

TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME

(TEQIP) (PHASE-II)

**REVISED INSTITUTIONAL DEVELOPMENT PROPOSAL FOR
EXTENDED PERIOD
TILL DECEMBER
2016**

For

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



Prepared by

K.E. Society's

Rajarambapu Institute of Technology, Rajaramnagar (Sakharale),

Sangli (M.S) PIN- 415414

K.E. Society's Rajarambapu Institute of Technology

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1.1 INSTITUTIONAL INFORMATION

Name of the Institution	K.E Society's Rajarambapu Institute of Technology, Rajaramnagar (Sakharale), Sangli (M.S) PIN-415414
Is the Institution AICTE approved?	Yes
Furnish AICTE approval no.	No.F.27-16/91-AICTE/2852 dated- 29/07/1992 F. No. Western/1-2018630908/2014/EOA
Type of Institution	Private Unaided/Autonomous
Status of Institution	Autonomous Institute as declared by UGC Letter No. F.22-1/2011 (AC) & affiliation to Shivaji University,

- **Board of Governors of the Institute**

Sr. No.	Name	Category	Designation
1	Hon. Bhagatsingh Rajaram Patil	Chief Trustee	Chairman
2	Hon. Jayantrao Rajaram Patil (Minister for Rural Development, M.S.)	Nominee of The Trust	Member
3	Hon. Shamrao Parashram Patil (President, Kasegaon Education Society)	Nominee of The Trust	Member
4	Hon. Ramchandra Dayandeo Sawant (Secretary, Kasegaon Education Society)	Nominee of The Trust	Member
5	Hon. Shamrao Dnyandeo Patil (Chairman, Rajarambapu Co. Bank Ltd.)	Nominee of The Trust	Member
6	Hon. Dr. U. Chandrasekhar (Secretary & Director General, The Institution of Engineers (India), Kolkata)	Expert From Education	Member
7	Hon. Dr. M. P. Ravindra (Ex. Vice Chancellor, Manipal International University, Malaysia)	Expert From Education	Member
8	Hon. Vivek Sawant (Managing Director, MKCL, Pune)	Expert from Industry	Member
9	Hon. Amit B. Kalyani (Managing Director, Bharat Forge Ltd., Pune)	Expert from Industry	Member
10	Hon. H.N. Agarwal	UGC Nominee	Member
11	Hon. D.S. Meshram (Joint Director, DTE, Regional Office, Pune)	DTE. Nominee	Member
12	Hon. Dr. D. T. Shirke	University Nominee	Member
13	Dr. Martand T. Telsang (Dean Academic, RIT, Rajaramnagar)	Teacher Nominated by Principal/Director	Member
14	Prof. Rajan D. Padval (Registrar, RIT, Rajaramnagar)	Teacher Nominated by Principal/Director	Member
15	Prof. Sandip A. Thorat (Head Information Technology Dept. RIT, Rajaramnagar)	Teacher Nominated by Principal/Director	Member
16	Dr. Mrs. Sushma S. Kulkarni	Director	Member & Secretary

• **Name of Heads of Institution Project Nodal Officers**

Heads and Nodal Officers	Names	Mobile Numbers	Phone Numbers	Fax Numbers	E-mail Addresses
Head of the Institution (Full time appointee)	<i>Dr. Mrs. S.S. Kulkarni</i>	9970700701	02342-220329	220989	sushma.kulkarni@ritindia.edu
TEQIP Coordinator	<i>Dr. P.S. Patil</i>	9970700717	02342-220329	220989	pandurang.patil@ritindia.edu
Project Nodal Officers for:					
Academic Activities	<i>Dr. M.T. Telsang</i>	9970700705	02342-220329	220989	martand.telsang@ritindia.edu
Civil Works including Environment Procurement	<i>Prof. D.B. Kulkarni</i>	9970700751	02342-220329	220989	dattatrava.kulkarni@ritindia.edu
Financial Aspects	<i>Dr. S.A. Pardeshi</i>	9970700804	02342-220329	220989	sanjav.pardeshi@ritindia.edu
Activity Incharge, Enhance	<i>Prof. M.L. Deshpande</i>	9890080722	02342-220329	220989	mahesh.deshpande@ritindia.edu
Nodal Officer (Weak Student)	<i>Prof. D.G. Thombare</i>	9970700740	02342-220329	220989	dhananjav.thombare@ritindia.edu
Activity Incharge, Research &	<i>Prof. P.P. Deshpande</i>	9890080711	02342-220329	220989	prashant.deshpande@ritindia.edu
Activity Incharge, Improve quality	<i>Dr. A.C Attar</i>	9970700901	02342-220329	220989	abdulrashid.attar@ritindia.edu

1. 2 PREAMBLE

K.E Society's Rajarambapu Institute of Technology Rajaramnagar (Sakharale), an Autonomous Institute was selected for TEQIP-II under Sub Component 1.2. Institute had spent allocated amount of Rs. 4 Crores on the various parameters mentioned in the IDP as per the PIP document. Since the project implementation, 2 cycles of Performance Audit and Data Audits were completed. Internal Finance Audit, Statutory finance audit have been completed up to 2013-14.

Institute has met all the 12 performance indicators and was termed as best performing Institute in the recent 4th JRM meeting held in December 2014. All the eligible UG and PG programmes have been accredited/ applied for accreditation. The institute has completed all the till date data inputs into the MIS. Procurement plan has also been executed. Completion and implementation of good governance development plan.

