,000/-	--	Quotation Evaluation Complete. Waiting for PC
Portable Gait System: Minisun	MED	M. Tech. (Industrial Engineering and Management)	7,20,000/-	--	Quotation Evaluation Complete. Waiting for PC
DSP Processor, Raspberry Pi	EED	M. Tech Power System	65,000/-	--	Quotation Evaluation Complete. Waiting for PC
Wind Energy Module					
Human Body Vibration Meter	MED	M. Tech. (Industrial Engineering and Management)	3,95,000/-	--	Quotation Evaluation Complete. Waiting for PC
Portable Hardness Tester	MED	M. Tech. (Materials Science and Technology)	1,70,000/-	--	Quotation Evaluation Complete. Waiting for PC
Mobile Wheeled Robot with accessories	MED	M. Tech (Manufacturing Technology)	4,80,000/-	--	Quotation Evaluation Complete. Waiting for PC
Desktop PC	CSED	M. Tech (Computer Science/Information Security)	16,00,000/-	--	Quotation Evaluation
High-end Server class machine					
Sound Level Meter (DB analyser)	MED	M. Tech. (Industrial Engineering and Management)	25,000/-	--	Quotation Evaluation
Light Meter (Lux Meter)					
PC based Heat Pump –Refrigeration Unit with Cycle Inversion Valve	MED	M. Tech. (Thermal Sciences)	6,50,000/-	--	Quotation Evaluation
TOTAL (in finalization stage)			Rs. 42,15,000/-		
Stand Alone PV Training System (Direct Contract)	MED	M. Tech (Energy Engineering)	2,50,000/-	--	Quotation Sent, Waiting for response
Storage area network/Network attached storage	CSED	M. Tech (Computer Science/Information Security)	25,00,000/-	--	Quotation Sent, Waiting for response
TRMS Digital Clamp Meter	EED	M. Tech Industrial Power & Automation	70,000/-	--	Quotation Sent, Waiting for response
Portable power quality	EED	M. Tech Industrial	5,50,000/-	--	Quotation

analyzer		Power & Automation			Sent, Waiting for response
6 KW Electrically Heated Sintering Furnace Cum Heat treatment	MED	M. Tech. (Materials Science and Technology)	1,05,000/-	--	Procurement to be reinitiated
Fourier Transform Infrared Spectrometer (FTIR)	SNST	M. Tech Nano Technology	24,00,000/-	--	Quotation draft Approval pending
Amount under processing of minor items			Rs. 63,000/-		
Furniture			Rs. 20,00,000/-		
Multimedia Class room	Civil Works		Rs. 37,50,000/-		
TOTAL (in process)			Rs. 116,88,000/-		

Summary

- a. Procurement Completed: Rs. 54.03 Lakhs
- b. Procurement On Progress (Contract Signed) : Rs. 98.07 Lakhs
- c. Procurement On Progress (Under processing) : Rs. 159.03 Lakhs

NATIONAL INSTITUTE OF TECHNOLOGY CALICUT
REVISED PROCUREMENT PLAN UNDER TEQIP-II
SUBCOMPONENT 1.2

PROCUREMENT PLAN PHASE-2

Institute's allocation: Rs.12.50 Crores

Allocation for procurements of Goods & Services: Rs.5.00 Crores

Funds TO BE received by the Institute: Rs.5.50 Crores

Phase 2-Allocation for procurements from funds received: Rs.2.20 Crores

Phase 2-Actual Procurement Plan Amount: Rs. 5.37 Crores

Department wise Tentative Allotment - Phase 2:

CED- Rs.40.0 lakhs

CSED- Rs.40.0 lakhs

ECED- Rs.40.0 lakhs

EED- Rs.40.0 lakhs

MED- Rs.40.0 lakhs

CC/CNC- Rs.50.0 lakhs

Central Library & Digital Library-Rs. 39 lakhs

Language Lab - Rs.15.5 lakhs

Special Equipments & Computers- 215 lakhs (subject to fund availability)

It may be seen from the following details that procurement plan has been drawn for more amount than the 40% of the allocation so that the funds can be effectively utilized well within the project period and before October 2016.

