

**TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME
(TEQIP)**

PHASE-III

INSTITUTIONAL DEVELOPMENT PROPOSAL

For

Sub-Component 1.1: Institutional Development for Participating Institutions

Submitted to

National Project Implementation Unit (NPIU)

EdCIL House, Plot No. 18A

Sector 16A, Gautam Budh Nagar

NOIDA (UP)



By

Faculty of Engineering and Technology

M.J.P. Rohilkhand University, Bareilly

U.P. (India)

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1. INSTITUTIONAL BASIC INFORMATION

1.1 Institutional Identity

- Name and address of the Institution : F.E.T,M.J.P ROHILKHAND UNIVERSITY,BAREILLY
UTTAR PRADESH-243006
- Year of establishment : 1995
- Is the Institution AICTE approved? : Yes
Furnish AICTE approval No. : PERMANENT ID:A-18440821(Annexure-1)
- Type of Institution : Govt. Funded UP State University established under Act,1974
- Status of Institution : Autonomous Institution Status by UGC u/S 12-B And
University Engineering Faculty
- Name and Designation of Head of the Institution (Full time appointee) :Prof. Mushahid Hussain, Vice-Chancellor

a. Academic Information:

- **Engineering UG and PG programmes offered in Academic year 2016-17:**

S. No	Title of programmes	Level (UG, PG, PhD)	Duration (Years)	Year of starting	AICTE sanctioned annual intake	Total student strength in all years of study
1	B.TECH.ELECTRICAL ENGINEERING	U. G.	04	1996	60	267
2	B.TECH ELECTRONICS AND INSTRUMENTATION ENGINEERING	U. G.	04	1995	60	230
3	B.TECH MECHANICAL ENGINEERING	U. G.	04	1996	60	267
4	B.TECH ELECTRONICS AND COMMUNICATION ENGINEERING	U. G.	04	1995	60	247
5	B.TECH COMPUTER SCIENCE AND INFORMATION TECHNOLOGY	U. G.	04	1995	60	250
6	B.TECH CHEMICAL ENGINEERING	U. G.	04	2000	60	228
TOTAL						1486

- **NBA Accreditation Status of UG and PG programmes as on 31st December 2016:**

Total no of programmes eligible for accreditation (at least one batch pass out): 05

No. of programmes accredited: NIL

No. of programmes applied for accreditation: 05 (83%)

- **Status of Faculty Associated with Teaching Engineering Students (Regular & Contract) as on 31st December 2016:**

	Present Status : Number in Position by Highest Qualification												Total Number of regular faculty in Position	Total Vacancies	Total Number of contract faculty in Position
	Doctoral Degree				Masters Degree				Bachelor Degree						
	Engineering Disciplines		Supporting Disciplines (Physics, Chemistry, Maths and English/ other		Engineer ing Disciplines		Supporting Disciplines (Physics, Chemistry, Maths and English/ other		Engineering Disciplines		Supporting Disciplines (Physics, Chemistry, Maths and English/ other				
	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= (2+4+6 +8+ 10+12)	15=(1- 14)	16= (3+5+7+ 9+ 11+13)
106	15	00	11	06	23	24	01	13	05	01	00	00	55	51	44

R=Regular, C=Contract

INSTITUTIONAL DEVELOPMENT PROPOSAL (IDP)

2.1 Executive summary of the IDP

Our Mission

The mission of Faculty of Engineering and Technology, Rohilkhand University aligns with that of the university. To promote participation in higher education, which it regards as a democratic entitlement. strive for excellence in learning, teaching and research.

Our Vision

The University of the New Millennium will occupy a key role in the production of wealth of all kinds – social, cultural and economic. It will be the pivotal institution in both the learning society and the knowledge economy.

- **Project Objectives:**

The major objectives elaborated for inclusion in the current proposal for funding under TEQIP-III include the following:

- i. To develop quality infrastructure in each department of the faculty at par with premier institution of India and Abroad.
- ii. To provide good platform to the students as well as faculty and staff for performing innovative research and quality out put both in terms of academic and industrial perspective.
- iii. To generate know how techniques as per demand of Industries
- iv. To train student/faculty with latest and advance techniques by allowing them to participate in various academic/industrial; programmes across the globe

- **Project Activities:**

India has formally recognized the importance of higher education, focusing on science and technology for national development and committed itself to the development of scientific and technical (S&T) manpower. However, the institutions/universities particularly state run have mostly not been able to maintain high standards of education or to keep pace with developments in knowledge and technology. The higher S&T

education system needs urgent reforms and speedy changes. The system needs to be student-centric and not system-centric as at present. The institute believes in serious academic pursuit and encourages the radical changes needed in Science and technology.

A road map has been formulated enshrining our goals and action plans. In this exercise, we have set the following strategic targets so that we may offer over the globe a model that plays a leading role in tackling the myriad challenges of the 21st century.

