

## National Project Implementation Unit (NPIU)

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

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#### Guidelines for Preparing Institutional Development Proposal (IDP) for Participation in Sub-component 1.2 : Scaling-up Post-graduate Education and Demand Driven Research & Development and Innovation

#### 1. INSTITUTIONAL BASIC INFORMATION

##### General:

1. Before forwarding the Institutional Development Proposal to SPFU/NPIU, please ensure that it is approved by the BoG and each page of the proposal has been signed by the Head of the institution.
2. Head of the institution needs to certify that all the information provided in the Proposal is factually correct. Any false information provided in the Proposal will lead to its disqualification at any time during the Project life.
3. SPFU needs to certify that all the information given by the institutions from the respective States in the proposal is factually correct. While forwarding the IDPs to NPIU, SPFU needs to certify the capability of the institutions in carrying out various reforms.
4. Any institution found to be charging capitation fee or indulging in any other malpractice will face punitive action amounting to either their exclusion from the Project and recovery of Central and State funds provided to them till the date of their exclusion or curtailment of Project funding.
5. In case of an affiliated college, provide the name of the affiliating university.
6. Insert the name of your institution and the sub-component number i.e. 1.2 in the footer on each page of the proposal.

##### Item No. 1.1 - Institutional Identity:

- Provide latest documents in support of being an AICTE approved institution.
- In case, institutional TEQIP Unit is not yet constituted, mention by when the same will be formed and made functional.

##### Item No. 1.2 - Academic Information:

- In regards of post-graduate (PG) programmes, provide details under the following three sub-heads:
  - i) Full-time PG programmes
  - ii) Part-time PG programmes
  - iii) Joint PG programmes
- In regards of PhD programmes, provide name of disciplines offering PhD programmes, copy of supporting documents from the competent authority for being authorized to offer PhD programme in a particular discipline, and the number of currently registered students in each discipline offering PhD programme under the following three sub-heads:
  - i) Full-time PhD programmes
  - ii) Part-time PhD programmes
  - iii) Joint PhD programmes

- Accreditation: Provide title and status of accreditation of each eligible programme. Provide copy of relevant documents in this regard (NBA/AICTE letter informing accord of accreditation; NBA/AICTE letter stating receipt of application for accreditation, etc.).

**Item No.1.3 - Faculty Status:**

- Provide details of faculty positions sanctioned versus filled in regard to engineering disciplines and those disciplines which support engineering education, viz. applied sciences, humanities. Do not include guest faculty in the matrix of faculty positions in-place.

**Item No. 1.4 - Baseline Data:**

- Provide data pertaining to engineering disciplines (wherever applicable):
  - Sub-item 18 : Provide internal revenue generated (IRG) from tuition fees and other charges collected from engineering students.
  - Sub-item 19 : Provide sum of revenue generated from externally funded R&D projects and consultancies in engineering disciplines (IRG is to be taken as inflow of funds for R&D projects and consultancies from the sponsoring agency in the year for which the data is being reported).
  - Sub-item 20 : Provide sum of items 18, 19 and revenue earned through other sources e.g. testing, continuing education and training programs, offering institutional resources to general public etc.
  - Sub-item 21 : Provide total annual recurring expenditure of the entire institution.

**Item No. 1.5 - Eligibility Benchmarks:**

- Furnish latest updated information in regards of eligibility benchmarks.
- Academic and non-academic reforms:
  - Please refer pages 28 to 32 of the PIP for “Concepts of Reforms”; also refer Annex-I of PIP for guidelines on “Implementation of Reforms”.
  - Keeping in view all applicable rules and policies, each institution needs to assess its capability to implement the academic and non-academic reforms and write appropriate responses along with time frames separately in respect of each reform in a tabular format.
- Academic autonomy: Provide supporting document for being an autonomous institution. In case the proposal for autonomy is in under assessment with the concerned authorities, mention “Applied For”.
- Board of Governors (BoG): Provide details of BoG with name of each member, designation within the BoG and the parent organization with which he/she is associated.
- Accreditation: Provide latest consolidated status of accreditation in respect of all UG and PG programmes along with supporting documents.
- MTechs and/or PhDs produced: Provide a list of MTechs and/or PhDs produced giving names of students, name of programmes completed, year of completion, title of dissertation/thesis and name(s) of supervisor(s).
- Regular faculty positions: Provide latest consolidated (percentage) status of regular faculty positions in-place against total sanctioned positions in accordance with the AICTE prescribed student to faculty ratio. Faculty on contract is not to be counted as regular faculty.

## 2. INSTITUTIONAL DEVELOPMENT PROPOSAL (IDP)

### Item No. 2.1:

- Describe in the executive summary the salient features of the proposed Institutional Project and the fund requirement over the project period, with year-wise break-up.

