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

REVISED

INSTITUTIONAL DEVELOPMENT PROPOSAL

for

Sub-Component 1.2: Scaling-up Postgraduate Education and Demand-driven Research & Development and Innovation

National Institute of Technology Silchar

Assam, PIN 788010

INSTITUTIONAL BASIC INFORMATION

1.1 Institutional Identity:

- Name of the Institution : NIT Silchar
- Is the Institution AICTE approved? : Yes
- AICTE approval no. : F.NO.750-72-103(E)/ET/95, dtd.20.06.05
- Type of Institution : Govt. funded
- Status of Institution : Deemed
- Names of Heads of Institution and Project Nodal Officers

Heads and Nodal Officers	Names	Phone Numbers	Mobile Numbers	Fax Numbers	E-mail Addresses
Head of the Institution (Full time appointee)	Prof. N V Deshpande	03842242273	9435177797	03842224797	nishu1952@gmail.com
TEQIP Coordinator	Dr. P J Roy	03842240113	9435500889	03842-224797	parthajit_roy@yahoo.co.in
Project Nodal Officers for:					
Academic Activities	Dr. L C Saikia	03842240113	9435173835	03842-224797	lcsaikia@yahoo.com
Procurement	Wasim Arif	03842240113	9435730057	03842-224797	arif.ece.nits@gmail.com
Financial Aspects	Nilotpal Chakraborty	03842240113	9435373649	03842-224797	noopur1957@gmail.com
Equity Assurance Plan Implementation	Dr. K L Baishnab Madhuchhanda Nath	03842240113	9435176506 9435176056	03842-224797	klbaishnab@gmail.com m123nath@gmail.com

1.2 Academic Information

Engineering programmes offered in Academic year 2013-2014

S. 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 years	1977	120	429
2	B. Tech in Mechanical Engineering	UG	4 years	1977	120	437
3	B. Tech in Electrical Engineering	UG	4 years	1977	92	380
4	B. Tech in Electronics & Communication Engg	UG	4 years	1983	120	397
5	B. Tech in Computer Sc. and Engg.	UG	4 years	1987	92	356
6	B. Tech in Eletronic & Instrumentation Engg	UG	4 years	2009	60	134
7	MTech in Water Resources Engg	PG	2years	2004	25	30
8	MTech in Earthquake Engg	PG	2years	2004	25	31
9	MTech in Transportation Engg	PG	2years	2009	25	27
10	MTech in Geotechnical Engg	PG	2years	2009	25	27
11	MTech in Structural Engineering	PG	2 Years	2013	25	20
12	MTech in Thermal Engg	PG	2years	2004	25	40
13	MTech in Design & Manufacturing	PG	2years	2008	25	39
14	MTech in CAD-CAM & Automation	PG	2 Years	2013	12	9
15	MTech in Materials & Manufacturing Technology	PG	2 Years	2013	12	8
16	MTech in Power & Energy System	PG	2years	2005	25	34
17	MTech in Control & Industrial Automation	PG	2 Years	2011	25	23
18	MTech in Micro Electronics & VLSI design	PG	2years	2007	25	35
19	MTech in Communicatiomn & Signal Processing	PG	2 Years	2013	12	9
20	MTech in Computer Science & Engineering	PG	2 Years	2012	25	31
21	MSc in Applied Chemistry	PG	2 Years	2009	25	26
22	Msc in Applied Physic	PG	2 years	2012	25	14
23	Msc in Applied Mathematic	PG	2 years	2012	25	7

