भारतीय प्रौद्योगिकी संस्थान रूड़की
रूड़की – 247 667 (भारत)
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
ROORKEE - 247 667 (INDIA)

सीनेट की एकसौपाँचवीं बैठक हेतु कार्यसूची
AGENDA FOR THE 105th MEETING OF THE SENATE

बैठक सं0	:	एकसौपाँचवीं
MEETING NO.	:	**105th**
स्थान	:	सीनेट हॉल, भा0प्रौ0सं0 रूड़की
VENUE	:	**Senate Hall, IIT Roorkee**
दिनांक	:	09 जुलाई 2025
DATE	:	**09th July 2025**
समय	:	03:30 बजे अपराह्न
TIME	:	**03.30 P.M.**

भारतीय प्रौद्योगिकी संस्थान रूड़की
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कार्यसूची/AGENDA

Item No. 105.1: **To confirm the minutes of the 104th Senate meeting held on 26.03.2025.**

The minutes of the 104th Senate meeting held on 26.03.2025 were circulated to the members on 28.04.2025. No comment is received.

The Senate is requested to consider and confirm the said minutes.

Item No. 105.2: To report on the actions taken to implement the decisions of the Senate taken in its 104ᵗʰ meeting held on 26.03.2025.

Item No.	Reference to the Senate minutes	Extracts of the Minutes	Status of action taken
104.3	To consider the report of the Committee constituted for formulation of policy for awarding the grades to students.	The Senate considered the report on the grading policy along with the recommendation of IAPC. The approved policy for awarding the grades to the students is attached.	Notified
104.4	To consider the proposal for granting degrees to graduating Ph.D. students registered for Ph.D./ Dual/ Joint Doctoral Degree programmes at three occasions in a year.	The Senate considered the recommendations of the IRC and approved the following: 1. Details of the students who have completed degree requirements for the Ph.D. programme will be placed before the Senate on three occasions in a year. 2. The recommendations of the Senate in this regard will be sent to the subsequent meeting of the Board for approval. 3. The Ph.D. degrees may be issued in all such cases, before the convocation, on which the approval of the board has been accorded. Those students who urgently require the degree certificate, before the convocation, may request the AAO for the issue of the original degree certificate. The date on such degree certificates will be the date of approval granted by the BoG.	Notified

	4. The AAO will ensure the serial numbers sequencing of these degrees certificates.	Notified
	The Senate considered the proposal and approved that the Progress and Performance Report be submitted as per the notified timeline in the Academic Calendar. Failure to adhere to these timelines will result in the suspension of the fellowship. Furthermore, if a student fails to submit the report on two consecutive semesters, it will lead to the cancellation of their registration.	
104.5	To consider the proposal for submission of the Progress and Performance Report of Ph.D. students' beyond the stipulated period.	Notified
104.6	To consider the proposal of the Departments/ Centres/ School to reduce minimum requirements of pre-Ph.D. course work for the students who join with M.Sc. or equivalent for admission in any one of the engineering departments/ centres/School for Ph.D. students.	

The Senate considered the recommendation of the IRC and approved the following minimum requirement of pre-Ph.D. course work for Ph.D. students:

Point No.	Qualification	Credit Requirements	Remarks
Point 3 of table 1 of Ph.D under Rule R.3.3	B.Tech. or equivalent admitted to any one of the Science/ Engineering/HSS/ Management departments/ centres/ School	Minimum 24 credits of P.G. level theory courses	a. All candidates need to register 02 additional credits for Seminar. b. Candidates can take at most one self-study theory course/ NPTEL course of P.G. level as approved by SRC.
	M.Sc. or equivalent admitted to any one of the engineering departments/ centres/ School.	Minimum 15 credits of P.G. level theory courses as per decision of the concerned SRC on case to case basis.	

104.7	To consider the format of introductory pages of Thesis Submission by the Ph.D. students under Joint Doctoral Degree Programme under MoU.	The Senate considered the proposal, and approved the format with changes in introductory pages of Thesis Submission.	Notified
104.8	To consider the intake/seat matrix for UG programmes for the Academic Session 2025-26.	The Senate considered and approved the seat matrix for UG programmes for the academic session 2025-26.	Notified
104.9	To consider the seat matrix for admission to Ph.D. programme (Autumn Semester) 2025-26.	The Senate considered and approved the seat matrix for Ph.D. programme for autumn semester 2025-26.	Notified
104.10	To consider the change in the name of specialization of the M.Tech. Programme in the Centre for Nanotechnology.	The Senate considered the proposal and approved the following change in M.Tech. nomenclature:	Notified
104.11	To consider the Minimum Educational Qualification (MEQ) for admission to Ph.D. programme in Centre for Indian Knowledge Systems.	The Senate considered and approved the following MEQ along with recommended research areas for Ph.D. admission in IKS: "A Bachelor's degree (4 years) / Master's degree in any discipline consistent with the research areas of the Centre".	Notified

Within row 104.10:

S. No.	Name of the Centre	Existing Name of specialization	Proposed Name of specialization
1	Centre for Nanotechnology	M.Tech. Nanotechnology	M.Tech. Nanoscience & Nanotechnology

Research Areas:

i) Wellness from Indian perspective (Indic mind and sciences, Psychology and Cognitive Sciences, Indian medicine and health).

ii) Physical mathematical and engineering sciences from Indic perspective.

iii) Humanities, Arts, management and social sciences from Indic perspective.