- Action plan to develop center of excellence in the areas of strength of the institute. It proposes to develop the center of excellence for manufacturing policies
- Manifestation of education strategy to develop the institute as an acclaimed center of learning
- Focused Research – create and apply new knowledge oriented towards society
- Improve overall campus environment
- Information dissemination and linkages with society
- Organizational administration
- Mobilization of Additional Financial Resources
- Ensure the employability of the students
- Action plan for achieving accreditation of running courses.
- Action plan for strengthening institute performance.
- Action plan for establishment of state-of-art research laboratories.
- Action plan for enrichment of central library for programmes and research.
- Recruitment of the high quality teaching faculty as per norms.
- Improve the quality of faculty.
- Action plan for improving students' transit rate.
- Action plan for improving employability of students and increased learning outcomes through finishing school.
- Action plan for enhancement of R &D infrastructure, promotion of Industry Institute Interaction and providing consultancy to them.
- Action plan for qualification improvement of teaching faculty and imparting training to technical and support staff.

- Action plan for starting collaborative programs with IITs/NITs and industries to achieve above mentioned targets within specified timeline.
- Scaling up UG education by introducing new, innovative and time-relevant courses keeping in view demand and supply scenario.
- Implementing regular revision of curriculum and syllabus to keep pace with the emerging trends in technology.
- Organizing the International/ National Conferences, Seminars, Symposiums, Workshops, and initiation of academic exchange programs both at graduate and post graduate levels.

This Institutional Development Proposal (IDP) has been developed 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 graduate and post graduate programs. Engineering departments along with supporting departments is constituted as Faculty of Engineering & Technology.

The Institution will thus be able to contribute to the task of region/state/ nation building much more effectively. For effectively analyzing the current status of the organization the SWOT analysis was carried out, which is mentioned below:

SWOT ANALYSIS

STRENGTH

Good Reputation

- M.J.P. Rohilkhand University was established in 1975 as an affiliating University by the UP state Government. Its status was upgraded to affiliating-cum-residential university in 1985. The University has taken an overall perspective of development plan and thereby modified University status by including new Faculties of Engineering and Technology. It has more than 481 affiliated colleges.
- The University has been ranked second best university in all over Uttar Pradesh.
- Ranked fairly high (top 100) amongst the top technical institutions in the state/country.
- The university is accredited by NAAC in 2016 as B.

- All courses of B-Tech running such as Mechanical, Chemical, Electrical, Electronics & Communication, Electronics & Instrumentation, Electrical, Computer Science & Information Technology Engineering, Master of Computer Application are approved by AICTE.
- A preferential institute amongst good students from India and abroad.
- Strong Alumni Base of Engineering Graduates

Adequate Infrastructure

- The university campus spreads over 206 acre of land
- The campus possesses administrative building, faculty buildings, central library, multipurpose hall, hostel for boys and girls.
- All facilities for the holistic development of students.
- Excellent buildings, well equipped laboratories and workshops.
- Network connectivity for all students and faculty at the campus.
- Well equipped library central library along with has separate departmental library. Total no. of text books in central library are 104615, 31583 reference books & 1901 journals and 8000 thesis and dissertation. This facility has been added recently for the better use of library resources. 728 titles of e-books and 8500 e-journals are available on-line through IP address of the university.
- University has 6 hostels in which 4(Main hostel, new boys, BDA & Rajkiya hostel) are for boys & 2(girls hostel & Rajkiya hostel) for girls.
- Having capacity of 1050 of boys & 400 of girls' hostel.
- Separate guest house and faculty/ staff houses, seminar halls and Auditorium are also there in the campus.
- Excellent sports and recreational facilities for curricular and extra curricular activities

Programmes, Curriculum and Teaching Learning Process

- Highly relevant, feasible, flexible and up-to-date curriculum, developed and implemented with active participation of faculty and students (Board of studies)
- Design approach, project and practice oriented teaching learning process
- Highly flexible, open, efficient and learner oriented assessment and evaluation system.

Human Resources and Management

- Total number of Engineering faculty is **106** sanctioned by the Uttar Pradesh state university.
- Motivated and dedicated faculty with a blend of high experience and young and energetic dynamism
- High level of student involvement in different projects, programmes and process of the institute
- Alumni well placed in reputed organization.
- Highly transparent, efficient and effective management system

WEAKNESSES

Industry Institute and Institute Community Interaction

- Although the institute has developed linkages with industries and resource organizations, there is still ample scope to do the same for further enhancing the number of projects and programmes being undertaken
- Weak industry institute partnership.
- Less number of continuing education programmes for the manpower from industry
- Less number of community development projects and programmes and transfer of appropriate technology and entrepreneurship development
- Less interaction with industry.
- The faculty strength was sanctioned as per requirement of initial branches but with expansion of branches /courses, the faculty strength was not sanctioned accordingly.

- Some courses like MCA, B Tech (EC), B Tech (Electrical Engineering), B Tech (Mechanical Engineering) is running with less permanent/regular faculty.
- The visiting/guest faculty are expected to teach the classes.
- Faculty of Engineering and Technology, MJP Rohilkhand University, Bareilly has the advantage of high-end technology industrial establishments within the close vicinity which has yet not been exploited to the fullest extent.
- The interactions with industries have been limited to occasional expert lectures from the industry persons and visits of students/faculty to industries.