24	MBA	PG	2 years	2012	60	59
25	Doctoral Program under CE Deptt	PhD	Min-2 Years, Max- 6 Years	2004	No limit	27
26	Doctoral Program under ME Deptt	PhD	Min-2 Years, Max- 6 Years	2006	No limit	33
27	Doctoral Program under EE Deptt	PhD	Min-2 Years, Max- 6 Years	2006	No limit	29
28	Doctoral Program under ECE Deptt	PhD	Min-2 Years, Max- 6 Years	2007	No limit	35
29	Doctoral Program under CSE Deptt	PhD	Min-2 Years, Max- 6 Years	2009	No limit	16
30	Doctoral Program under E&I Deptt	PhD	Min-2 Years, Max- 6 Years	2014	No limit	06
31	Doctoral Program under Chemistry Deptt	PhD	Min-2 Years, Max- 6 Years	2005	No limit	21
32	Doctoral Program under Physic Deptt	PhD	Min-2 Years, Max- 6 Years	2004	No limit	06
33	Doctoral Program under Mathematic Deptt	PhD	Min-2 Years, Max- 6 Years	2009	No limit	09
34	Doctoral Program under HSS Deptt	PhD	Min-2 Years, Max- 6 Years	2006	No limit	21

- **Accreditation Status of UG programmes:**

Title of UG programmes being offered	**Whether eligible for accreditation or not?**	**Whether accredited as on 31st March 2014?**	**Whether "Applied for" as on 31st March 2014?**
B. Tech Civil	Yes	Yes	NA
B. Tech Mechanical	Yes	Yes	NA
B. Tech Electrical	Yes	Yes	NA
B. Tech Electronics	Yes	Yes	NA
B. Tech Computer Sc. And Engg.	Yes	No	Yes
B.Tech Electronic & Instrumentation	No	No	N/A

- **Accreditation Status of PG programmes:**

Title of PG programmes being offered	**Whether eligible for accreditation or not?**	**Whether accredited as on 31st March 2014?**	**Whether "Applied for" as on 31st March 2014?**
MTech in Water Resources Engg	Yes	Not Accredited	Not Applied
MTech in Earth Quake Engg	Yes	Not Accredited	Not Applied
MTech in Transportation Engg	Yes	Not Accredited	Not Applied
MTech in Geotechnical Engg	Yes	Not Accredited	Not Applied
MTech in Structural Engineering	No	Not Accredited	Not Applied
MTech in Thermal Engg	Yes	Not Accredited	Not Applied
MTech in Design & Manufacturing	Yes	Not Accredited	Not Applied
MTech in CAD-CAM & Automation	No	Not Accredited	Not Applied
MTech in Materials & Manufacturing Technology	No	Not Accredited	Not Applied
MTech in Power & Energy System	Yes	Not Accredited	Not Applied
MTech in Control & Industrial Automation	No	Not Accredited	Not Applied
MTech in Micro Electronics & VLSI design	Yes	Not Accredited	Not Applied
MTech in Communicatiomn & Signal Processing	No	Not Accredited	Not Applied
MTech in Computer Science & Engineering	No	Not Accredited	Not Applied
MSc in Applied Chemistry	Yes	Not Accredited	Not Applied
MSc in Applied Physics	No	Not Accredited	Not Applied
MSc in Applied Mathematics	No	Not Accredited	Not Applied
MBA	No	Not Accredited	Not Applied

1.3 Faculty Status (Regular/On-Contract Faculty as on March 31st, 2014)

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

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 Discipline		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	29	16	0	2	0	0	0	0	0	0	0	0	0	18	11	0
Asso Prof	58	11	0	2	0	6	0	1	0	0	0	0	0	20	38	0
Asst Prof	115	17	0	17	4	39	11	1	19	0	0	0	0	74	41	34
Lec	Nil	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	202	44	0	21	4	45	11	2	19	0	0	0	0	112	90	34