1.3 Details of SWOT Analysis and Strategic Plan

Summary of SWOT Results

Strengths		Weaknesses	
S1	The institution is well reputed and has been steadily growing in stature over 27 years	W1	Lack of multidisciplinary research approach and limited faculty members involved in research activities
S2	Well equipped infrastructure and resources to meet needs of the curricula	W2	Locational disadvantage to attract Ph.D. faculty
S3	Qualified dedicated team of faculty and staff	W3	Inadequate support to academically weak students and poor language & communication skills among students and some faculty
S4	The institution management is supportive and non-interfering. The institution management encourages the faculty to upgrade their qualifications.	W4	Inadequate alumni interaction
S5	The institution has strong community outreach programme and provides regular technical expertise.	W5	Mismatch of curricula with industry need.
S6	The institution is one of four institutions in the state offering Automobile Engineering course.	W6	Unable to attract larger number of high profile industry due to location disadvantage.
S7	Three departments of the institution are recognized as Ph.D. Centers by the affiliating University.	W7	Lack of focus on sponsored research
S8	Institution is a member of number of Professional Bodies.		
S9	Institution has virtual facility & conducts programs.		
S10	Has strong Industry Institute Interaction.		
S11	NBA accredited UG & PG programmes; ISO certified institution		
S12	Successful implementation of TEQIP Phase -I		
S13	Renowned industrialists and academicians on the Board of Governors		
Opportunities		Threats	
O1	Exercising academic autonomy	T1	Increasing number of institutions. Stiff competition
O2	The reformation that is taking place in global engineering education	T2	Faculty attrition
O3	Increase in interaction with industries, NGOs in neighborhood	T3	Rapid change in technology
O4	Growing trends in Indigenization of technology	T4	Industrial recession and growth cycles
O5	National strategy and policy related with strengthening research in science and technology	T5	Change in Government policies
O6	Initiating programs in collaboration with industries	T6	Gap between industry and academics
O7	Developing into QIP Centre	T7	Non-availability of qualified teachers
O8	Increasing preference among local youth for engineering as a career	T8	Entry of Foreign Universities in local environment
		T9	Engineering Graduates not preferring teaching profession

1.4 Academic Information

- Engineering Programmes offered in Academic year 2013-14

Sr. No.	Title of Programme	Level (UG, PG, Ph.D.)	Duration (Years)	Year of Starting	AICTE Sanctioned Annual Intake	Total Student Strength
1.	Automobile Engineering	UG	04	1983	60	296
2.	Civil Engineering	UG	04	1983	60	299
3.	Computer Science & Engineering	UG	04	1999	60	291
4.	Electrical Engineering	UG	04	2004	60	291
5.	Electronics & Telecomm. Engineering	UG	04	1991	60	298
6.	Information Technology	UG	04	1999	60	305
7.	Mechanical Engineering	UG	04	1987	120	571
8.	M.Tech. Mechanical (Design)	PG	02	1999	18	37
9.	M.Tech. Mechanical (Production)	PG	02	2004	18	37
10.	M.Tech. CAD/CAM/CAE.	PG	02	2009	18	35
11.	M.Tech. Electronics	PG	02	2002	18	35
12.	M.Tech. Civil (Structure)	PG	02	2004	18	36
13.	M.Tech. Automobile	PG	02	2010	18	36
14.	M.Tech. Civil (Construction and Management)	PG	02	2010	18	36
15.	M.Tech. Digital System	PG	02	2011	18	36
16.	M.Tech. Power System	PG	02	2011	18	36
17.	M.Tech. Computer Science & Engineering	PG	02	2011	18	39
18.	Ph.D. Mechanical Engineering	Ph.D.	03 (min)	2009	NA	03
19.	Ph.D. Electronics Engineering	Ph.D.	03 (min)	2002	NA	01
20.	Ph.D. Civil Engineering	Ph.D.	03 (min)	2008	NA	01
	Total				660	2719

1.5 Accreditation Status of UG Programmes

Title of UG Programmes being Offered	Whether eligible for accreditation or not	Whether accreditation	Whether “Applied for”
Automobile Engineering	Eligible	Yes Accredited, 2 years from 5/8/2013	---
Civil Engineering	Eligible	Yes Accredited, 5 years from 5/8/2013	---
Computer Science & Engineering	Eligible	Yes Accredited, 2 years from 5/8/2013	---
Electrical Engineering	Eligible	Yes Accredited, 2 years from 5/8/2013	---
Electronics & Telecomm. Engineering	Eligible	Yes Accredited, 2 years from 5/8/2013	---
Information Technology	Eligible	Yes Accredited, 2 years from 18/9/2013	---
Mechanical Engineering	Eligible	Yes Accredited, 2 years from 1/7/2014	---

1.6 Accreditation Status of PG Programmes

Title of PG Programmes being Offered	Whether eligible for accreditation or not	Whether accreditation	Whether “Applied for”
M.Tech. Mechanical (Design)	Eligible	Yes , Accredited, 2 years from 1/7/2014	---
M.Tech. Mechanical (Production)	Eligible	Not Accredited (appeal for reconsideration)	---
M.Tech. CAD/CAM/CAE.	Eligible	---	Applied for accreditation in 2 nd Sept. 2014
M.Tech. Electronics	Eligible	Yes, Accredited, 2 years from 1/7/2014	--
M.Tech. Civil (Structure)	Eligible	Not Accredited (appeal for reconsideration)	---
M.Tech. Automobile	Eligible	---	Applied for accreditation in 2 nd Sept. 2014
M.Tech. Civil (Construction and Management)	Eligible	---	Applied for accreditation in 2 nd Sept. 2014
M.Tech. Digital System	Not Eligible	---	---
M.Tech. Electric Power System	Not Eligible	---	---
M.Tech. Computer Science & Engineering	Not Eligible	---	---

2.1 Baseline Data for 2013-14

Sr.No.	Parameters	
1.	Total strength of students in all programmes and all years of study in the year 2013-14	2714
2.	Total women students in all programmes and all years of study in the year 2013-14	813
3.	Total SC students in all programmes and all years of study in the year 2013-14	307
4.	Total ST students in all programmes and all years of study in the year 2013-14	29
5.	Total OBC students in all programmes and all years of study in the year 2013-14	833
6.	Number of fully functional P-4 and above level computers available for students in the year 2013-14	1065
7.	Total number of text books and reference books available in library for UG and PG students in the year 2013-14	60196
8.	% of UG students placed through campus interviews in the year 2013-14	34%
9.	% of PG students placed through campus interviews in the year 2013-14	54%
10.	% of high quality under Graduates (>75% marks) in the year 2013-14	2.54%
11.	% of high quality postgraduates (>75% marks) in the year 2013-14	37.5%
12.	Number of research publications in Indian refereed journals in the year 2013-14	03
13.	Number of research publications in International refereed journals in the year 2013-14	114
14.	Number of patents obtained in the year 2013-14	Nil
15.	Number of patents filed in the year 2013-14	10
16.	Number of sponsored research projects completed in the year 20013-14	47
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	91.31% 87.03% 66.66% 95.94%
18.	IRG from students fee and other charges in the year 2013-14 (Rs. in lakh)	1822.25
19.	IRG from externally funded R&D projects, Consultancies in the year 2013-14 (Rs. in lakh)	49.61
20.	Total IRG in the year 2013-14 (Rs. in lakh)	1871.86
21.	Total annual recurring expenditure of the applicant entity in the year 2013-14 (Rs. in lakh)	1860.00
22.	Number of research publications Co- authored with faculty/researchers /industry experts from outside the institutes in the year 2013-14	04
23.	Number of MOU signed for collaborative programs with Indian industry and R & D organization	12