R&D Culture

- Good research output with quality publication with average to good impact factor.
- Insufficient collaboration and networking with R&D laboratories and industrial R&D houses
- Lack of high end and high technology labs and infrastructure due to lack of financial constrains.
- Attempts to be made for filing the patents.

OPPORTUNITIES

- Good infrastructure coupled with quality faculty to initiate new programmes at master's and doctorate levels
- High scope for R&D and consultancy projects
- Collaboration and networking with industries, industrial associations, R&D laboratories and national and international technical institutions and universities
- Centre of excellence in new and interdisciplinary areas of engineering and Technology
- Modernization of library through digitization
- Enhancement of quality of education through training and knowledge up gradation of faculty and staff
- Improvement in operational efficiency of academic and administrative system through enrichment program for senior officials.
- Innovative practices to improve performance through remedial classes.

THREATS

- Overall growth of engineering institutions in the area/state.
- Lack of collaboration with NITs and IITs.
- Rigid government rules and regulations.
- Low campus placement rate.

Result of SWOT analysis

S.No.	Gaps Identified by SWOT analysis	Key activities in proposal
1.	Need for strengthening of UG education	Increasing intake of UG students. In each dissipative developing advance UG. Labs, smart classes & modernization of library
2.	Need to starting new PG courses	<ul style="list-style-type: none">• Starting new PG program (M.Tech) in different discipline with AICTE approval.• Developing PG Labs & new Research facility
3.	Quality Research activity	Providing teaching & research assistance ship to increase enrollment in existing UG and New PG (M.Tech) program in Engineering discipline
4.	Need to develop Research & Development culture	Enhancement of R&D and Institutional consultancy activities
5.	Need to enhance faculty & staff competence	Faculty & staff development (Including faculty qualification up-gradation, pedagogical training and organizing/participation of FDP/Workshop/seminar.
6.	Need for enhancing linkage with industry	Enhancement of industry-Institute interaction.
7.	Placement activities of Engineering Graduates.	The placement activities in the University is not adequate. However, some placements are done.
8.	Need for accreditation of M.Tech program (P.G)	Strengthening the existing resources/ infrastructure (lab/classes/soft skills) for institutional reform.

2.2 Provide an action plan with timelines for :-

(a) Improving the learning outcomes of the students

2.2a.1. Faculty Training (Qualification Up Gradation, Subject Up Gradation & Research Competence, Pedagogical Training, Participation In Conferences Seminar And Workshops etc.)

Enhancement of faculty quality is focused on improving the teaching/ learning process and to create a conducive environment for the growth of research activities. Further, in order to bring qualitative change in the academic environment of the institute and for knowledge up gradation, faculty members have been sponsored for higher education programs (M.Tech, PhD, D.Sc, Post Doc., programme) with a view to reorient them towards research activities. Apart from these activates ample opportunities are provided by institute to faculty and students for their carrier enhancement by active interaction with industry and community, student counseling and their performance evaluation. Furthermore we are planning to organize advanced pedagogy training for faculty members in the focused area such as promotional/advanced research in technical education, effective curricular planning and implementation etc. More emphasis is given on industry academic interaction and teachers shall be going along with the students for a view of industry at close quarters. Experts from industries shall also be invited to apprise the students about the latest trends and practices in industry. In addition the student shall be encouraged for professional growth through membership of professional societies and participation in related activities.

However every effort are made by the faculty members to update and restructure the syllabus according to need of students, more over the emphasis is given to cover all the aspects as required by industry in order to make our graduates productive and employable. Continuous feedback is taken from subject experts from national reputed institutes (IIT's, NIT's) R&D organizations and from industry personals, which are effectively incorporated in our syllabus in the annual meeting of Board of Studies.

S. No.	Type	Year wise proposed plan			
		2017	2018	2019	2020
1	No.of Seminars/workshops/conferencesfor each department				
a	In House	6	6	8	8
b	National	5	5	5	5
c	International	3	3	3	5
d	Pedagogical	1	1	1	1
2	Expert Lecture in each Deptt	25	25	25	25
3	Industrial Visit from each depttfor each year/semester	2	2	2	2
4	International Travel Grant	4	5	8	10
5	Industry Institute Interaction	3	3	3	3
6	Foreign University Collaboration	0	1	1	1

2.2a.2. Staff training (technical & administrative staff)

Enhancement of staff quality is focused to improve the behavior and soft skills of administrative and technical staff.

Technical staff

All staff members are proposed to be trained in the functional areas including operation and routine maintenance of both the existing and new equipment for

improved output and efficiency. The specialized training of technical staff on the state of art equipments in their laboratories or workshop are proposed to be organized within the institution or at the supplier/manufacturers premises.

Administrative staff

All administrative staff members are proposed to be trained in their functional areas including use of modern office equipments, software's, office automation, maintenance of record procedures etc. to improve their output and efficiency. The behavior and soft skill training of administrative staff are proposed to be organized at the institution.