1.4 Baseline Data for the institute

S. No.	Parameters	Data
1	Total strength of students in all programmes and all years of study in the year 2013-14	2772
2	Total women students in all programmes and all years of study in the year2013-14	323
3	Total SC students in all programmes and all years of study in the year 2013-14	396
4	Total ST students in all programmes and all years of study in the year 2013-14	205
5	Total OBC students in all programmes and all years of study in the year 2013-14	761
6	Number of fully functional P-4 and above level computers available for students in the year 2013-14	1100
7	Total number of text books and reference books available in library for UG and PG students in the year 2013-14	90418
8	% of UG students placed through campus interviews in the year 2013-14	66.53%
9	% of PG students placed through campus interviews in the year 2013-14	44.10%
10	% of high quality under Graduates (>75% marks) in the year 2013-14	44%
11	% of high quality postgraduates (>75% marks) in the year 2013-14	97.71%
12	Number of research publications in Indian refereed journals in the year 2013-14	12
13	Number of research publications in International refereed journals in the year 2013-14	145
14	Number of patents obtained in the year 2013-14	Nil
15	Number of patents filed in the year 2013-14	03
16	Number of sponsored research projects completed in the year 2013-14	07
17	The transition rate of students in percentage from 1st year to 2nd year in the year 2013-14 for : (i)all students (ii)SC (iii)ST (iv)OBC	 89% 73% 70% 90%
18	IRG from students fee and other charges in the year 2013-14 (Rs. in lakh)	1135.54
19	IRG from externally funded R&D projects, Consultancies in the year 2013-14 (Rs. in lakh)	18.40
20	Total IRG in the year 2013-14 (Rs. in lakh)	1153.94
21	Total annual recurring expenditure of the applicant entity in the year 2013-14(Rs. in lakh)	3082.47
22	Number of Joint publications with National authors in the year 2013-14	50
23	Number of Joint publications with International authors in the year 2013-14	9
24	Number of R&D products commercialized in the year 2013-14	Nil
25	Number of joint MTech programmes with institutions undertaken in the year2013-14	Nil
26	Number of joint MTech programmes with Industry undertaken in the year 2013-14	Nil
27	Number of joint PhD with institutions undertaken in the year 2013-14	1
28	Number of joint PhD with Industry undertaken in the year 2013-14	Nil
29	Number of joint consultancies undertaken with institutions in the year 2013-14	Nil
30	Number of joint consultancies undertaken with Industry in the year 2013-14	Nil

Benchmarks values for the institution for Sub-component-1.2

Sl No.	Attainment Parameters	Benchmark Values	Institutions Responses (Yes/No)
1	Does the institution agree to implement all academic and non academic reforms given as below: • 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 • Improvement performance appraisal of faculty by students • Provide faculty incentive for Continuing Education (CE), consultancy and R&D • Obtaining accreditation	**Yes**	NIT Silchar agrees to implement all listed academic reforms
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 Chairperson	**Yes**	Yes
4	Percentage of eligible UG programmes accredited or applied for	**60%**	80%
5	Percentage of eligible PG programmes accredited or applied for	**40%**	0%
6	Cumulative number of PhDs produced in the last three academic years 2011-2012, 2012-2013, 2013-2014 or Cumulative number of M.Tech produced in the last three academic years 2011-2012,2012-2013,2013-2014	**5**	23 177
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%**	55.45%
8	Percentage of regular faculty with PhD in engineering* as percentage of total faculty	**15%**	39.29%

2. INSTITUTIONAL DEVELOPMENT PROPOSAL (IDP)

2.1 Executive Summary

I VISION

To create technical manpower with sound technological knowledge & research proficiency, human values and professional ethics with concern for the society to meet national and global requirements.

II MISSION -- Long term objectives

- Creating high quality teaching-learning environment
- Improving research facilities to act as centres of excellence in technical education catalysing absorption, innovation, diffusion and transfer of high technologies.
- Offering technical assistance for development of small scale Industries and sustainable development of NE region.