2.2 About the Institute:



2.3 RIT Academics and Students' Development

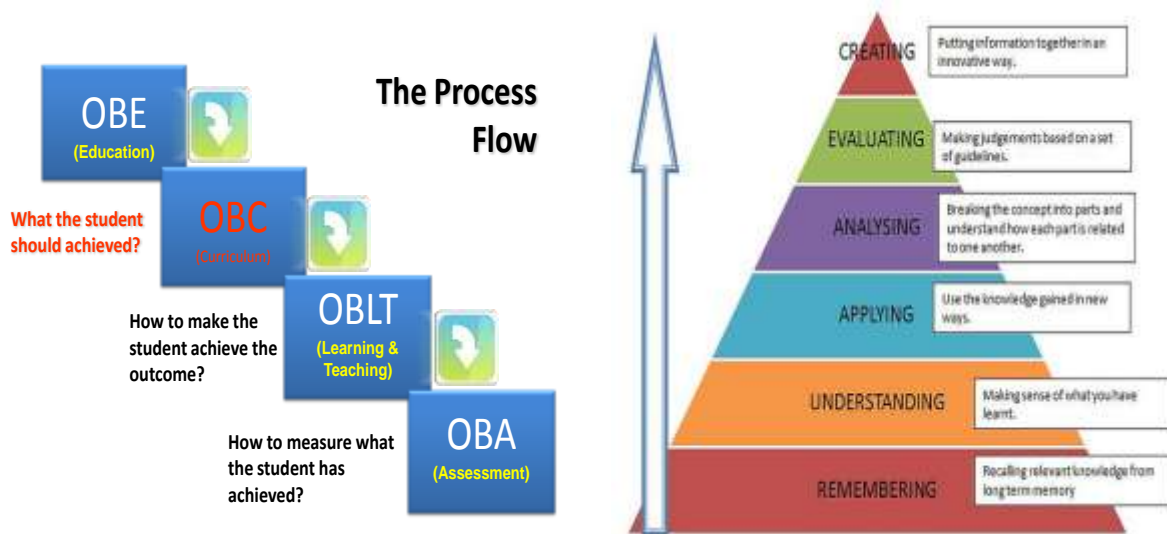
Various Practices and Initiatives in Teaching-Learning, Evaluation; Adherence of Performance of UG/PG Programmes in Various Aspects to NBA Accreditation Criteria

There exists a wide gap between the expectations of industry from engineering graduates and the knowledge, skills and competency the students possess leading to reduced employability. RIT being an autonomous institute is sensitive to this issue and proactive in bridging the gap through interaction with industries and professional organizations.

RIT is accorded the status of academic autonomy from the year 2011-12, which we look towards as great opportunity to design and implement curriculum sensitive to needs of Business and Industries, introduce innovative evaluation system to make students learn they are expected to learn (learning outcomes). The RIT model of Autonomy focuses on "Experiential learning which believes in learning by doing. This is achieved through hands on experience, industrial assignments mini projects and live problem solving.

RIT proactively embraced Outcome Based Education (OBE) to prepare students for careers that demand high level of competencies. RIT set in to dynamics of transformation and witnessing a shift in focus from teaching to learning and entire academic system of RIT is designed to provide multiple learning opportunities for students to acquire and demonstrate the knowledge, skills and competencies for rewarding career.

2.4 OUTCOME BASED DESIGN, DELIVERY AND ASSESSMENT AT RIT



2.5 Special features of RIT Academic Systems

- Transformation of teaching methodology from traditional lecture mode to creating different learning opportunities to address various learning styles of students.
- Curriculum design with the judicious mix of theory, laboratory work, mini projects, tutorials, industrial visit and field assignments.
- Institutional level open electives are being introduced which gives a student to study the course of his choice from different disciplines.
- Self study courses are introduced to prepare students for lifelong learning
- Professional skill development as a part of curriculum to develop the all-round personality of students
- The assessment scheme is designed to evaluate students learning and linked to attainment of PO's and CO's.
- Series of innovative assessment techniques have been introduced like in semester evaluation (ISE) 20%, mid semester (30%) and End Semester evaluation (50%).
- RIT is practicing Absolute Grading System for student evaluation and required to earn the total credits specified for the program to earn the degree.
- RIT with its association with industry helps to imbibe the employment skills and prepare students industry ready.
- Every Student is given a special training in specified software to acquire employability skills.
- Academic Audit system to capture the class room dynamics.

An autonomous RIT believes in potential and capability of each student and extends the multiple learning opportunities to make him an engineer rather than just Engineering Graduate. Our efforts are always in the direction to develop an overall personality of students with ethical and moral values to make them a competent technical manpower for employment and self employment. We always hope and look forward for joyful learning experience for students and RIT should be the first Choice for both students who value learning as an experience and also faculty who have a passion to create a great learning environment.

3.1 Executive Summary of the IDP

Institute is transforming into PG and research Institute with 10 PG programs and around 36 students pursuing Ph D three disciplines of Engineering & Technology. The Institute is well known for excellent training departing for courses in engineering and technology at diploma, degree and post graduate levels for over three thousand students from state of Maharashtra. 22 courses are offered at the undergraduate, postgraduate, diploma and Ph. D. levels. The Institute was granted financial, academic, administrative and managerial autonomy from July 2011 and shall enforced till academic year 2016-17.

