

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

PHASE-III

**INSTITUTIONAL DEVELOPMENT PROPOSAL
Of
National Institute of Technology, Manipur**

1. INSTITUTIONAL BASIC INFORMATION

1.1 Institutional Identity

- **Name and address of the Institution** : The Director, National Institute of Technology, Manipur
Imphal west, Langol, Imphal-795004, Manipur (INDIA)
- **Year of establishment** : 2010
- **Is the Institution AICTE approved?** : Yes/No
Furnish AICTE approval No. : MHRD, Govt. Of India
- **Type of Institution** : NIT
- **Status of Institution** : Autonomous Institution Status by UGC
- **Name and Designation of Head of the Institution (Full time appointee)** : Dr. S. Birendra Singh, Director,
National Institute of Technology, Manipur
: Yes, Full Time appointee

1.2 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	Bachelor of Technology	UG	4	2010	180	529
2	Master of Technology	PG	2	2014	100	117
3	Master of Science	PG	2	2014	45	80
4	PhD Programme	PhD	5	2013	--	65

- **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): 3 (Three Batches)

No. of programmes accredited: Self Assessment report (SAR prepared for Three programmes)

No. of programmes applied for accreditation: Process for Applying, for three programmes CSE, EEE and ECE

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

No. of Sanctioned Regular Posts	Present Status : Number in Position by Highest Qualification												Total Number of regular faculty in Position	Total Vacancies	Total Number of contract faculty in Position
	Doctoral Degree				Masters Degree				Bachelor Degree						
	Engineering Disciplines		Supporting Disciplines (Physics, Chemistry, Maths and English/ other languages)		Engineering Disciplines		Supporting Disciplines (Physics, Chemistry, Maths and English/ other languages)		Engineering Disciplines		Supporting Disciplines (Physics, Chemistry, Maths and English/ other languages)				
	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)
54	14	0	14	09	05	31	0	0	0	0	0	0	33	21	40

R=Regular, C=Contract

2. INSTITUTIONAL DEVELOPMENT PROPOSAL (IDP) (Implementation period: April 2017- March 2020)

2.1 Give the Executive Summary of the IDP (max 2 pages).

Vision

The institute aims to provide the best infrastructure and amenities to the students. The institute envisions being one of the best technical institutions in South-East Asia. The institute aims to attract students from the neighbouring south-east Asian countries in view of the Look-East Policy of the Government of India. The institute strongly believes that the success of an institute lies in the faculty and will leave no stone unturned to attract the best faculty available in the country.

Mission

The institute being accorded the status of 'An Institute of National Importance' aspires to be a knowledge hub for the region. The institute through its academic and research activities would act as an incubation centre for aspiring 'Technopreneurs'. The institute provides an ideal platform for national integration through educational integration as half the students are from outside the state. It envisions being an institute producing human resource of world class standard who will contribute significantly in the well being of mankind.

Objectives

- ❖ To nurture and develop talented young minds, encouraging creativity with academic excellence.
- ❖ To provide a platform to young entrepreneurs and technocrats to experiment their dreams and aspirations.
- ❖ To encourage faculty and students to conduct research of international standard.
- ❖ To produce students fulfilling the employability criteria of MNCs.
- ❖ To set up Laboratories with latest Equipment and other facilities.
- ❖ To set up international standard infrastructure for extracurricular activities.

NIT Manipur is one of the 10 new NITs set up by the Central Government in 2010 during the 11th Five Year Plan in the State/UTs which are not having NITs. Initially, the Institute offered only three B.Tech programmes in EEE, ECE and CSE streams. But Civil and Mechanical Engineering was started from the Academic year 2013-2014. Now full fledged CSE, Civil, ECE, EEE and ME being offered. NIT Manipur has also introduced several new P.G programmes in Civil and Mechanical Engineering was started in the academic session 2015-16 and 2016-17. Further, Master in Science also started in Physics, Chemistry and Mathematics. In addition PhD programme in CSE, EEE, ECE, CE, ME, Physics, Chemistry, Mathematics and English were also introduced. The institute has started shifting to the permanent campus. Administrative

Block, Boys Hostel, Department of Basic sciences and humanities, Civil Engineering and Mechanical Engineering have also started functioning in the permanent campus from the academic session 2015-16. The construction of a Multipurpose Building and Boys Hostel at permanent site was entrusted to CPWD, under an MOU signed between CPWD and NIT Manipur. New streams of PG courses will also be gradually added. Several regular faculty members and non-faculty members have also been recruited during 2015-16. All efforts are being made to fill all vacant positions at the earliest. The placements for the first two batches have been very encouraging. The institute has also setup Center of Excellence in collaboration with HP India and Powai labs, Mumbai for imparting industry standard training to the students. In addition to the academic activities, the students have been actively involved in organizing several cultural, technical and sports activities.

