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Research and Development Policy

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Preamble

Research is the backbone of any academic institute more so for a budding institute like IPE. The Dean (R&D) office provides standard mechanisms and protocols and facilitates carrying out cutting-edge research in the Institute. The Dean (R&D) office makes efforts in providing basic infrastructure facilities and creating a conducive environment for accelerated growth of the research activities of the Institute. A standard policy document will help the institute and faculty to execute and honour research activities and commitments in a smooth and time-bound manner.

This Research and Development Policy strives to 1) bring awareness among the faculty on funding, fellowships, publications, consultancy and research ethics, 2) to create conducive environment for research in the Institute, 3) formulate framework for providing basic infrastructure, seed money, incentives especially for young faculty members, 4) enhance Extramural Funds through sponsored projects, industrial consultancy, 5) institute lecture series by eminent scientists and regular talks by Doctoral/Post-Doctoral students and faculty members, and 6) initiate operating mechanisms for Institute's Scientific Social Responsibility (SSR).

IPE R&D policy initiatives

The first and foremost goal of the IPE is to substantially increase the research activities in the Institute. IPE would foster research culture among the faculty members by providing basic infrastructure and through schemes like Institute Research Grant (**IRG**), collaboration and research expansion program (**CARE**) and Post-Doctoral Fellowships (**PDF**). Further, IPE will provide incentives for securing extramural research grants and high-impact publications. Faculty at IPE will be proffered with Department Growth Fund (**DGF**) and Professional Growth Fund (**PGF**), national and international travel grants and support for eminent scientist lectures.

1. Institute Research Grant (IRG)

Institute Research Grant will be provided to enable new faculty members to establish independent research facilities in new research areas.
(IRG guidelines and Application Proforma)

2. Collaboration and Research Expansion (CARE)

Collaborations will enhance the status and presence of our Institute in the national and international scientific communities. To meet these targets, we have to carefully identify Universities and Research Institutes to initiate collaboration programs. The Collaboration and Research Expansion program (CARE) will help the faculty members to collaborate with reputed Professors/Scientists and carry out both idea-based and instrument-based advanced research. The CARE will help the faculty members to expand their research horizons, explore uncharted research domains and strike new research collaborations.

A report has to be submitted within a month of initiating CARE scheme by the faculty to the Dean (R&D) office on the collaboration activities and make a presentation for the benefit Faculty and research scholars.
(CARE guidelines and Application Proforma)

3. Department Growth Fund (DGF)

Every Department of the IPE will have a Department Growth Fund (DGF) to enable rapid and smooth progress. Twenty per cent (20%) of Institute overheads through sponsored research and Fifteen per cent (15%) of institute overheads through consultancy will be transferred to the DGF. The DGF being an incentive fund, the quantum of funding to each Department depends on the extramural funding generated, consultancy activities and high-impact publications.

4. Professional Growth Fund (PGF)

Every Faculty member of the IIPE will have a Professional Growth Fund (PGF). The PGF will facilitate the growth of the individual faculty. Twenty per cent (20%) of Institute overheads through sponsored research and consultancy will be transferred to the PGF. In addition to this a matching grant for extramural funding will be provided by the Institute to encourage the faculty members. The PGF being an incentive fund, the quantum of funding to each individual depends on the extramural funding generated, consultancy activities and high-impact publications.

The overhead component of R&D projects is distributed in the following ratio:

Institute's share:	60%
Departmental Growth Fund (DGF):	20%
Professional Growth Fund (PGF):	20%

5. National and International Travel Grants to Students (STG)

Research scholars and Graduate students of IIPE carry out focused and exciting research. The STG will help them to present their work on National/International forums. By providing Fund for travel/registration fees, the IIPE will be playing a significant role in encouraging and nurturing young minds.

(Student Travel grants guidelines and Application Proforma)

6. Industry Collaboration Support (ICS)

Institute encourages deep-rooted collaboration with industries by providing various collaborative opportunities including Co-guidance of PhD students, Higher emoluments for recruited staff under industry-sponsored projects among other opportunities.

7. Scientific Social Responsibility (SSR)

The IIPE strongly believes in the convergence of scientific knowledge and social conscience. It is the moral obligation of scientists to transfer the benefits of scientific knowledge and innovations to the local communities and society at large. The IIPE has taken many initiatives to bridge the science-society, science-science and society-science gaps including 1) Summer Internship Program (SIP), 2) College and School Teachers' Education and Academic Mentoring (CS-TEAM), 3) Local College and School (10 and 10+2) Students' Fellowship Programme (LCS-SFP)

7.1 Summer Internship Program (SIP)

The SIP will be open to B.E/B.Tech. and M.Sc./M.Tech./M.S. students from different Indian institutions for an internship of 8 weeks with a total consolidated stipend of Rs. 10,000/- for the entire tenure. The SIP at the IPE will provide students with a platform to explore their research potential by undertaking focused research projects with dynamic faculty at the IPE. The purpose of the SIP is to motivate the students in pursuing their careers in science, technology, engineering and mathematics (STEM).