Under the World Bank project -Technical Education Quality Improvement Programme (TEQIP - I), the Institute has completed several projects to establish itself as one of the leading technological Institute in the State. The modernization activity under the Programme has resulted in excellent central computing facilities, improved laboratory, faculty as well as staff training, workshop and library facilities to students. In continuation with the foundations laid by TEQIP - I, RIT is determined to improve quality of technical education with special reference to research through post graduate education.

The Institute has proposed for PG programs in the specialized areas of mechanical, civil, electrical, electronics and computer engineering. These courses are started during TEQIP II phase i.e CAD/CAM/CAE, Production in Mechanical, Construction Management in Civil, Power system in Electrical, Digital system in E& TC and Computer Engg. in Computer & IT departments. The starting of new programs significantly increased enrolment in PG programmes in engineering disciplines. Addition of demand driven PG program in Heat Power in Mechanical attracts better qualified students. As well, addition of new equipment & learning from TEQIP funding reinforced by training of faculty and staff in relevant area for enhancing engineering research, development and innovation.

3.2 Strategy to fulfill the objectives of the programme in extended period till 2016:

- Strengthening of new PG courses with competitive curriculum & practical support.
- Attract competitive enrollment with stipend available through TEQIP
- Motivation to faculty, staff and students through training, internships and finishing school.
- Curriculum up gradation for UG and PG in line with demand of society and industry.
- Increase in qualitative research activity with peer reviewed journal publications and patents.
- Enhanced networking activity with industry and other academic and research Institutes.
- Improving the academic performance of SC/ST/OBC/academically weak students.

3.3 Implementation of Institutional Reforms

Academic & Non-academic Reforms	Activities to be undertaken in brief
Implementation of Curricular Reforms	Industry internship for all program students UG &PG
	Mini projects at freshman level (First Year)with social focus in line with EPICS model
	Institutional elective to promote interdisciplinary approach
	Exposure to students the best learning opportunities through online and web based mode. QEEE, MOOCS
	Out Come based curriculum design delivery and assessment
	Remedial classes to weak students
	Continuous evaluation and feedback system
	Software system for monitoring the entire academic process from curricula design to analysis, mapping of CO, POs and PEO's
	Providing teaching assistantship (T.A) to eligible students
	Industry sponsored projects
	Incubation activities to transform projects to products
	Special training for overall personality development
Exercise of Autonomies	Introducing flexibility in the choice of courses through program Institutional elective
	Innovative teaching / learning and evaluation tools
	Working with reputed institutions for credit transfer and opportunity to undergo courses at these institutes (yet to be finalized)
Generation, retention and utilization of revenue generated through variety of activities	Testing, Consultancy
	organizing training programs ,STTP
	organizing National /International conference
	organizing of Skill enhancement program
Institutions to fill up all existing teaching and staff vacancies	Conducting walk in interviews regularly as per shivaji university rules
Delegation of decision making powers to senior functionaries with accountability	Adopting Good Governance practices
	Adding stakeholders, students on BOS, Academic council
	Staff Students Portal
Improved student performance evaluation	Open book exam for some courses
	Internal and External Academic Audit
	Best Students Award
	Gold medals and silver medals
	Adopting outcome based education
	Program Exit Survey
	Best Innovation Award Competition
	R-Idea Competition

Academic & Non-academic Reforms	Activities to be undertaken in brief
Incentives to faculty	Awards to faculty members based on their performance, as per institutes strategic plan
	Patent filing
	Deputing faculty members for training at IITs, IIMs
	Qualification enhancement of faculty members
	Management capacity development programs
	Refereed journal publications
Obtaining Accreditation	NBA accreditation of all UG & PG programmes
	NAAC Accreditation

4. Performance Indicator

Sr. No.	Performance Indicators	Status
1	Autonomy granted by UGC / Applied for: <i>(In case of Applied for Autonomy, please indicate the stage of application)</i> <i>(If not applied, please indicate the reason for not applying)</i>	Yes Autonomy granted from 2011-12 to 2016-17
2	Board of Governors (BoG) meetings: <ul style="list-style-type: none"> Whether the BoG meeting has taken place in the last four months i.e. between 1st January – 30th April 2015 <i>(Please indicate date of the BoG meeting)</i> <i>Whether the minutes are available on the Institution's website. (Please provide the weblink)</i>	Yes 5 th March, 2015 Available on institute website www.ritindia.edu
3	Accreditation: <i>(Obtained / Applied for)</i>	UG + PG programmes UG - 100%, PG - 71.43% UG+PG-85.71%
4	Statutory Audit completed (2013-14)	Yes
5	Completion of Governance Development Plan (GDP) and timeline for completion of institutional Governance guidelines, approved by governing body and published on institutional website	Yes Available on institute website www.ritindia.edu
6	Submission of revised IDP for 2016 with updated target indicators	Yes
8	Completion of all data entry into MIS for 2013-14	2013-14 All Data entry completed
10	Procurement Plan to cover 100% procurement expenditures	Yes
11	% of Expenditure against total funds received Up to April 2015	71.70%
12	% of Expenditure + Committed expenditure against Total funds received Up to April 2015	81.96%

4.1 Journal of Engineering Education Transformations (JEET) –

Journal of Engineering Education Transformations (JEET) is a forum to facilitate conversations among engineering educators who would like to showcase their transformational work as publications reviewed by expert educators from across the world.