S. No.	Activity (Training)	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	31-33	34-36
1.	Accounts Staff a. Salary Section b. Billing Section c. Hostel Section d. P.F. Section e. Purchase Section f. Cash Section ...												
2.	Clerical Staff												
3.	Administrative Staff												
4.	Security Guards												
5.	Class IV Staff (Peons)												
7.	Lab Technicians (Mechanical Dept and												

	Chemical.)												
8.	Lab Technicians (Computer & I.T. Dept.Electrical)												
9.	Lab Technicians (Electronics Dept.& EC. Deptt.)												

2.2a.3. Increasing capacity of UG, PG and PhD education (increasing enrollment and starting new UG, PG and PhD programmes)

University is trying to increase to the intake capacity in each discipline of engineering from sixty students to maximum 90 students, necessary steps are being taken in this direction. Under the faculty of engineering and technology, M.J.P. Rohilkhand University few PG programme exist which are listed below:

- i. PG Programme in MCA
- ii. PG Programme in Applied Physics
- iii. PG Programme in Applied Chemistry
- iv. PG Programme in Applied Mathematics

Apart from this University is keen to start few new masters degree programme as proposed by various Engineering Departments and are approved by Faculty Board in year 2010. These programmes are send to the state government bodies for necessary approvals and are expected to be started after approval. These courses are:

- i. M. Tech in Thermal Engineering
- ii. M. Tech in Industrial and Production Engineering
- iii. M. Tech in Electronics and Communication
- iv. M. Tech in Instrumentation Engineering
- v. M. Tech in Computer Science and Information Technology

Objectives of PG Programmes

- Advancement and proliferation of scientific and technological knowledge

- To prepare trained manpower for improving overall UG/PG teaching in the country
- Inculcate strong research and innovation based mindset in the future engineers, teachers and scientists
- Foster links between academic, R&D institutions and the industry.
- To start the PhD programme in engineering disciplines.

Expectation from PG Programme

- Students with B. Tech. from various engineering colleges and having varied backgrounds.
- Strengthen the background of above students who could then pursue a career in industry, academic or research.
- Course structure of the programme should also be attractive to students having relevant background but are unsure about pursuing a research career.
- Students may be able to change mid-way to a research based masters or MS-PhD programme.

Development of research capabilities

Faculty of Engineering and Technology is still lacking in developing the research capabilities since after the completion of successful twenty years. University is seriously planning to develop state of art research laboratories, in order to accelerate the collaborative research under the guidance of R&D organizations and industries. University is focusing on imparting research facilities for the P.G and research scholars of Rohilkhand region, for which they have to approach to higher education centers located at New Delhi, Lucknow and Kanpur. These research programmes also promote and motivate the faculty members to provide consultancy services to the industry according to their requirement. Moreover these research activities shall boost the carrier aspirations of faculty members.

S. No	Activity	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	31-33	34-36
		1.	Start the PG programs in two Engineering disciplines					■	■	■	■		
2.	Start the PhD Programme in Engineering									■	■	■	■
3.	Start the center of Excellence					■	■	■	■				
4.	MoU for collaborative research with IIT Delhi/IIT Kanpur					■	■	■	■				
5.	MoU for collaborative research with IIT Delhi/IIT Kanpur									■	■	■	■

2.2a.4 Investing in smart classrooms, campus Wi-Fi, e-library etc.

Smart Class: The Innovative Classroom Learning

Institute has setup seminar halls/rooms equipped with modern teaching assisting equipments like projector, sound system, screens, computer system and LAN connection at every department. But still the media used in the classrooms is not at par as per the demand In today's teaching learning scenario, hence there is a

strong need to convert these partially modern classes into full-fledged smart classrooms.

Campus Wi-Fi

Institute has good internet connectivity, every department is well connected with its LAN facility and each faculty room, seminar hall has internet connection. In order to meet the requirements of today's teaching and learning culture there is a strong need of a central Wi-Fi facility which can cover each and every corner of the university thus providing Wi-Fi facility to every hostel and every department. Which can help students and faculty to connect with internet facility all the time at every place?

e-library

Institute has a well-established central library and separate departmental libraries with huge amount of books, journals and online courses. Institute has also established separate facility of online library where students can read eBook's by accessing the university internet. as in starting phase there are lesser amount of eBook's available so there is a need to increase the no. of eBook's and also to get access to renowned e-journal's like springer, science direct etc.

2.2a.5. Improving the academic performance of SC/ST/OBC/academically weak students through innovative methods, such as remedial and skill development classes, peer assisted learning for increasing the transition rate, non cognitive skills and pass rate

Several practices adopted by institutions to improve the performance of weak students. Broadly, they fall into three categories:

Student-centered strategies

Appointment of Active Student Advisers, Mentors or Proctors. The institution can appoint one faculty member for every 10-15 students entering in the first year. This Faculty Adviser/ Mentor/Proctor establishes a close relationship with each student, orients them to college practices, follows their progress regularly (e.g.,

with at least fortnightly/monthly meetings) and guides them throughout the four-year course

Strategies to improve teacher effectiveness to deal with weak students;

Efforts to help students deal with specific academic weaknesses (e.g., in math's) can involve improvements in teacher practices in the classroom – of which many examples are given in the next section, and/or be focused on the weak students.