(SIP guidelines and Application Proforma)

7.2 College and School Teachers' Education and Academic Mentoring (CS-TEAM)

In alignment with the JIGYASA scheme launched by the Government of India, IPE will focus on mentoring and guiding faculty/teachers from nearby colleges and schools. IPE faculty will be encouraged to deliver lectures at colleges and schools, conduct research training programs and invite teachers to the campus on regular basis. This will result in improvement of overall academic ecosystem of the local academic community.

(CS-TEAM guidelines and Application Proforma)

7.3 Local College and School (10 and 10+2) Students' Fellowship Programme (LCS-SFP)

Catch them young! Provision of laboratory accessibility to schools (10 and 10+2) and Undergraduate students is an important mechanism for cultivating scientific temper in the students from the region. Two- to three-week training will be given to the local students through this program. This mentoring at a very young age will have a profound impact on the academic attitude and aptitude of the students and in the long run will result in the creation of scientists/entrepreneurs with original thinking. A token fellowship of Rs. 2000/- and a certificate will be provided to the students at the end of the training. A maximum of 50 fellowships will be offered in an academic year. Residential facility (Hostel accommodation) will be provided to the girl students.

(Summer/Winter Fellowship guidelines and Application Proforma)

8. Industry/Institute Connect

The IPE through DORD facilitates the organization of National Level Seminar/Workshop/Symposium and Industrial Conclave.

8.1 Consultancy

The IPE aims to extend the frontiers of knowledge through its consultancy activities. The consultancy activities aim to make the skills of faculty members available to the community. The consultancy services aim to: (i) enhance and strengthen research through the provision of 'Case Studies' and 'Real Life Problems' drawn while executing consultancy services, (ii) develop and strengthen the academic network with regional, national and international organizations, which

may lead to collaborative research, (iii) provide services to the community that would benefit from the research expertise of the Institute and its faculty members. Additionally, Consultancy/Testing services can aid the teaching/research activities of the institute by drawing important examples and case studies/fieldwork/testing. (*Consultancy guidelines and Forms*)

8.2 Executive Development Programs (EDP)

As a part of IIPE-Industry connect, the institute will be offering Executive Development Programs for the Industrial personnel especially in the fields of Conventional and Unconventional Energy sources, smart energy distribution grids, energy storage devices and new research initiatives on green and renewable energy, alternate No-fossil fuels, Carbon reduction, capture, usage and storage. [Handled by Individual Departments] (*EDP guidelines and Forms*)

9. Human and Infrastructure Development

9.1 Post-Doctoral fellowships (PDF)

The Institutional Post-Doctoral Fellowship scheme will expand the breadth and depth of the research conducted in the IIPE. The selection of Post-Doctoral scholars will be carried out following the standard recruitment procedures. (*PDF guidelines and Application Proforma*)

9.2 Sandwich Doctoral Program (SDP)

Sandwich PhD Programme is to provide an opportunity to improve research abilities and establish and/or increase work opportunities internationally to the PhD Scholars of the Institute. There are two options for carrying out Sandwich PhD: 1) Doctoral Fellow can have joint supervision, in that case the student may register in both Institutes/Universities OR 2) Doctoral Fellow is required to register at IIPE with or without the joint supervision. A doctoral student is eligible for Sandwich Doctoral Program after successfully defending his Research Proposal Seminar. The duration of the Fellowship is a minimum of Six Months.

[Will be operated and monitored by DOAA].

(*SDP guidelines and Application Proforma*)

9.3 Institute Research Assistantship for Eligible Doctoral Students

The Institute Research Assistantship shall be awarded to the eligible PhD students for a maximum period of 5 years. The research assistantship is as per GOI norms. The details of the Institute Research Assistantship have been further elaborated in PhD Guidelines.

[Will be operated and monitored by DOAA]
(*Institute Research Assistantship guidelines and Application Proforma*)

9.4 Sponsored Research

It is the responsibility of the faculty members to bring financial resources to the IPE by tapping different funding agencies through projects and offering consultancy. It is expected that every faculty member would have at least one ongoing project. Brainstorm sessions to deliberate on national and international funding opportunities, fellowships, publications, patenting and research ethics will be held regularly by the DORD office. Regular workshops and interactive meetings will be conducted with funding agencies.