### Item No. 2.2 and 2.3:

- Provide the strategic plan for Institutional development based on SWOT analysis.
- Mention the main challenges for implementation of the strategic plan.
- State the vision, mission and values of the institution.
- Mention clearly the specific objectives of your proposal in terms of, “Scaling-up Postgraduate Education and Demand Driven Research & Development and Innovation” and the expected outcome under the institutional project. These objective and outcomes must have links to the SWOT analysis.
- Give justification for your institution’s participation in this Sub-component, based on the strengths and opportunities as per SWOT analysis.

### Item No. 2.4:

- Give a bar chart for starting and completion of the key activities related to scaling-up enrolment into Masters and Doctoral programmes in the format given below:

S. No	Key Activities	Project Months															
		1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	31-33	34-36	37-39	40-42	43-45	46-48

- It is to be noted that for the scaling-up enrolment in the Masters and Doctoral Programmes, the institutions need to ensure availability of qualified faculty and essential technical staff.
- Enrolment into the Masters and Doctoral Programmes can be increased through the following actions:
  - Strengthening the existing programmes.
  - Introducing new programmes (starting of new AICTE approved PG programmes in emerging areas of Engineering and Technology will be supported under the Project provided these are started with AICTE approval latest during calendar year 2011).
  - Joint Masters and Doctoral programmes.
  - Offering flexible part-time Masters and Doctoral programmes.
  - Increasing intake in existing PG programmes (with AICTE approval) over and above the sanctioned seats.
  - Offering teaching assistantships to non-GATE/non-sponsored Master’s students and offering research assistantships to PhD students. It is expected that each institution participating in this Sub-component will, on an average, provide at least 50 Teaching Assistantships and 30 Research Assistantships during the Project duration (in addition to the scholarships already available to the GATE qualified Masters students, and PhD scholars under QIP scheme). Institutions should plan to utilize 20% of the total Institutional project outlay for giving assistantships to Masters and Doctoral students.

- Increasing research interest among UG students.
- Outstanding candidates enrolled for PhD, in select cases, could also be sent abroad for paper reading in conferences, and exposure/interaction with eminent research laboratories for about three months.
- For enhancing quality and relevance of Masters and Doctoral programs, following measures are suggested:
  - Faculty development for effective teaching and research competence.
  - Restructuring of curricula aligning them with industry expectations.
  - Closing down non-popular programmes.
- For enhancing demand driven and industry applied research and innovation by faculty and students. This could be achieved through:
  - Collaborative PhD programs on industry/society real life problems.
  - Tie-ups with industry for collaborative R&D projects leading to innovations (involving students).

**Item No. 2.5:**

- Describe the action plan along with the activity (bar) chart for improving collaboration with Industry in the areas of research, commercialization of innovation and Consultancy and joint PG programmes.

**Item No. 2.6:**

- For quantitative increase and qualitative improvement in research by the faculty individually, jointly or collaboratively, following measures are suggested:
  - Provide liberal incentives to faculty and students,
  - Secure Industry and Government sponsored projects,
  - Enhance citations, patents,
  - Promote publications in refereed Journals,
  - Give wide exposure to faculty to frontline research within India and abroad.
- For developing research interest among undergraduate students:
  - Create research fund for triggering research interest amongst the under graduate students in the institution.
  - Encourage UG Students to get associated with industry oriented/sponsored research project under the guidance of senior faculty for promoting their participation in research.
  - Bestow award to the best under graduate students showing interest in research.
- Collaborating with Indian and foreign institutions in academic and research area through MoUs.

In the action plan, attach existing MOUs and also indicate how the institution will establish MoUs with neighbouring institutions and Industries on viable collaborative research /consultancy projects with specific time-frames and well-defined deliverables. The action plan should identify new collaborative actions such as:

- Student credit recognition and mobility, networking, joint programmes and degrees.
- Joint research projects, researchers mobility and international networks.

The projects may be coordinated jointly by faculty member(s) from partner institutions. A well-defined and transparent revenue sharing mechanism as required needs to be evolved and implemented to motivate faculty members to increasingly participate in such activities.

**Item no. 2.7:**

- Attach a summary of Training Needs Analysis (TNA) carried out. Please refer Annex—VI of PIP for details. Institutions need to carry it out every year and the training/development plan resulting from it is to be implemented in the following year. TNA gives performance improvement, introduction of new system, task or technology and organizational benefits.

Following information may be used by the individuals for their individual TNA:

- Institution's Strategic Development Plan;
  - Institution's (recent) SWOT analysis;
  - Previous years' Development/Training plans;
  - Seniors' and/or Peers' feedback;
  - Students' feedback;
  - Feedback on previously attended training programmes;
  - Individual's professional aspirations;
  - Teaching in Research areas given importance under the Project; and
  - Any other relevant feedback.
- Provide Faculty Development plan for the first 18 months for improving teaching and subject area and research competence based on TNA. The avenues for Faculty Development should typically include:
    - Basic and advanced pedagogy [refer Section-3, Sub-section 3.1.3 (pages 43-44) of PIP for details].
    - Subject / domain knowledge enhancement to make the faculty aware of the latest technology and research methodologies to impart better training to students.
    - Attendance in activities such as workshops, seminars—the institutions can allow participation of faculty to attend short-term/long-term courses, national and international seminars, conferences, workshops, etc.
    - Improvement in faculty qualifications through qualification upgradation of the faculty by deputing faculty to pursue higher studies within the parent or another institution.
    - Improving research capabilities via collaboration with R&D organizations, academic institutions in India and abroad.