Indo US Collaboration for Engineering Education (IUCEE) is publishing this Journal in partnership with Rajarambapu Institute of Technology. "Journal of Engineering Education Transformations" is a transformed version of "The Journal of Engineering Education", which was being published by a pioneer of engineering education, Prof. Ratnalikar, since 1985. It has become international from July 2014 with an editorial board from experts around the world. It is listed in i-scholar and J-gate. website www.journaleet.org

4.2 The fund requirement over the project period, with year-wise break-up is given in below:

Activities	Project Life Allocation	Expenditure till 31st March 2015	Rs. in Lakhs	
			Financial Year 2015-16	Apr 16- Dec 16
Infrastructure improvements for teaching, training and learning	95.00	69.46	25.54	50.00
Providing Teaching and Research Assistantships for significantly increasing enrolment in existing and new Master's and Doctoral programmes in Engineering disciplines	80.00	43.27	16.73	30.00
Enhancement of R&D and institutional consultancy activities	35.00	23.86	11.14	20.00
Faculty and Staff development for improved competence based on TNA	65.00	46.20	18.80	40.00
Enhanced interaction with Industry	15.00	10.06	4.94	10.00
Institutional Management Capacity enhancement	15.00	6.79	8.21	10.00
Implementation of institutional reforms	25.00	12.03	12.97	15.00
Academic support for weak students	50.00	47.89	2.11	20.00
Incremental Operating Cost	40.00	22.62	17.38	5.00
TOTAL	400.00	282.18	117.82	200.00

4.3 Lists of key activities that are planned to meet the demands of strategic plan

A. Up-gradation of subject knowledge and competence

- ✓ Faculty deputation for qualification up gradation
- ✓ Faculty deputation for specific training programmes for knowledge enhancement
- ✓ Faculty deputation for industry exposure
- ✓ Deputation / training to the supporting staff

B. Improving quality of teaching-learning

- ✓ Modernization of laboratories
- ✓ Setting up a new laboratories for new programs already started
- ✓ Industry participation for curriculum development & delivery
- ✓ Preparing learning resources
- ✓ Extensive use of available NPTEL web / Video Lectures from experts of IIT/NIT/COEP.

C. Increasing research activity and improving quality of research

- ✓ Increasing enrolment of doctoral students
- ✓ Increasing quantity of sponsored research projects
- ✓ Increasing industry-institute interaction for applied research

D. Increasing output of PG students

- ✓ Increasing enrolment of PG students
- ✓ Expansion of Internet facility such as (wi-fi internet network)
- ✓ Motivating the PG students for paper Publication at International Journal or Conference
- ✓ Provision of Funding for attending the workshop or Conferences
- ✓ Exchange programme with foreign Universities or NTs
- ✓ Conduction of finishing schools & summer courses

E. Increasing industry interaction

- ✓ Increasing applied research activity
- ✓ Conducting Continuing Education Programs
- ✓ Conducting Seminar/Conference
- ✓ Organizing site or Industry visits
- ✓ Arranging Industrial Experts' Lectures series
- ✓ Flexible Lectures or Practical Hours
- ✓ Internships of faculty & students in Industry

F. Improving faculty student ratio

- ✓ Recruitment of Regular faculty
- ✓ Appointment of faculty on contractual basis
- ✓ Appointment of adjunct faculty

G. Increasing on campus accommodation for students

- ✓ Construction of new hostels
- ✓ Improving facilities in the existing hostel

H. Appreciating the performance of faculty & staff

- ✓ Appreciation by awards or Certificates or educational visits to India & abroad.
- ✓ Advertising the special achievements of staff on Notice board and on Web site

4.4 Action plan for Extended Period:

1. Infrastructure improvements for teaching, training and learning:

Institute started six M Tech courses during TEQIP II phase as per IDP, namely, M Tech (Mechanical- Production.), M Tech (CAD/CAM/CAE.), M Tech (Computer Engineering), M. Tech (Electrical Power System), M. Tech (Electronics-Digital System) and M Tech (Civil-Construction Management).

During project planning more focus was towards creation of facility to strengthen the teaching learning for the existing courses. Now specific focus shall be creation of facility for enhancement of the facility to cater with the needs of the new programmes and existing ones. Mostly the simulation software/test beds/computing platforms shall be procured to create effective platform for research orientation and innovation in project works of UG and PG students.

Procurement shall be planned during academic year 2015-16.

2. Providing Teaching and Research Assistantships for significantly increasing enrolment in existing and new Master's and Doctoral programmes in engineering disciplines

At present Allocation is short by Rs. 30 Lakh due to extended project period till 2016. Appropriate process shall be adopted for selection of the candidates and in-turn enhance the enrollment of meritorious students for the program.

Expenditure planned till Dec 2016 for the estimated enrollment with Rs. 8000/pm for M Tech and Rs. 18000/pm for PhD

3. Enhancement of R&D and institutional consultancy activities

R&D projects are identified and execution is going on. Henceforth, the outcome of these projects shall be monitored and effort shall be aligned to make achievements public for encouragement to others, specifically for extending the UG research.

4. Faculty and Staff development for improved competence

In line with the suggestions from Institute mentor, the thematic areas of research are identified by the department and supported with cluster formation of faculty in these areas. Now, domain based training shall be identified and faculty shall be deputed for the training. Due to increased awareness and support publications are multifold and support shall be extended for attending conferences/Journal publications by faculty and student as per Institute/NPIU norms. Skill up-gradation courses shall be arranged Management Capacity Development with few change mindset programs for support staff.

Activities shall be completed during April 2015 to Oct 2016

5. Enhanced interaction with Industry

More than 42 MOUs are signed with R&D organizations and Industry. The implementation is gearing up in terms of internship for UG and PG students. Joint R&D projects and facility creation at the Institute. In addition B Tech students shall be sent to industry for identification of project areas and awareness regarding good practices in R&D activities of the Industry. Training program for local construction industries with reference to quantity surveying / Earthquake Engineering/Safety/Material Management etc, Similarly various industries in Islampur MIDC

Activities shall be executed during April 2015 to May 2016

6. Implementation of institutional reforms

Fees for accreditation for remaining courses shall be booked under the head for extended period. In addition the competence building and awareness regarding outcome based teaching learning in line with NBA guidelines shall be done with arranging courses from the experts at Institute. Related software's to be procured and implemented

Target for accreditation of all courses NAAC shall be March 2016

7. Academic support for weak students

Basic focus shall be given to enhancement of domain knowledge of the slow learners by arranging finishing schools for all M Tech programs and effort shall be done to make them Industry ready. Summer term for weak student shall be arranged to give them the flexibility to cope up with the courses with extended pace. Weak areas shall be identified for the incumbent through psychometric analysis method from external experts and gap bridging shall be done by inviting experts from outside.