- Tutorial classes where additional problems are solved and students interact with each other in addition to a faculty member or senior post-graduate student.
- Where there are a large number of weak students who cannot be handled individually, a 'Student Academic Support Program' could systematically provide extra classes, extra notes and extra guidance.
- Student and faculty collaborations on projects (which may be integrated in the curriculum) where teachers are available to students formally and informally and focus attention on weak members of the group.

Strategies beyond the teacher implemented by the college or affiliating university.(for SC/ST/OBC/Academically weak students)

- i. The institute provides the remedial coaching classes for SC/ST/OBC/Academically weak students under the project of UGC. The extra classes are arranged in the evening apart from the normal classes from the external expert of different reputed institutions.
- ii. The institution is planning to set up a book bank for the students of SC/ST/OBC and financially weaker section through grant received from central and state government.

2.2a.6 instituting academic and nonacademic reforms including programme flexibility (is there any need to revise the curriculum ? when it was last revised?)

Improvement of Course Curriculum and Content.

While significant curriculum revision may have been a lengthy and distant affair in the past, it has been made easier with autonomy as each institution can assess

student difficulties within its own context (e.g., availability of faculty, numbers and expertise) and make suitable adjustments. Many steps can be taken to assist weak students.

- **Include students in the assessment and revision of curriculum** – not only good students but average and weak ones so that their needs can also be taken into account.

- **Properly sequence curriculum and syllabi** – going from the simple to the more complex, and ironing out unevenness. For example, students in some states consider the first-year curriculum to be easy and the second year very hard - covering some second-year concepts in the first year would leave more time in the second year to go over difficult material again.

- **Develop learning objectives.** Faculty of a department can sit together to design the learning objectives of individual subjects and the overall curriculum. If students are told the necessary learning outcomes in advance, they have a goal to work towards.

- **Integrate theory and practicals.** Students and faculty feel that time in labs needs to be increased, more project and group work done, and more practical exposure gained. This is not only helpful but essential for weak students.

- Identify appropriate methods and provide the relevant technology for teaching different course contents, particularly to balance theory and practice.

- As discussed above, schedule repeat exams within a few weeks of the original ones, and provide extra classes in the interim to students who must repeat the exams.

- Include members from industry and other institutes in departmental Boards of Studies. They can assess the curriculum and make necessary changes meeting with new requirements in the industry.

The plans for implementing academic and non-academic reforms are listed as follows:

- Accreditation of UG and PG programmes
- Online method for performance appraisal of faculty by students
- Development of corpus fund through donations from alumni, CGPU, IRG including commercial use of facilities, consultancy earnings etc.

Action plan with Timeline

- Increase IRG through consultancy projects by 10% every year from 2018
- Facilitating for testing and certification for industries on revenue basis from 2018.
- Generate IRG from training programmes and increase it by 15% every year from 2018.
- Introduction of online performance appraisal of faculty from 2017 onwards
- Accreditation of all eligible courses at the end of the project period.
- Organizing curriculum revision workshops with industry/alumni participation every year.

(b) Improving employability of the students

2.2b.7. Increasing interaction with industry (what are the industries located in the vicinity? What role of industry is perceived for the institute?)

Increasing interaction with industry:-This is an era of knowledge transfer . various R&D organizations, industries and technical institutions try to interact and to make a common platform where experts form different fields exchange their knowledge and expertise to solve real life problem.

The industry has many problems where technology upgradation is required. Also number of small scales/medium scale industry who cannot afford their own R&D labs in such cases our research facilities provide to a great boon. Industrial organizations can identify areas where research is required and they can join with

our institute to have joint sponsored research programmes. Our research activities provide opportunities for growth and innovation for the industry and at the same time such programmes help our faculty to upgrade their technical expertise and expose students in technology development activities

Our institute in Rohilkhand region where the pace of industrial growth is very poor. Our T&P cell is consistently doing their efforts to make better interaction with industries such as by arranging special lectures of technical heads of IFFCO AONLA, BSNL, B.L AGRO INDUSTRIES etc. but these activities following, measures are needed to be taken at our institute level.

The institution can encourage the faculty, technicians and students to interact with industries in all possible ways with the spirit of delivering mutual benefit. The major modes of interactions are:

- i. Visits of faculty and students to industries and identify R&D problems.
- ii. Bring industry experts for conducting lectures on industrial practices, safety and trends.
- iii. Include industry experts in the workshops for curriculum development
- iv. Offering training for students in industries.
- v. Signing MoU with industries
- vi. Undertake industrial problems on mutually agreeable domains
- vii. Jointly organize conferences, workshops and seminars at national/international level
- viii. Encourage faculty participating in presentation of technical papers in national/international conferences.
- ix. Provide scholarship /financial support for students undertaking innovative industry projects.

2.2b.8. Student career counseling and placement

Augmented Placement Cell.