External Review of the Institute:

Inspired by the NIT Council, NIT Manipur also organized the first review by an External Review Committee. The first stage consisted of academic review of each Department and subsequently the whole Institute by separate groups of well-known experts drawn from academic, Industry and R& D Organizations. The review covered relevant aspects such as teaching, course curriculum, Laboratory and related Infrastructure, faculty profile, student recognition. The Second stage of review was at the Institute level. The expert team then visited the concerned Departments and facilities, interacted with faculty, staff and students and reviewed the overall progress of the institute in teaching and research. The financial report of the committee was submitted to the Director which was also forwarded to MHRD.

Research and Development:

The institute has made the rapid progress in research activities. Several laboratories with state of art equipment have also set up. The faculty has published various pre-reviewed journals and Books, and also presented research papers in reputed conferences in the academic year 2015-2016, it was 53 Journals and 99 Conferences respectively. The institute also achieved various (15) fifteen R& D projects.

2.2 Action Plan with Time lines

Sl. No	Activities	2017-18	2018-19	2019-20	2020-21
1	Infrastructure improvements for teaching, training and learning through:				
	(i) Establishment of new laboratories for new and existing PG programmes, faculty research, etc.				
	(ii) Updation of learning resources				
	(iii) Procurement of furniture				
	(iv) Modernization and strengthening of libraries				
2	Providing Teaching and Research Assistantship's for significantly increasing enrolment in existing and new Master's and Doctoral programmes in Engineering disciplines				
3	Enhancement of R&D and institutional consultancy activities				
4	Faculty and Staff development based on Outcome based Education				
5	Enhanced interaction with Industry				
6	Institutional Management Capacity enhancement				
7	Implementation of institutional reforms				
8	Academic support for weak students				
9	Incremental Operating Cost				
	Total				

(a) Improving the learning outcomes of the students

1. Faculty training (qualification upgradation, subject upgradation & research competence, Pedagogical training, participation in conferences, seminars/workshops etc.)

The quality and value of an education in the past few years received, and continues to receive, scrutiny by various stakeholders associated with the higher education community. Much of the energy surrounding the undergraduate experience and student learning was placed on the two major responsibilities of faculty, teaching and research. The regulation of time allocated to these two roles was quickly becoming one of the most salient issues in higher education. Unfortunately, much of the debate about the nature of faculty work was shrouded in myth, opinion, and conjecture. Myths, such as a faculty member being highly involved in teaching, engages students in the undergraduate experience resulting in greater student learning gains were important to debunk or substantiate. As a result, assessing the impact that faculty behaviours and interactions with students in the classroom have on the undergraduate classroom experience was ripe for examination in the current study. Conducting empirical research that focus on faculty behaviours and interactions with students in the classroom will advance the literature on the role faculty play in student learning has been improved much attention is made on "Outcome Based Education". Faculty has undergone various Faculty Development Programmes (FDP) and Short Term Training Programme (STTP) on Pedagogy for Effective use of ICT in Engineering Education.

2. Staff training (Technical & Administrative staff):

As NIT Manipur is promoting E-Learning materials may be made accessible to the Technical Staff throughout the day. This makes it possible to learn the subject at their own pace and in comfortable maintenance of instruments in Standard method. For all the module courses, Technical Staff undergo the hands on training with various Industrial experts, in respect to that our Students are trained additional from the Technical Staff. Administrative staff undergone procurement and Purchas/Accounts procedure to facilitate good administration in the Institute.

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

S. No	Academic Year	Started New Branches/ upgraded Student Intake from 30 to 60
1	2013-2014	Computer Science and Engineering 30 to 60
2	2013-2014	New B.Tech branches started for Civil and Mechanical Engineering at Student Intake 30
3	2015-2016	M.Tech Civil Engg Stated with Students Intake 20
4	2016-2017	M.Tech Mechanical Engg Stated with Students Intake 20
5	2014-2015	PhD in Civil and Mechanical Engineering started

4. Investing in smart classrooms, campus Wi-Fi (24*7 broadband connectivity and Wi-Fi access in all academic and administrative buildings and hostels (with a minimum of 2 MBPS speed for each connection), e-library etc.

Smart classroom is an important component for e-learning facility in our NIT Manipur at present we have at the design stage for Smart Class room. At least we want to start two smart class rooms with a capacity of 120 seating's in each smart class room with sound proof and acoustic panelling including doors and windows.

Our Campus Wifi, ranges to Academic block, Administrative Block, Hostel and Library etc. As for NIT Manipur, the campus wifi facility is already present in almost every part of the permanent campus. As per the directions we will be shifting our entire students to Permanent campus. Keeping this in consideration the institute has already laid underground OFC in all the block including hostel, academic and admin building in ring fashion. This helps us achieve 99.9% connectivity throughout the year.