Activities shall mainly done during summer and winter vacations and completed before June 2016

TABLE - 35

Project Targets for Institutions under Sub Component 1.2

5.1 Institutional Project Targets

Sr. No.	Deliverables	Baseline	Targets to be achieved			
			At the end of 2 years	By Project Closing as per old IDP	Achieved end of 2 years	By Project Closing (Dec. 2016)
1	Number of students registered for (a) Masters in Engineering Programme	129	324	396	363	420
	(b) Doctoral Programme in Engineering	28	40	56	48	60
2	Revenue from externally funded R&D projects and consultancies in total revenue (Rs. In lakhs)	18	40	50	49.61	55.00
3	Number of (a) Research publications in refereed • National journals	11	80	175	07	20
	• International journals	15	25	35	183	250
	(b) Citations	01	02	05	648*	800
	(c) Patents obtained / filed	05	10	24	23	28
	(d) Books	01	02	05	03	4
	(e) No.of R & D projects commercialized	0	02	04	4 (Under Process)	4
4	Number of co-authored publication in refereed journals (a) National	Nil	08	25	33	40
	(b) International	Nil	02	05	--	2
5	Student credentials (a) campus placement rate of • UG students	46	60	75	53	65
	• PG students	100	100	100	63	70
	(b) average salary of placement package for (Rs. In lakhs) • UG students	1.75	2.50	3.50	2.46 Lakhs	3.5 Lakhs
	• PG students	3.00	4.00	5.00	3.41 Lakhs	5 Lakhs
6	Number of collaborative programmes with industry	--	--	01	--	1

Sr. No.	Deliverables	Baseline	Targets to be achieved			
			At the end of 2 years	By Project Closing as per old IDP	Achieved end of 2 years	By Project Closing (Dec. 2016)
7	Accreditation Status (obtained & applied for)	75% of eligible UG programmes and 50% of eligible PG programmes	100% of eligible UG programmes and 75% of eligible PG programmes	100% accreditation for UG & PG programmes	100% accreditation for UG & 50% of eligible PG programmes	100% all eligible UG & PG Program
8	Vacancy position for faculty and staff	16%	Vacancy reduced to 5% or less	Zero vacancy	12%	5%
9	Number of regular faculty with Ph.D. in engineering disciplines	21	39	50	23	45
10	Collaboration with reputed foreign Universities	3	4	5	4	4
11	Indigenous technology development in collaboration with local industry	2	4	6	2	2

* As cited through Google scholar sited

5.2 List of MOUs signed by Institute

Sr. No.	Name of the Company / Institute	Area / Field	Date of Signing	Purpose
1	EduCADD, Bangalore	Educational	13/03/2006	Training
2	Bharat Forge Limited., Pune	Talent Pipeline Scheme	3/10/2006	Recruitment of Degree Engineers
3	Maharashtra Centre for Entrepreneurship Development (MCED), Aurangabad	Students Training & Placement	28/03/2007	Students Training & Placement
4	Wipro Infotech, Mumbai	Technical Education	16/11/2007	Providing IT Infrastructure
5	Infosys, Pune	Soft skill & Software Engg.	27/03/2008	Campus Connect – Foundation & Soft Skill Program
6	EduCADD, Bangalore	Educational	1/06/2008	Training
7	University of Massachusetts Lowell, USA (UML)	Educational	10/11/2008	Development of Educational Technology
8	Purdue University, College of Engineering, Global Engineering Program (COE)	Educational	18/11/2008	Development of Educational Technology
9	Lawrence Technological University, Southfield, MI USA	Educational	3/01/2009	Development of Educational Technology
10	Rajarambapu Patil Sahakari Sakhar Karkhana Ltd., Rajaramnagar	Project Assignment	5/05/2009	Consultancy, Industrial Internship to Students
11	Sanghavi Infotech, Bangalore	Computer Networking	22/06/2009	Training & Placement
12	SEED Infotech, Pune	Software Engg.	30/09/2009	Training & Placement

Sr. No.	Name of the Company / Institute	Area / Field	Date of Signing	Purpose
13	TATA Motors Ltd., Pune	Manufacturing (Mechanical)	30/12/2009	Collaborative Projects
14	Nirmay Institute of Rehabilitation Training, Solapur	Development of Educational Technology	10/03/2010	Development of Educational Technology for Handicapped Persons
15	Vistacore Corporation, Pune	Construction	17/03/2010	Training & Placement
16	Rajarambapu Solvex Ltd., Islampur	Students Training & Placement	13/05/2010	Students Training & Placement
17	M/s S. V. Shinde & Associates, Sangli	Construction	28/06/2010	Training
18	Altair Engineering, New Delhi	Students Training & Placement	9/08/2010	Students Training & Placement
19	Acadinet Education Services India Private Limited, Bangalore	Education & Mentoring Service	9/08/2010	Development of Educational Technology
20	Siddheshwar Krishi and Grameen Vikas Sansth, Nave Pargaon	Water Shed Management	12/08/2010	Consultancy
21	Global Talent Track Pvt. Ltd., Pune	Software Engg.	13/08/2010	Training & Placement
22	University of Hartford, West Hartford, Connecticut, USA	Educational	2/11/2010	Development of Educational Technology
23	TRANFO SYSTEMS, Bangalore	Embedded Systems	12/11/2010	Lab Development
24	Kahuna Systems (3di Systems (I) Pvt. Ltd.), Pune	Software Engg.	Feb. 2011	Training & Placement
25	C-DAC	Development of Educational Technology	6/04/2011	Development of Educational Technology
26	Apollo Tyres Limited, Gurgaon	Tire Manufacturing	21/04/2011	Students Training & Placement
27	Modi Motors Agencies Pvt. Ltd., Mumbai	Car Dealing	2/05/2011	In-plant Training
28	SC Auto Agencies Pvt. Ltd., Mumbai	Car Dealing	2/05/2011	Students Training & Placement
29	Scientech Technologies Pvt. Ltd., Indore	IT Services	19/05/2011	Training & Placement
30	Kalyani Infotech Solutions Ltd., Pune	IT Services	30/05/2011	Training to Staff and Students
31	GTT	Students Training	5/09/2011	Students Training
32	Blazeclan Technologies Pvt. Ltd., Pune	IT Services	30/09/2011	Training & Placement
33	IRB Infrastructure Developers Ltd., Mumbai	Construction	1/11/2011	Training & Placement
34	Siemens PLM Software India Pvt. Ltd., Gurgaon	PLM Software	30/11/2011	Training to Staff and Students
35	Centre for Technology Alternatives Rural Areas (CTARA), Mumbai	Research	4/04/2012	Research & collaborative projects
36	Scope T&M Pvt. Ltd., Mumbai	Manufacturing (Elect. & Electronics Components)	1/06/2012	Training & Placement
37	Appropriate Rural Technology Institute (ARATI)	Development of Educational Technology	24/07/2012	Development of Educational Technology
38	Superstar Agro Industries Ltd., Zambia	Students Training & Placement	27/08/2012	Students Training & Placement