III PRAGMATIC OBJECTIVES

- To upgrade teaching-learning facilities to build strong foundation in basic concepts
- To upgrade PG education and research oriented activities to meet global requirements in the emerging areas
- To enhance industry institute interactions leading to increased collaborative research concerning real life technological issues.
- Improvement in institute-society linkage through strengthening of consultancy services, continuing education programs and offering need based training programs
- To provide technical support to villagers, agriculturists and others for overall sustainable and eco-friendly development of NE region

IV.PRIORITIZED ACTIVITIES	**Rs. in Lacs**
Procurement of Good	**150**
Assistantship	**80**
Research & Development	**80**
Faculty & Staff Development	**90**
Industry Institute & Interaction	**40**
Management Capacity Development	**40**
Institutional Reform	**35**
Academic Support to weak students	**15**
Incremental operating cost	**90**
Total	**620**

V MODE OF OPERATION

To implement the objectives and to monitor the progress, specific cells will be created. To overview activities of these cells a co-ordination committee will be formed.

VI OUTCOME

The institute will be better equipped to impart PG education and quality research in engineering fields. Industry-institute and institute-society linkages would get strengthened leading to overall improvement in the teaching-learning and research oriented activities in the institute benefitting society at large. Students graduating from NIT Silchar would be equipped with high standard of Technological knowledge, research aptitudes, self learning competence, creative ability, confidence in technical communication and would be capable of serving the nation better.

2.2 SWOT analysis

The institute conducted a detailed SWOT analysis to identify its own thrust area based upon its current strengths, capabilities, facilities, interest and future projections incorporating diverse needs and local conditions. Brain storming sessions involving different stakeholders namely, faculty, nonteaching technical and non technical staff, different academic and non-academic functionaries and students were held to identify pragmatic goals that the institute aspires to achieve in near future along with the main challenges/hurdles faced by it.

Following points reflecting key strength, weakness, opportunity and threats for the institution emerged from the SWOT analysis exercise.

A) STRENGTHS

Academic areas

- Good quality faculty
- Creamy layer of students
- Full academic autonomy and deemed university status
- Adherence to academic calendar with regular academic sessions
- Periodic updation of curricula
- Availability of PG programs in different Engineering disciplines
- Efficient T&P section with very good placement records
- Conducive ambience and well endowed computational and academic infrastructural facilities

Non academic areas

- Financial autonomy
- Good funding
- Good pay package
- Alumni in senior/influential positions
- Professional BOG

B) WEAKNESSES

Academic areas

- Non availability of sufficient number of quality research scholars
- Inadequate and insufficiently trained supporting technical staff
- Lack of faculty with international repute and outstanding performances
- Inadequate sophisticated equipment and labs in the areas of emerging
- Technologies & cutting edge disciplines for post graduate teaching and research
- Inadequate educational technology facilities according to global norms
- Low research and consultancy outputs due to inadequate research facilities
- Teaching is curricula centric than learning centric

Non academic areas

- Inadequate linkage with industry and community
- Inadequate administrative skilled staff/officers
- Lack of emphasis on entrepreneur skill development in students

C) OPPORTUNITIES

Academic areas

- Scope of providing world class education in cost effective manner
- Scope for national and international collaborations and joint ventures.
- Increase in research activities; PhD and sponsored research
- Scope for establishing centre of excellence and advance study

Non academic areas

- Scope of taping alumni experiences; building corpus fund, developing labs, Chair professorship, collaborative programs with universities/industries etc.
- Scope of increased interaction with industries located nearby
- Scope of tapping natural resources available at various parts especially, in NE region of the country

D) THREATS

Academic areas

- Lack of good quality teachers may permit mediocrity to overtake excellence
- Overloading of faculties by academic and administrative activities

Non academic areas

- More attractive opportunities outside Silchar, remote locality, tedious transportation facilities, high cost of living etc. pose great threat to attract and retain good faculty and technical staff.

2.3 Strategic plan for institutional development

The results of the SWOT analysis exercise show that there is a need and scope for up gradation of PG education and research activities in the institute. To meet national and international requirements and to achieve further excellence in technical education more emphasis needs to paid on the expansion of PG education and quality research in the institute. The institute needs to lay more emphasis in strengthening industry-institute and industry-society linkages for deriving mutual benefits.