9.5 Publications and Publication Charges

The IPE strongly encourages all the faculty members to publish in WoS/SCI/Scopus indexed journals. It is expected that every faculty member publishes at least 1 paper in a reputed journal in an academic year. The institute will provide up to \$3000 for publication in highly reputed international high impact journals. Publications in predatory journals will not be considered. The IPE will make available the e-version of all the relevant journals to all the faculty members, research scholars and graduate students.

[Will be operated and monitored by DOFA]

9.6 Best Researcher Award (Faculty)

The best researcher award will be given to the best-performing faculty every academic year. An amount of Rs. 5,00,000/- will be awarded to the PGF of the faculty concerned. The faculty can utilize the grant towards short-term research visit to reputed labs and institutes globally.

[Will be operated and monitored by DOFA]
(*Best Researcher Award guidelines and Application Proforma*)

9.7 Best Young Researcher Award (Research Scholars)

The IPE Young Researcher Award will be given to the Young Full-Time Research Scholars. A grant up to Rs. 1,00,000/- will be provided to encourage the young researchers from the institute to deliver their best in the fields of Basic, Applied and Engineering Sciences.

[Will be operated and monitored by DOAA]
(*Best Young Researcher Award guidelines and Application Proforma*)

9.8 Research Staff Recruitment

The Research Staff Recruitment guidelines will provide a sound framework for recruitment of research staff based on the principles of transparency, equal opportunity and merit-based recruitment. These guidelines cover the recruitment of staff under sponsored and consultancy projects through advertisement. An external expert member is mandatory during recruitment and upgradation of fellowship provided by extramural agencies.

(Research Staff Recruitment guidelines and Forms)

9.9 Talks by Faculty, Doctoral and Post-Doctoral Students

Although instruments can be imported, we cannot import the research culture. It is the responsibility of each Department to inculcate a culture that is conducive for expression, questioning, experimentation and alternate approaches. The DORD encourages all the Departments to conduct weekly talks by Faculty, Doctoral and Post-Doctoral students. This activity not only encourages them to share their research with fellow researchers but also fosters inter and multi-disciplinary research approaches.

9.10 Lecture Series/Seminars by Scientists, Eminent Faculty

The DORD takes initiative in arranging regular lectures by eminent scientists and faculty nominated by each department in different branches of human thought.

9.11 Central Research Facility (CRF)

It has been realized by world-over that the performance of sophisticated instruments (exclusively meant for research) is better if all the instruments are pooled under one roof and with a system in place for their operation and maintenance. Since, the IIPE is continuously procuring instruments to facilitate advanced research infrastructure Central Research Facility (CRF) will be established. All major equipment will be housed in the CRF. Duplication of Instruments will not be encouraged.

9.12 Central Research Computational Facility (CRCF)

With the ever-increasing demand for computational needs to solve complex research problems, IIPE established High-Performance Central Research Computational Facility (CRCF) and will be upgraded as per the growing needs.

10. Plagiarism and Ethics Policy

Plagiarism is defined as presenting published work as one's own without citing the original. It includes copying or reproducing it without acknowledgement of the source. The Plagiarism Policy of the IPE is framed as per the relevant acts. The IPE gives extreme importance to original research and has zero tolerance for any kind of plagiarism and unethical research/academic acts.

[Library will coordinate]

(Plagiarism and ethics policy guidelines)

11. Intellectual Property Rights (IPRs)

Intellectual Property Rights (IPRs) play a vital role in providing a sustainable competitive advantage to IPE by adding valuable intangible assets to an organization such as patents, copyrights, inventions, brands, designs and other creative and innovative products. Thus, IPR Policy Document seeks to provide guidance to staff, students, scholars, and outside agencies on the practices and the rules of the Institute regarding intellectual property rights (IPR) and obligations which include the nature of the intellectual property (IP), its ownership, technology transfer and confidentiality requirements with respect to patents, copyrights, design rights and trademarks.

[Will be operated and monitored by DOIIE]

(IPR guidelines and Forms)

12. Research and Development Fund

The IPE has taken initiatives to have a permanent fund to care of research activities of students and scholars at IPE. The Research and Development Fund of IPE will aim towards improving the quality of research by encouraging innovation, entrepreneurship and research at institute. The RDF will be utilized towards Fellowship of Doctoral and Post-Doctoral students and funding innovative projects of the STEM students. The RDF is expected to grow through contributions of our alumni, corporates, CSR funds and from various other donors.

13. Committees under DORD:

13.1 Research Advisory Committee

13.2 Institutional Ethics Committee

13.3 Institutional Bio-safety Committee