An important part is the “Training, Counseling and Placement Cell”. Which will be more interactive – a place where students interact with an active placement

officer, “trained friendly counselors,” other faculty, fellow students, even alumni and industry representatives to get advice on future careers and how they are preparing for them throughout UG/PG program duration of college and not just “at the tail end”. This provides guidance, support and motivation. A database on students, present and past, would help them make contacts not only with prospective employers but with others who took up jobs in particular industries, companies, areas, etc. They also follow progress in job placement of their enclosure. This renovated or innovative placement cell has several important roles in addition to organizing job interviews and securing job placements: organizing industry visits in at least the 3rd and 4th years which could make a substantial difference to student learning and attitudes; getting good guest lecturers; obtaining ‘real live’ projects from industries; and securing internships for students in the summers.

On a regular basis Head HR / Technical heads and various industries like GENPACT, HCL, WIPRO, TCS, RELIANCE, LAVA etc.

Future Projections

It is being planned to start a **Career and Planning Services** for the students through our website. Where they can make an appointment with the related faculties and resolved their career related questions personally.

Short Term

1. We can organize Career workshops to the students
2. Job Fairs in the campus and off campus
3. Effective Resume writing
4. Communication Improvement classes. etc. by giving them oral presentation.

Medium Term

1. We are planning to create our Strong **Alumni** network so that, it would be helpful to have sound relations with the students thereby using their network effectively.
2. Through Alumni we will create **Career development & networking events**

Long Term

1. Increase Industry Interactions

2. Industrial Tie ups so that students could be trained during their studies in the campus.

- **SCCPU Objectives**

- i. To give training and guidance to students on career related matters and assist them in exploring new opportunities.
- ii. To invite companies/organizations for campus interviews and provide them necessary facilities for conducting written test, Group discussion, Technical and HR interview etc.
- iii. To arrange industrial visit and training for final year and pre-final year students.
- iv. To organize various types and levels of training programs like mock interviews, Group discussions, experience sharing by eminent personalities, business communication skills and conduct model tests for various types of aptitude tests.
- v. To display various job advertisement coming in employment news, opportunities and career columns in leading news papers.

The proposed basic training consists of the following modules and for a maximum of 30 hours duration. Timing will be based on the conveniences of different batches/groups and as a part of time-table.

- i. Levels of Aptitude Tests.
- ii. English Grammar and Verbal Ability
- iii. Training for group works and team effectiveness
- iv. Training for Communicative English / Developing Business Communication skills
- v. Training on Personality Development.
- vi. Mock Interviews (HR / TR)
- vii. Mock GDs
- viii. Resume Preparation
- ix. Model Campus Interview Tests

Based on the results of these tests, various programs will be conducted to raise the level of students to seek job of his/her own choice. This may include personality development workshops; follow up sessions and group counseling, personal counseling as well as technical training.

(c) INCREASING FACULTY PRODUCTIVITY AND MOTIVATION

2.2c.9. Sponsored research, consultancy and other revenue generating activities.

The income which generated by the academic staffs is at utmost important to the development and sustainability of a university. The main income generation activities originated from the research and consultancy whilst commercialization contributed the most significant income towards university. In order to achieve this goal university can work upon/establish following:

- i. Innovation Labs (for example BIGData, IoT etc.) to train and other institution and industry persons.
- ii. center of Excellence
- iii. small scale projects, which able to create source of income to the individual beneficiaries or groups, which can be patented further
- iv. Training courses based on software and hardware
- v. Some e-learning courses
- vi. innovative and entrepreneurial activities
- vii. Implementing consultancy activities to generate the income, A consultancy project/task/work is one where faculty and research staff provide knowledge and intellectual inputs to industry (within India and abroad), primarily for their purposes. This is effectively a contract work in which all outputs belong to the client.
- viii. It must be then followed by the increased of post-graduate programmes, short-term professional development programmes, continuing studies programmes and off-shore programmes in the local universities.
- ix. International student exchange programs/Collaborations.
- x. Externally funded Research and Development Project, Create research fund from alumni, charitable organizations, prospective industries and professional societies like IEEE, CSI, ISTE etc for triggering research interest among UG students

There are many faculty of each department involve in research and development. Some of the faculty members are involved in consultancy and structural design in civil engineering

department. Some of the faculty members are involved in research in space plasma and turbulence study

- **Action plan with Timeline**

- i. Setting up of all infrastructure facilities by 2018.
- ii. Starting of PG programmes in various department subjected to approval from NBA .
- iii. Producing number of research publications by 10% every year by 2018
- iv. . Undertaking consultancy works to increase IRG by 15% by 2018.
- v. Organizing national/international level conference by 2017 onwards.
- vi. Undertaking collaborative research projects with research organizations by 2018
- vii. Exploring funds from various agencies for undertaking research projects by 2018
- viii. Generation of research funds by 20% every year from 2017.
- ix. Providing incentives for consultancies and participation in conferences for research publications
- x. Setting up of an innovation centre in the campus by 2018

2.3 provide an action plan with time line for

2.3.1. Obtaining autonomous institution status from UGC.

M.J.P. Rohilkhand University is recognized under section 12B by the UGC and is autonomous institution, hence Faculty of Engineering is the constituent part of the same.