To achieve the goals of overall academic excellence, up gradation of PG education, strengthening of research oriented activities and industry-institute interaction following key activities are proposed to be undertaken

Academic excellence

- Modernization of Laboratories and enhancing of learning resources
- Strengthening of existing PG Programs and opening of new PG programs
- Institution of PG & PhD scholarships to increase enrolment
- Increased interaction with industries to widen collaborative research programs
- Networking and resource sharing with other educational institutes and learning centres
- Strengthening of Continuing Education Programs offering need based courses and consultancy services
- Training faculty and staff to enhance subject knowledge and management efficiency
- Exposure of student and faculty to real life problem solution

Institutional Management System

- Training of administrative personnel for management of the institution
- Filling of vacant administrative posts
- Increase in student intake to reduce management cost

Implementation of Institutional Capability

For efficient implementation and monitoring of TEQIP project following two tier arrangements will be made.

- Project Co-ordination and Target Monitoring Committee
- Infrastructure Developmental Cell
- Learning Resource Development Cell
- Research and consultancy Development cell
- Faculty & Staff Dev. and appreciation Cell
- Industry-Institute interaction Cell
- Construction Cell
- Procurement Cell

2.4 Objectives and expected results

Broad objectives in terms of, Scaling-up Postgraduate Education and demand -driven Research & Development and Innovation .that the institute aspires to achieve in near future may be stated as

- Excellence in overall academic activities
- Strengthened PG education and research oriented activities
- Strong Industry-institute and Industry-society linkages

To achieve these broad objectives key activities planned have been described in the foregoing sections. The proposed activities are effective in enhancing teaching learning processes especially, the PG education and research facilities in the institute. On successful achievement of the set targets the institute will become better equipped to impart PG education and quality research in engineering fields. Industry-institute and institute-society linkages would get strengthened leading to overall improvement in the teaching-learning and research oriented activities in the institute benefitting society at large. Students graduating from NIT Silchar would be equipped with high standard of Technological knowledge, research aptitudes, self learning competence, creative ability, confidence in technical communication and would be capable of serving the nation better.

2.5 Action plan for scaling-up enrollment into Masters and Doctoral programs

Following measures are proposed to be undertaken to increase enrolment in Master's and Doctoral Programs

- Opening up of new PG programs in emerging areas
- Establishment of new and improvement of existing PG laboratories
- Increasing facilities for PG education, equipment. LRs, internet access, etc
- Improving teaching/learning processes through better curricula, better faculty competence, better interaction, and exposure to industrial practices
- Providing Scholarships to PG & PhD scholars
- Providing more emphasis on real life and industry based technical problem solutions
- Organizing industrial training and visits to industry and higher educational centres
- Strengthening collaborative works; resources and expert sharing with other institutions
- Organising expert lecturer in specialized and emerging areas

2.6 Action plan for improving collaboration with Industry.

To strengthen collaboration with Industries following measures are proposed

- Conducting more Industry oriented Continuing Education Programs
- Opening up of more number of Industry related specialized courses
- Offering related problems as PG and PhD research topic
- Arranging expert exchange/expert visit program with industries
- Organizing Industrial training of faculty
- Organizing Industrial training of students

2.7 Action plan for improving research by the faculty individually, jointly and collaboratively

- Strengthening Provision of reward for research achievement
- Improving research facilities in the institute
- Providing merit points during promotion
- Providing adequate research grant and seed money

2.8 Action plan for developing research interest among undergraduate students

- Organizing motivation/orientation programs for UG students to familiarize them with the interesting research areas in engineering and the challenges
- Staring more number of elective subjects with advanced topics to introduce research areas to the students
- Organizing Industrial training of students
- Starting the scheme of recognition and certification for performing research related works during UG programs