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.

With constant motivation of our Director, NIT Manipur, Skill development classes, remedial/extra tutorials classes will be focused especially who are lagging in the Technical concepts. Special classes will be arranged in addition to normal class work.

6. Instituting academic and non-academic reforms including programme flexibility (Is there any need to revise the curriculum? When it was last revised?)

All the UG, PG and PhD Course work programmes are flexible based on the Outcome based Education. Last it was framed in the Academic year 2010- 2011. Yes, in this academic year 2016-2017 planning to revise in Senate.

(b) Improving employability of the students

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

Industry:

The Institute has set up the following centre with the following companies:

- (a) HP Centre of Excellence with HP India
- (b) Centre of Excellence with HP India
- (c) Collaborative and Innovation Centre with Tata Technologies

Indian Institutes:

The Institute has signed agreements with the following Institutes for academic collaboration and to facilitate Young faculty members of the Institute to pursue Higher studies:

- (a) Indian Institute of Technology Guwahati
- (b) National Institute of Technology, Agartala
- (c) National Institute of Technology, Silchar

Foreign Institutes:

The Institute is in the process of signing MOU's for academic collaborations with the following Institutes:

- (a) National Pingtung University, Taiwan
- (b) University of Stuttgart, Germany
- (c) Asian Institute Technology, Thailand
- (d) Khon Kaen University, Thailand

8. Student career counselling and placement

The List of MNC's which offered placements to our students

S.No	Name of the Employer/ Company/Organizations	Location
1	L&T Infotech	Mumbai
2	IBM	Bangalore
3	WIPRO	Bangalore
4	INFOSYS	Bangalore
5	L&T ECC	Mumbai
6	Johnson Controls	Bangalore
7	MuSigma	Bangalore
8	Sapient	Bangalore
9	HUWAEI	Bangalore
10	Namura Technologies	Bangalore
11	KEC International	Mumbai
12	Carbon Software Solution & AAA	Gurugram
13	AMDOCS	Pune
14	MPHASIS	Mangalor
15	HCL TSS	Bangalore
16	Power Grid co.pvt.ltd	Manipur
17	Sangai Information pvt Ltd	Manipur
18	RECPDCL	Manipur
19	CGI	Bangalore
20	Capgemini	Bangalore
21	TechMahindra	Bangalore

(a) Increasing faculty productivity and motivation

From the Academic year 2015-2016 onwards faculty achieved sponsored research projects in science and Engineering

9. Sponsored research, consultancy and other revenue generating activities

Annexure –I mentions sponsor projects

Annexure –II mentions consultancy projects

2.2 Provide an action plan with timelines for

1. Obtaining autonomous institution status from UGC: Yes, Institute of National Importance
2. Improving the NBA accreditation status : Yes,
Prepared Self Assessment Report for Computer Science, Electrical Engineering and Electronic and communication

2.4 Describe the following in brief:

1. Is any enhanced assistance / mentoring that the institution is looking forward from its ATU?

Not required

2. **Does your BoG need strengthening, if yes, then how?**

Yes, BoG has exponentially strengthening, i.e., Increases the number of meetings and respectively deputing the experienced faculty for both Engineering and Basic Sciences.

3. **Is there an ERP/MIS system existing, if yes, then any improvement, modification suggested.**

MIS system is existing E-File & E-Cabinet may be implemented for smooth functioning and better administration.

Planning to open access to Parents and Guardian to update the Student Basic Information.

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

Respective Class teachers are making attempts to teach GATE syllabus, faculties are motivating to appear GATE Mock Test.

- 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).**

(a) In near future, we will Twin to Indian Institute of Technology Guwathi

- 2.6 **Is there any difficulty in Recruitment and selection of high-quality faculty? If yes, what are the reason & action plan to solve the issue?**

Yes, Ministry has sanctioned post, but due to Visitors Nominee, our Recruitment process is pending. In the same time, our Manipur is located extreme corner of North East India.

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

Beneficiaries	Remarks
Students	Development of Smart class rooms and E-library brings higher productive may competent at Global level
Faculty	Promoting Research and Development brings High Teaching methods
Technical Assistance	Promotes the Upgradation of the Technical staff education may ultimate brings quality lab handing Methods.
Administrative	Promotes Training and Development brings customization of E-files

- 2.8 Describe briefly the participation of departments/faculty/students in the IDP preparation. Information is being taken from Stack Holders, form all the Branches, and Faculty, Administrative Staff.


Dr. Bisen

Head of Department
Mechanical Engineering
National Institute of Technology Manipur


Director
National Institute of Technology
Manipur