**Item no. 2.8:**

- Provide an 18 month action plan for training technical and other staff in their respective functional areas like:
  - Training of Technical staff in laboratories and workshops for operation and maintenance of equipments and research related relevant activities.
  - Training of administrative staff in the use of modern office gadgets, software and office automation and maintenance of records and procedures.

**Item no. 2.9:**

- Describe the relevance and coherence of Institutional Development Proposal with State's/National (in case of CFIs) Industrial /Economic Development Plan.
  - The proposal in some measure should conform to the Governments objective of technical education and align with the States and Regional economic development plan.
  - The action plan should ensure a pattern of economic and industrial development that would lead to economic growth and social cohesion.
  - The objective of the proposals should cater to the requirement of the region so that the technology inputs from the institution could benefit the region.

**Item no. 2.10:**

- Describe briefly the participation of departments/faculty in the preparation of its IDP.
  - The action plan requires the proper coordination with faculty members from various departments.

**Item no. 2.11:**

- Describe the Institutional project implementation arrangements. A proper integrated and coordination mechanism for specialized committees should be in place. The institutions and faculty commitments and engagements should be reflected in the proposal. Institutions would need to constitute Committees, composed of faculty and senior staff to implement and to carry out academic activities as listed in Table-26 and on page 146 of the PIP. For details of the implementation arrangements refer Section-5 of PIP.

**Item no. 2.12:**

- Provide an Institutional Project budget in Table-34, taking into account Table-17, Table-19 and other relevant tables for the permissible and non-permissible expenditures.
- Please note that the budget is to be provided over Five Indian financial years (although project duration is for four years). Provisions should be made in the year in which actual payment is to be made under each activity.
- In some activities the upper and lower budgetary limits are prescribed. If the money is not spent accordingly, the performance of the institution shall be rated low and further funding will be curtailed.

**Item no. 2.13:**

- Provide the targets as per the institutions capabilities as identified in SWOT analysis against the deliverables listed in Table-35.
- Describe the plan in detail for the achievement of these targets.

**Item no. 2.14:**

- Provide the action plan for sustaining the gains of the project after the closure of project.
- The institutions have to ensure that the gains made under the Program would be sustained after the institutional project ends. Give an action plan for the sustenance of the project gains.
- Institutions will need to ensure funding support for students enrolled in Masters and Doctoral programmes with assistantship.

**Item no. 2.15:**

- Provide a Procurement Plan with respect to the proposed activities for the first 18 months for Goods and Civil Works in Table-36 and consultant services (if needed) in Table-37 with budget and time frame.

**Item no. 2.16:**

- Provide the information related to specific academic achievements of the institution. For example:
  - Publications (papers, books, manuals, etc.), patents, innovations,
  - Conferences organized in the last 3 years and the proceedings published,
  - Seminars and workshops organized,
  - Specialized training programs conducted,
  - Awards and recognitions received by the faculty,
  - ISO Certification,
  - Collaboration with foreign Universities,
  - Collaboration with Multi National Companies, etc.

**Item no. 2.17**

- Please provide an action plan with budget for organizing a finishing school in accordance with the pattern of permissible and non-permissible expenditure as given in Table 19. Please refer page-38 of PIP for details. The key activities of the finishing schools are:
  - a) Conducting remedial teaching throughout academic sessions for improving transition rate and pass rate of students,
  - b) Conducting specialized soft skills and professional skills development training during semester-breaks and vacations (preferably starting from 5th Semester onwards) for increasing employability,
  - c) Conducting high intensity training (of at least 4-weeks duration) for development of soft and professional skills in the students that graduate but fail to secure any employment, and
  - d) Organizing campus interviews and making other efforts to secure employment for graduate engineers that complete the training under activity (c) above.
- The action plan should be aimed to improve the academic performance of SC/ST/OBC/academically weak students through innovative methods w.r.t the following:
  - Transition rate from 1st –2nd year
  - Pass rate
  - Improved performance of individual students
  - Increased satisfaction index of the students

**Methodology:**

- Identify weak students and improving students basic competences at the entrance level
- Design remedial measures for the disadvantaged sections of the society in the form of coaching classes and problem solving sessions for successful learning.
- Improve the communication skills of the students that may or may not be academically weak. Special Group discussions, personal interview techniques can be organized to bring them at par with the industry needs.
- Special coaching/training through subject expert can be organized.