Table A.2 Procurement Plan Phase 2 approved

Requirements		Amount (Rs. Lakhs)
Equipments		
Departments	CED	40.00
	CSED	40.00
	ECED	44.00
	EED	43.48
	MED	52.87
Central Computer Centre		33.75
Campus Networking Centre		13.00
Special Equipments		
SNST (Raman Spectrometer) Subject to fund availability		90.00

CHED (Surface Area Measuring Instrument) Subject to fund availability	70.00
Language Lab	
Sanko Study 1200 Software & Desktop Computers	15.50
Central Library & Digital Library	
Migrating from existing proprietary LMS to KOHA with AMC & Installation of RFID based solution to NITC library with necessary hardware, software and initial set-up to migrate existing collection to RFID	39.00
Computers for Research Scholars, TEQIP Office, Lecture Theaters, Conference Rooms & Seminar Halls	
100 Desktop Computers (Subject to fund availability)	55.00

N.B. Scanned copy of approval attached next page

20/6/2015

SUBMITTED

Sub: TEQIP-II-Review on Status of Utilization of Funds-Additional Procurement of Goods under TEQIP-II-Proposal from Depts /Sections -Permission requested-Regarding

During an interim review of the progress of TEQIP-II implementation at NITC by official from NPIU on 16th & 17th June (Dr Yogesh Srivastava, NPIU) it was mentioned that NITC has to speed up the utilization of the funds received and the funds allocated to it. Since the progress so far has not been satisfactory, they wanted clear cut plan to be drawn by 30 June 2015, for the remaining period of TEQIP-II, that is, for the period ending in December 2016 from now onwards. Accordingly the matters were discussed with Deans & HoDs in the meetings held with the official. It was decided to review the requirements and also to strengthen certain pertinent reform activities and human resource development so that the funding of TEQIP can be fruitfully utilized by NITC within the time frame. One major component is Procurement.

Departments were asked to give additional requirements (over and above the share from the initial two installments of the TEQIP grant of Rs.700.00 Lakhs). From these the requirements have been identified for equipments for the Departments & Sections. Also, SNST and Department of Chemical Engg have suggested procurements of sophisticated instruments which will go in long way for R&D works in the core areas. This also has been considered. According to these suggestions a summary tabulation has been prepared and is given below to show the requirements under Equipments & Services for a total of Rs.5.2 Crores approximately as shown.

Other equipment

Requirements		Amount (Rs. Lakhs)
Equipments		
Departments	CED	40.00
	CSED	40.00
	ECED	44.00
	EED	43.48
	MED	52.87
Central Computer Centre		33.75
Special Equipments		
SNST (Raman Spectrometer) Subject to fund availability		90.00
CHED (Surface Area Measuring Instrument) Subject to fund availability		70.00
Language Lab		
Sanko Study 1200 Software & Desktop Computers		15.50
Central Library & Digital Library		
Migrating from existing proprietary LMS software to Opensource based KOHA with AMC & Installation of RFID based solution to		39.00

NITC library with necessary hardware, software and initial expenses to migrate the existing stock holdings & collection to RFID based circulation system for security and ease of management	
Computers	
100 Desktop Computers(Computers for Research Scholars, TEQIP Office, Lecture Theaters, Conference Rooms & Seminar Halls)- Subject to fund availability	55.00

Total-Rs.519.60 Lakhs

Head of Account: TEQIP-II-Goods & Services

It is submitted that administrative sanction may be given for processing the above requirements forthwith so as to utilize the funds available under TEQIP - II.

The brief proposals received from the Departments/ Sections is placed below. Items will be packaged as procurement packages and accordingly processed for the financial sanction separately for each package for the procurement through Online PMSS according to the TEQIP-II norms.

Project Manager TEQIP

TEQIP Coordinator

S. Chandrasekaran
Dean (P&D) 23/6/15

Registrar

For approval, pl.
H.K. M...
23/6

Orders

G. S. S. S. S.
23/6

DIRECTOR