Sr. No.	Name of the Company / Institute	Area / Field	Date of Signing	Purpose
39	GeoICON Pvt. Ltd., Singapore	Training & Joint Consultancy	1/11/2012	Training & Joint Consultancy
40	Firstnaukri.com, Pune (a division of M/s. info Edge India Ltd., Pune)	Students Placement	21/12/2012	Students Placement
41	Infosys, Bangalore	IT Services	8/01/2013	Campus Connect – Foundation & Soft Skill Program
42	Future time Solutions, Mumbai	Students Training & Placement	18/01/2013	Students Training & Placement
43	TATA Motors, Pune	Manufacturing (Mechanical)	13/06/2013	Staff Training, Industrial Visit to students, Projects to PG students
44	Fulcrum, Pune	Training & Placement	13/06/2013	Training & Placement
45	John Deere India Private Limited, Pune	Manufacturing (Mechanical)	13/06/2013	Internship & Project opportunities for students, Placement, training, Suggestions for curriculum development
46	Forbes Marshall, Pune	Manufacturing (Mechanical)	13/06/2013	Internship & Project opportunities for students, Staff Training
47	JCB India Limited, Pune	Manufacturing (Mechanical)	13/06/2013	Industrial Visit, Project Opportunities, Training program to staff & students, Placement
48	Soft Tech Engineers Pvt. Ltd., Pune	IT Services	13/06/2013	Guest Lectures, Training Program for Staff & Students
49	Government College of Engineering, Amravati	Educational	9/07/2013	Joint Projects, publications, sponsored projects, joint faculty & staff development programs & consultancy projects, etc.
50	Bharatiya Vidya Bhavans Sardar Patel College of Engineering, Mumbai	Educational	18/07/2013	Joint work on research projects, consultancy assignments, faculty & staff development programmes, consideration of faculty for M.Tech/Ph.D. admission, etc.
51	Vigyan Ashram, Pabal	Educational	22/07/2013	Joint collaboration of exploring following Academic & Research opportunities for development
52	Micro Axis Auto and Engineering Center, Yadav	Educational	17/12/2013	Technical Collaboration, Technical Inputs, Technical Assistance, Technical Studies as per SPV's Requirement, etc.
53	Mutha Group of Industries, Satara	Manufacturing (Mechanical)	1/02/2014	Training to employees, Technical Consultancy by RIT, Students Placement, Library-Laboratory-Equipments-Expertise Sharing, Admission to P.G. to employees, Joint efforts in R&D, etc.
54	Krishna Institute of Medical Sciences Deemed University, Karad	Educational	6/01/2014	Sponsored Projects, Regarding curriculum design, Guest Lectures, Visit, Technical Consultancy, R&D Activities
55	Yash Capacitors Pvt. Ltd., Nashik	Manufacturers and Suppliers of Capacitors	21/04/2014	Staff & Students' training, Students' Placement, Technical Consultancy, Laboratory & Library sharing, Guest Lecture, Sponsored Projects, Etc.
56	Zensar Technologies Limited, Pune	IT Services	21/05/2014	Students' Training, Faculty Training

Sr. No.	Name of the Company / Institute	Area / Field	Date of Signing	Purpose
57	Pranav Systech Pvt. Ltd., Pune	IT Services	1/06/2014	Students' Project, Students' Training
58	Finite & Infinite, Pune	Educational	19/06/2014	Students' Training & Staff Training
59	dB Devices Pvt. Ltd., Pune	Manufacturers of Power Amplifier	25/06/2014	Staff & Students' training, Students' Placement, Technical Consultancy, Laboratory & Library sharing, Guest Lecture, Sponsored Projects, Etc.
60	WYSE Biometrics Systems Pvt. Ltd., Pune	Manufacturers of Biometric System	1/07/2014	Staff & Students' training, Students' Placement, Technical Consultancy, Laboratory & Library sharing, Guest Lecture, Sponsored Projects, Etc.
61	O2 Breathing Brains, Miraj	Educational	11/08/2014	Students' Training
62	Infosys, Bangalore	IT Services	25/09/2014	Campus Connect – Foundation & Soft Skill Program
63	Extencore Solutions Pvt. Ltd., Pune	Educational	23/01/2015	Students' Training
64	Semat Excellence Centre, Pune	Educational	11/03/2015	Organize workshops, Android Mobility Lab Setup, Internship for students, Assigning Industry Sponsored Projects to students
65	CSIR-TECH, Pune	Licensing agency	Jan. 2015	Technology transfer & Licensing of Commercially Developed product/Technology

5.3 Demand Budget Allocation:


Activities	Project Life Allocation	Expenditure till 31st March 2015	Additional Demand for extended period
Infrastructure improvements for teaching, training and learning	95.00	69.46	50.00
Providing Teaching and Research Assistantships for significantly increasing enrolment in existing and new Master's and Doctoral programmes in Engineering disciplines	80.00	43.27	30.00
Enhancement of R&D and institutional consultancy activities	35.00	23.86	20.00
Faculty and Staff development for improved competence based on TNA	65.00	46.20	40.00
Enhanced interaction with Industry	15.00	10.06	10.00
Institutional Management Capacity enhancement	15.00	6.79	10.00
Implementation of institutional reforms	25.00	12.03	15.00
Academic support for weak students	50.00	47.89	20.00
Incremental Operating Cost	40.00	22.62	5.00
TOTAL	400.00	282.18	200.00

6.1 Provide an action plan for scaling-up enrollment into Master's and Doctoral programmes

(Include measures to attract qualified students and maintain high quality standards) : >

Action plan for scaling up enrolment in PG and Ph.D.