2.9 Action plan for improving collaboration with Indian and foreign institutions in academic and research area through MoUs

- Providing encouragement and fund to faculty and student to visit national and international institutes to initiate contact, exchange of ideas for possible collaborative assignments
- Organization of joint seminar and conferences with foreign academic institution to enhance academic interactions

2.10 Training Needs Analysis.

Study to finalize training requirements for individual teacher and staff of the institute was conducted using the guidelines described in PIP. All individual members were requested to indicate his/her desire and need for self upgradation and training. All individual members first gave their choices and preferences for training to the respective head of the department/section who finalized the training requirement for the department./section keeping in view the future expansion and need of the department./ section. On the basis departmental training requirements as indicated by the heads the director of the institute took a final view in deciding training requirement and schedule for the institute in consonance with the overall developmental objectives of the institute.

Faculty Development Plan to achieve improved competence based on Training Needs Analysis (TNA) in different areas namely, Basic and advanced pedagogy training, Subject / domain knowledge enhancement, improving research capabilities is attached with the IDP

2.11 Training technical and other staff in functional areas.

It is recognised that to achieve academic excellence and administrative efficiency training of supporting technical staff, administrative and managerial staff is essential. To train the nonteaching staff mainly inhouse training program focussed on skill development and efficiency enhancement will be conducted. Similarly management programs will also be conducted in the institute to benefit teaching and administrative functionaries.

2.12 Relevance and coherence of the Institutional Development Proposal

The present TEQIP proposal is formulated to achieve excellence in overall academic activities, strengthened PG education and research activities. At present there is increased need for quality PG and PhD holders due to vast expansion of technical education. Expansion and strengthening of PG & PhD programs is expected to enable the institute produce significantly high number of quality PG and PhD degree holders.

2.13 Participation of departments/faculty in the proposal preparation and implementation.

The departments in the institute and the faculty members took part in preparing the proposal. All department HODs and the faculty shared their views in identifying strength, weaknesses of the institute and the objectives the institute wants to achieve. Besides this the faculty members took part in TNA exercise and also prepared proposals for laboratory development.

2.14 Programme Implementation and Monitoring Mechanisms

To implement the project and monitoring the progress, a two tier management structure is proposed as under. The proposed cells will be responsible for project activities in the identified areas. These cells will report progress of each activity and difficulties, if any, to the Project Co-ordination and Target Monitoring Committee (PCTMC). PCTMC, in its turn, will check the achievements in each project target. It will co-ordinate the activities of different cells, advice remedial measures if any shortfall is noticed.

SL.NO	Name of Cell/Committee	Cell/Committee Composition	Activities
1	Project Co-ordination and Target Monitoring Committee	Director, all Deans ,Co-ordinator TEQIP,Registrar and Head of each implementation Cells	To monitor progress, coordinate the activities of different cells and guide in case of shortfall or deviation.Undertake Management reforms
2	Infrastructure Developmental Cell	Nodal officer (Acd), Dean Acad, Dean faculty welfare, and HODs of all Deptts..	To enhance academic excellence upgradation of PG education
3	Learning Resource Development Cell	Librarian, Asstt.Librarian, One Faculty member from each Deptt.	Procurement of Books and other LRs etc.
4	Sponsored Research & Consultancy Dev. Cell	Dean SRC, All HODs,	Resource generation
5	Faculty & Staff Development and Appreciation Cell	Nodal officer (Equity, Dean Acad, Dean faculty welfare, All Heads and Registrar	To recommend training, reward /incentive
6	Industry-Institute interaction Cell	Dean, SRC, All HoDs	Industry-Institute Interaction
7	Construction Cell	Dean P&D, Estate officer, Asstt. Estate Engineer,	Planning & Management of construction activities. Preparation of Campus master plan.
8	Procurement Cell	Nodal officer (Procurement), Registrar, Dy. Reg. (Ac), Store officer, and all HODs	Equipment and other Procurement activities

The members of each cell will meet bimonthly to plan and carry out the following steps for systematic implementation and monitoring of the various activities.