2.3.2. Improving the NBA accreditation status.

Faculties of Engineering have applied for NBA ACCREDITATION IN 2015 for following branches:

- Mechanical Engineering
- Electrical Engineering
- Computer Science and information Technology
- Electronics and Instrumentation
- Electronics and Communication.

- **Action plan with Timeline**

- i. Establishment of facilities required for accreditation within 2 years
- ii. Evaluation of Teaching learning process by 2018
- iii. Collecting feedbacks from alumni, parents and industry by 2018
- iv. Providing facilities for self learning by 2018
- v. Conduct activities under professional societies by 2018
- vi. Undertake externally funded R&D projects and consultancy works by 2018
- vii. Provide opportunities for interaction of faculty with outside world 2017 through international travel plan or other source.
- viii. Additional contents to bridge curriculum gaps required for industries/PSUs/Service sectors

2.4 Describe the following in brief:

2.4.1. is any enhanced assistance / monitoring that the institution is looking forward from its ATU?

No, the institute does not seem to require any financial assistance from ATU.

2.4.2. Does your BoG need strengthening, if YES, then HOW ?

Yes, the value of Indian and Uttar Pradesh higher education faces multiple risks, and changes in governance are needed to address them. Changes in governance are needed to empower leadership, facilitate good decision making, and balance institutional interests with the public's needs for higher education. Without better stewardship, we foresee a real possibility of a continued slow decline in the quality and capacity of our nation's colleges and universities, and with that, further increases in the social and economic stratification that threaten our cultural and economic future.

Processes are cumbersome and inwardly focused, roles and responsibilities among multiple actors are contested, and information for decision making is poor. The traditions of shared governance and academic freedom so important to institutional integrity and to the role of higher education in a democracy are maintained in policy but increasingly ignored in practice. Signs of pressure on governance are everywhere: polarized boards,

faculty votes of no-confidence, rapid presidential turnover, and increased scrutiny from federal and state governments about the quality and finances of a sector that is no longer trusted to govern itself.

1. To address these and other challenges, the Boards of Governance (Executive Council of University), referred as BOG, following are some viewpoints that can strengthen the BoG:
2. Clarifying the role of boards,
3. Streamlining board committees and responsibilities,
4. Improving data and decision making about finances (including not just fund raising but a better focus on how money is spent), and
5. Rebuilding traditions of shared governance to align them with the realities of today's workforce and finances. They also call for boards to become more accountable for their own performance, by themselves modelling the types of behaviour they expect in others.

The recommendations will be controversial with constituencies both inside and outside of the academy, many of whom will prefer to maintain the status quo rather than give up some imagined power to influence decision making. Some college presidents and faculty want boards that don't ask too many questions and focus on fundraising. There are legislators and governors, in turn, who want boards that carry out their agendas, whatever those might be. Many alumni want institutions that look like the ones they went to. Students want lower tuitions, along with better facilities.

The days when conflicts about institutional priorities could be safely papered over with new money are over. We aren't going to solve our nation's needs for better performance in higher education by rolling back the clock to a time of generous finances and uncritical public belief in the wisdom of institutional decision makers. The American public recognizes the importance of higher education to our country's future, and they are demanding more from it. Just as corporate board members have a fiduciary duty to

shareholders, college and university trustees have a duty to us all. We call upon these boards to add value where it matters most and engage in truly consequential governance.

2.4.3 Is there an ERP/MIS system existing, if Yes , than any improvement, modification suggested.

- The AICTE student management software is used by our Faculty.
- PMSS of TEQIP is used for financial management.
- Financial Management software is available for managing the finance at institution level.
- Online fees submission and examination forms are available for the students.

2.4. 4 Is there any mechanism i.e. special classes being conducted in the institution for improving the GATE score?

Students are given a facility for 15-30 days crash course/workshop from internal/external faculty members completely based on GATE material in relevant stream.

Students of third and final year are given the access to IGB leased line to download and listen online videos related to GATE material.

Wi-Fi and Computer center internet facility is exclusively made available to GATE preparing students apart from their running schedule.

2.5 Provide a Twinning Plan with a high performing institute with the objective of capacity building knowledge transfer and developing long term strategic partnerships.(Twinning Plan will be formalized into Twinning agreement after finalizing the Twinning partner).

Twinning programs is to be formalized with IIT Delhi or IIT Kanpur which are also our institution guiding for quality and training program. There is a need of an extensive mapping of subjects in each course with selected partner universities abroad. The aim of this program is to enable B.Tech students to offers relevant and rigorous curriculum to ensure contemporariness of learning. Twinning / Transfer programs allow Indian institutions to offer graduate and post-graduate programs which will have their regular curricula. The existing curricula may be supplemented by additional curricula of the foreign universities if desired by

Indian institutions. Through twinning / transfer programs, Indian students will be able to earn several credits during the course of their normal study in Indian institutions.