Sr. No.	Activities	2015-16	2016-17
1	Research assistantships to 5 Ph.D candidates		
2	To provide teaching assistantships to meritorious financially weak PG students under "Learn and Earn Scheme" (02 no.)		
3	Encouragement and rewards for innovation in teaching and research to the Faculty.		
4	Encouragement and rewards for patent filing		
5	To recruit and retain qualified and talented faculty from across the world.		
6	R&D Broacher		
7	Quarterly issues of international journal		
8	Digitizing library-Converting to ebooks		
9	Promoting and widening scope of IIPC Cell-More Molls, Sponsored Projects, Industry sponsored labs, Industrial trainings		
10	Credit transfer		
11	Compulsory summer projects/internships in areas of practical interest		
12	To provide access to digital media in Institute- allocate more funds for better libraries and laboratories-Subscription to more no. of journals		
13	To involve dedicated researchers in direct training of the students at the undergraduate level and encourage them to go for the Masters or Ph.D degrees.		
14	Joint research and publications in International Journals of repute.		
15	MoU with reputed institutes & collaborative research with International Institutes/universities		
16	Faculty Development initiatives		
17	R&D support to Undergraduate Students-TA/DA & Registration dues for project cost		
18	Incentives to UG/PG students for journal publications.		
19	R&D support to Ph.D scholars -To attend conferences and reading paper at abroad		
20	Training for filing patents		
21	MoU with industries		
22	Product development initiatives		
23	Credit Based Course Registration System		
24	Increased industry linkages through a) Evaluation by industry, b) Teaching, c) Elective courses by industry		


 Indicates the span of proposed activities

6.2 Provide an action plan for improving collaboration with Industry:

According to the report of NASSCOM, there is wide gap between the requirements of the industries and the skills developed in the engineering graduates. This is the major source of concern which affects the employability nationwide.

SPFU/NPIU also supports the activity by conducting workshop/training with industry. The TEQIP-II project will certainly boost this activity. Hence there is requirement of setting up action plan for collaboration with industries.

Sr. No.	Key Activities	2015-16	2016-17
1	Industry funded laboratories		
2	Mentoring Incubates		
3	6 months Industry Internship & project		
4	Finishing school		
5	Collaborative research		
6	Industry participation in Board of Studies, focused Groups, Curriculum Development workshops		
7	Faculty training in industries		
8	Guest lectures by industry personnel		
9	Conduction of seminars, workshops, conferences in association with Industries		
10	Signing MoUs		
11	Sharing infrastructure for testing the product		
12	Product Development		
13	Sharing of library resources		
14	In house training for industry persons		
15	Calibration of industrial equipments		
16	To set up Center of Excellence.		
17	Open house for UG/ PG projects		
18	Evaluation of PG and Doctoral students by industry people		
19	Frequent industrial visits		
20	Joint Entrepreneurship awareness camp with industries		
21	Participation in National / International Technical Fair		
22	To provide consultancy services to small and medium scale industries-in & around western Maharashtra involved in design, development and marketing of engineering products satisfying local consumer needs.		

 Indicates the span of proposed activities

6.3 Provide an action plan for:

- quantitatively increasing and qualitatively improving research by their faculty individually, jointly and collaboratively,

Action plan :

Sr. No.	Key Activities	2015-16	2016-17
1	Encouraging the research projects undertaken by faculties.		
2	Sponsoring the faculties to attend 8 international and 20 national conferences (IEEE, ACM etc) and present the research work.		
3	Deputation of 8 faculties for collaborative research in the field of interest at national/international labs.		
4	Institute grant for creating R&D facility.		
5	Instituting R&D fund for U.G./P.G./Doctoral and faculties		
6	To increase the publications in refereed journals		
7	Joint publications with National and International authors		
8	Organizing conferences, seminars or workshops		
9	Encourage the faculty by way of giving financial incentive for publications in journals with high impact factor.		
10	Financial support for filing national and international patents		
11	Financial incentives for writing books and monographs by standard publishing houses.		
12	Financial incentives to grantees of sponsored research projects		

- **Developing research interest among undergraduate students**


Action Plan:

Sr. No.	Key Activities	2015-16	2016-17
1	Project allocation & evaluation with the involvement of industry people		
2	Seed money to faculty & students		
3	Best research student award.		
4	Incentives for association with sponsored research projects.		
5	Flexible Credit transfer facility for industrial training/ projects.		
6	Research Methodology Workshops		
7	Financially supporting the activities such as Project competition, attending specialized training, presenting paper at national conventions, etc.		
8	Conducting annual technical festival/national conference		
9	Compulsory 6 month industrial internship		
10	To conduct patent awareness programmes for students		
11	Skill Enhancement Workshops on latest simulation tools in specialized areas		

■ Indicates the span of proposed activities

- **Collaborating with Indian and foreign institutions in academic and research area through MoUs***

Sr. No.	Key Activities	2015-16	2016-17
1	Reward the publication of high quality journal articles/books with authors of Indian and foreign institutions		
2	Signing MoU with industries in the region		
3	Strengthening existing MoU with industry		
4	Strengthening existing MoU with Indian institutions.		
5	Strengthening existing MoU with foreign institutions.		
6	Signing New MoUs with Indian institutions.		
7	Signing New MoUs with foreign institutions.		
8	Organizing international conferences/workshops with foreign institutions		
9	Organizing international conferences/workshops with research labs.		
10	Identify priority partners and utilize programmes, networks and funding for the individual academic priority areas		
11	Online student portal		
12	Intensive summer courses with foreign researchers.		
13	Joint consultancy		
14	Joint sponsored research projects.		
15	Collaborative publications		
16	Wide publicity across the globe through interactive website, news-bulletins, brochures & other effective media.		

 Indicates the Span for proposed activities

TEQIP-II COORDINATOR

DIRECTOR