Implementation

i) Identification of problem
ii) Analysis of problems
iii) Identification of solution
iv) Implementation of solution

Monitoring

I) obtaining feedback of progress
II) Identification of pitfalls in implementation
III) Adoption of remedial measures
IV) Reporting periodical progress to appropriate authority

2.15 Institutional Project Budget for Sub-Component 1.2 **(Rs in Lacs)**

Sl No.	Activities		Project Life Allocation (Rs. in Lacs)	Financial Year (Rs.)	
				2014-2015	2015-2016
1	Procurement	ICT enabled learning, related softwares & hardware.	**150**	30	0
		New laboratory for new PG programs		0	0
		New laboratory for existing PG programs		0	0
		Library i.e. books,e-books, journals, e-journals course specific softwares		40	0
		membership of online journals & consortium		0	0
		Digital/Virtual learning		10	0
		Equipments for Institutional TEQIP unit.		5	0
		Civil Work		15	0
		Others		50	0
2	Provide Teaching and Research Assistantships for significantly increasing enrolment in existing and new Master's and Doctoral programmes in Engineering disciplines		**80**	50	30
3	Enhancement of R & D and institutional consultancy activities		**80**	35	45
4	Expenditure on faculty and Staff development for improved competence based on Training Needs Analysis.		**90**	35	55
5	Enhanced interaction with Industry		**40**	15	25
6	Institutional Management Capacity enhancement		**40**	15	25
7	Implementation of Institutional academic reforms		**35**	20	15
8	Academic support for weak students		**15**	7	8
9	Incremental operating cost		**90**	40	50
Total			**620**	**367**	**253**

Justification of **Institutional Project Budget for Sub-Component 1.2**

Sl	Activity Head	Justification
1	Procurement	Equipments for Research Development Innovation Lab PG students. The aim is to promote innovation and product manufacturing. The Lab is aiming for entrepreneurship and incubators.
2	Assistantship	Committed assistantship for one batch of PG Students from May 2015 to April 2016. This batch of students is admitted in the Academic year 2014
3	Enhancement of R & D	R&D labs and industries are communicated and invited for various activities. R&D parks for incubators/getting faculty from industries, IITs, R &D Labs, IIMs to enhance the R&D activities.
4	FSD for improved competence based on Training Needs Analysis.	Faculty members will be sent to participate in international workshop/Conference/Seminar/Symposium for collaborative research with foreign universities. Technical staff training.
5	Interaction with Industry	Interaction with industry through Research Park, Innovation Lab for entrepreneurship/Incubation and finishing school.
6	Institutional Management Capacity enhancement	Faculty for IIMs training for leadership.
7	Institutional academic reforms	Accreditation for eligible UG and PG program.
8	Academic support for weak students	To support weak students through remedial classes, summer term etc for the improvement in their performance.
9	Incremental Operating Cost	As specified.