Further, students will have wide range of subjects to choose from in the reputed institution, apart from the opportunity to learn in two different cultural environments, and thus becoming well-rounded learners. For twinning / transfer programs, the Indian institutions may invite visiting faculty. In such cases, the host institutions (FET, MJP RU) will bear expenditure towards travel, room and board of visiting faculty.

2.6 is there any difficulty in recruitment and selection of high-quality faculty? If yes, what are the reasons? Also give a action plan to solve the issue?

Yes, there are various difficulties faced in recruiting the high quality faculty. A few points are mentioned below:

1. High value of salary required for payment to the faculty
2. Tenure of recruitment is less than one year, in such case faculty are reluctant to join.
3. Poor understanding of higher authority in analyzing the need for good faculty.
4. Rigid laws in the university.

2.7 give an action plan for ensuring that the project activities would be sustained after the end of the project.

It is important to continue and sustain the momentum gained through the project for the period beyond the project life. The sustainability depends on two aspects:

- (a) Continuation of activities initiated
- (b) Making the funds available for the same.

Keeping in mind the above aspects, the Institute has made following plans for sustaining the gains to be derived from the project:

1. High-level committees will be set up to monitor the continuation of activities in the following areas:

- i. Continuous improvement of quality of education
- ii. Training & Development of faculty and staff
- iii. Enhancing R&D activities
- iv. Increased interaction with industry and R&D labs

2. The investments made in TEQIP-III would be viewed as a starting point for the research activity to continue in the future. As a policy matter, it would be made mandatory for each faculty member with PhD to have at least one funded project by the end of the project period, which would extend beyond the project period. Provisions would be made in such projects for nonrecurring expenses aimed at building required infrastructure.

3. The following activities are expected to result in increased non-fee based IRG:

- i. Research sponsorship from funding agencies (institute's share)
- ii. Revenue generated from consulting and testing services
- iii. Revenue from training/continuing education programmes Industry Institute Interaction programmes

4. The four funds namely, Corpus Fund, Faculty Development Fund, Equipment Replacement Fund and Maintenance Fund have already been created. It is planned to contribute a minimum of 0.5% of total recurring expenditure of the institute to each fund every year.

5. Apart from the above funds, it is proposed to create the following funds. Annual contributions will be made to these funds and no expenditure would be booked till the end of the project period. A share of increased non-fee based IRG would be invested in these funds.

- a) Scholarship/teaching assistantship Fund (for meritorious students)
- b) Research and Development Fund (for faculty and students)

All the above funds are expected to provide continuity and sustainability of the activities initiated during the project period.

2.8 describe briefly the participation of departments/faculty/students in the IDP preparation.

- Development of social schemes, for students belonging to SC/ST, backward and minorities, has been done.
- A strong research and academic network with neighboring high performing institute such as IITs/IITs/NITs has been planned.
- More thrust is given to scale up employability of students on completion of course.
- New schemes are created for continuous performance evaluation of overall department and individual faculty and student.
- To encourage the meritorious students, new award schemes have been decided and their names will be published in official newsletter and website.
- As per industry needs, new core and inter disciplinary courses are incorporated in the curriculum. These courses are professional and free electives.
- As most of the core industries are recruiting students through GATE score, so the new teaching methodologies, focusing GATE examination, have been designed.
- New schemes have been designed in order to make the institute smart. In this smart institution, registration, evaluation and other department activities will be transparent and online. To achieve this objective, a cloud based system has been proposed in the institute.
- Necessary infrastructure has been developed to access the NPTEL lectures in the classrooms. Students will be encouraged to attend these lectures and discuss on different queries.
- Furthermore, initiatives have been taken for research and academic collaboration with professors and researchers of foreign universities. Some of them have been consent for discussion on Skype with faculty members and students.
- During failure of electricity, the institute depends on diesel generators. The institute has taken steps for usages of clean and smart energy, and reduction of electricity during peak hours.

- Experts of relevant domain will be attracted to improve the skill, such as language proficiency, reasoning and analytic abilities, of the students.
- Experts from high performing institutes will be invited for monitoring the obsolescence and calibrating the equipment in the laboratories.
- Faculty members and students are very active in joining the international and national professional societies such IEEE, ACME, IETE etc.
- Faculty members are encouraging the students to join summer and winter internship at high performing institutes.
- Assistance, to the faculty members/students, has been initiated on publication of journal in SCI journals.
- Foreign exchange program for the faculty members for their research and academic collaboration will be initiated.
- A research grant will be allocated to the faculty members to start/continue the state-of-art research in their respective domains.

Budgetary Proposal for Phase three of TEQIP

S. No	Particulars	Estimated Cost in INR (In lakhs)
1	Establishments of new Labs	350
2	Strengthening of the existing labs	250
3	Wi-Fi	100
4	Center of Excellence	50
5	Library	40
6	Others	110
7	Faculty and staff Development	200
8	Industry Institute Interaction Cell	100
9	Academic support for week students	100
10	R&D	100
11	Assistance for PG students	100
12	IOC	100
Total		1600