2.16 Targets and the deliverables

Project Targets for Institutions under Sub-Component 1.2

S. No.	Deliverables	Base-Line (2013-2014)	Target to be Achieved	
			At the end of 1 years of joining the project	By Project Closing
1	Number of students registered for (a) Masters in Engineering programme (b) Doctoral Programme in Engineering	 217 40	 217 50	 217 60
2	Revenue from externally funded R&D projects and Consultancies in total revenue (Rs. in lakh)	18.40	25	30
3	Number of (a) Research publications in refereed journals • National journals • International journals (b) Citations (c) Patents obtained / filed (d) Books (e) No. of R&D projects commercialized	 12 145 Nil 3 Filed 14 Nil.	 20 200 50 4 17 1	 30 220 55 5 20 2
4	IRG as % of total recurring expenditure	29%	30%	35%
5	Number of co-authored publications in refereed journals (a) National (b) International	 9 50	 15 70	 20 80
6	Student credentials (a) Campus placement rate of • UG students • PG students (b) Average salary of placement package for (Rs. in lakh) • UG students • PG students	 66.53 % 44.10 % 3.93 Lacs PA 4.94 Lacs PA	 75% 45% 4.00 Lacs PA 5.00 Lacs PA	 80% 50% 5.00 Lacs PA 5.50 Lacs PA
7	Number of collaborative programmes with Industry	6	7	8
8	Accreditation Status (obtained and applied for)	1 UG program accredited for 5 years & 3 UG programs accredited for 3 years.	UG=3+2=5 PG=5	UG=5+1=6 PG=5+4=9
9	Vacancy position for faculty and staff	Faculty=45.54% Staff=24.33%	Faculty=30.% Staff= 20.%	Faculty=10 % Staff= 10.%
10	Percentage of regular faculty with PhD in Engineering disciplines	27.33 %	50%	60%
11	Any other (maximum three)	-	-	-

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

(I) Presently 6 UG Programs and 14 Engineering PG programs are running in NIT Silchar. Out of this 4 UG programs are accredited in 2014 and 5 PG programs have submitted their SAR for NBA Accreditation in 2015. Emphasis is given on getting all the remaining eligible UG & PG programs accredited by 2016.

(II) To increase revenue from externally sponsored projects all faculties are encouraged to secure R&D projects from industry and different Govt and non Govt agencies such as, DST, NRDMS, MoES, AICTE, Railways, Paper mill, etc. At present the institute has reasonably good earnings from consultancy services. Some of the important clients of the institutes are: Indain Railways, BRTF, Air port Authority of India, CWC, Brahmaputra Board, Govt. of Assam, Tripura and Mizoram. To create interest and to boost involvement of more faculties in R&D and consultancy works the concerned faculties are paid 70% of the consultancy earnings and also the faculties are given credit points in the carrier advancement scheme. To increase consultancy client base interaction with neighboring small scale industries are constantly being improved and an Industry-Institute interaction Cell (III-Cell) has already been established to
monitor the process.

(III) NIT Silchar has started a scheme of rewarding teachers for publication in nation and international journals. Research works such as securing and completing R&D projects and consultancy works successfully ,collaborative works with industry and academic institutions, guiding PG and PhD students, participation in seminar conferences etc are given due importance during promotion. The institute has professional development fund from which a faculty is given Rs. 1.00 lacs every year for his/her professional development. These adopted measures are likely to be very much useful in reaching the targeted goals in terms of research publication, and collaborative works with industries and academic institutions.

(IV) To increase the number of qualified teachers the institute has started the system of rolling advertisement. The new system is expected to benefit the institute in getting and appointing qualified faculty in various departments.

2.17 Plans to ensure that the project activities would be sustained after the end of the Project.

To successfully implement the TEQIP-II project aimed at scaling up PG education and research activities and innovation in the institute Program implementation and Monitoring mechanism has been formulated. The implementation and monitoring system with different cells under it will be responsible to see that project targets are best achieved. The Monitoring Unit will suggest different strategies for implementation, corrections/modification in the implementation needed during the course of action so that the deliverables can be absorbed by the system and are sustainable.

2.18 Provide any other information related to special academic achievements of the institution.

2.19 Action plan for organizing 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.

For NIT Silchar transition rate from 1st to 2nd year of study for all students, SC,ST, and OBC students in the session 2013-14 was respectively 89%,73%,70% and 90%. To increase transition rate for the weak students and to increase their employability following actions are proposed to be undertaken.

- Provision of enhanced book bank scheme for SC, ST students
- Remedial classes for weak students
- Career counseling and guidance
- Provision of summer term courses
- Organization of special language training classes for weak students to improve communication skills

Director
NIT Silchar

NATIONAL INSTITUTE OF TECHNOLOGY TEQIP-II SILCHAR