Additionally, candidates will be required to fulfil Common Minimum Eligibility Criteria (CMEC) for the Ph.D. Programmes at IIT Roorkee.

104.12	To consider the request of the Department of Computer Science and Engineering to replace one course under ESC basket for the B.Tech. Computer Science and Engineering programme.	The Senate considered and approved the 'BEE-102: Introduction to Computational Biology' (04 credits) course, offered by the Department of Biosciences and Bioengineering under ESC basket for B.Tech. Computer Science and Engineering programme.	Notified
104.13	To consider the proposal from the Department of Electrical Engineering for the revision of credits for the course 'EEC-206: Electrical Machines' from 4 to 5.	The Senate considered the LTP distribution for the course 'EEC-206: Electrical Machines', and approved the credit revision for this course from 4 to 5 (LTP:3-1-2) of the B.Tech. Electrical Engineering programme for second year spring semester. The changes in the teaching scheme will accordingly revised as under: |	Existing	Revised
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Credits in 2nd sem 2nd year	24/25	25/26
Overall credits	152/155	153/156		Notified

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104.14	To consider the report of the Committee constituted to review and update the UG Ordinances and Regulations.	The Senate considered the report of the Committee constituted to review and update the UG Ordinance and Regulations. The recommendations of IAPC are accepted with a minor modifications to recommend to the board for its consideration and approval.	Recommendation was approved by the Board and the same were notified.
104.15	To consider the Academic Calendars for Autumn Semester 2025-26.	The Senate considered and approved the Academic Calendars for the Autumn Semester 2025-26.	Notified
104.17	To consider the Awards/Cash Prizes for Non-Convocation for the Academic Year 2024-25.	The Senate considered the recommendations of SCSP as presented by Chairman, SCSP and approved the same for the awards and cash prizes for other than graduating students for the academic year 2024-25. The Senate also placed on record its appreciation for the efforts of the committee members in finalizing the awards and prizes.	Awarded in ceremony held on 30.04.2025.
104.19	To consider award of 243 Ph.D. Degrees for the students after the 102nd Senate for the students who have completed the requirements for award of degrees w.e.f. 27.07.2024.	The Senate considered and recommended to the Board of Governors to award 243 Ph.D. Degrees to the students who have duly qualified for the award of Ph.D. degrees.	Recommendations were approved by the Board.
Item nos. 104.16 & 104.18 are reporting.			

Item No.105.3: **To consider the proposal for renaming of the Department of Paper Technology.**

The Departmental Faculty Committee (DFC) of the Department of Paper Technology have reviewed and unanimously considered the proposal to rename the department as "Department of Paper and Packaging Technology". **(Appendix-A)**.

The proposed change is intended to better reflect the department's expanded academic and research scope, encompassing advancements in both paper and packaging technology. The IAPC, in its 151st meeting held on 23.04.2025, recommended the proposal.

The above is submitted for the consideration and approval of the Senate.
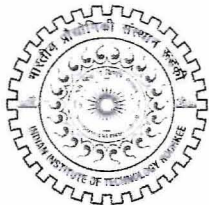
भारतीय प्रौद्योगिकी संस्थान रूड़की

सहारनपुर परिसर, सहारनपुर

Indian Institute of Technology Roorkee
Saharanpur Campus, Saharanpur

Department of Paper Technology

No: 08 / IITR/SC/DPT/DFC   Date: 04 April 2025

The minutes of the 18th meeting of the Departmental Faculty Committee (DFC) held on 03 April 2025 at 04:00 PM onward in HoD, Paper Technology office.

List of Members:

S.N.	Name	Designation	Present/Absent
	DFC MEMBERS OF PAPER TECHNOLOGY		
1.	Prof. Bhardwaj, Nishi Kant (Visiting Professor)	Special Invitee	Present
2.	Prof. Biswas, Subrata	Member	Present
3.	Prof. Dutt, Dharm	Member	Present
4.	Prof. Gaikwad, Kirtiraj K.	HOD & Chairperson	Present
5.	Prof. Rastogi, Vibhore Kumar	Member	Present
6.	Prof. Sharma, Subhash Chandra	Member	Absent
7.	Prof. Sharma, Chhaya	Member	Absent
8.	Prof. Subramanian, Ramjee (Professor of Practice)	Special Invitee	Present

ITEMS FOR CONSIDERATIONS

Item	Particulars
Item No. 18.1:	**To propose a New Departmental Academic Programme Committee (DAPC)**
	All the members of the DFC unanimously recommended the following members for DAPC. The details are as follows;
	1. Prof. Dharm Dutt - Chairperson 2. Prof. Kirtiraj K. Gaikwad - Member 3. Prof. Vibhore Kr. Rastogi - Member 4. Prof. Chhaya Sharma - Member 5. Prof. Subrata Biswas - Member 6. Prof. Rajan Arora - Member 7. Prof. Pankaj Gautam - Member 8. Ms. Patil Tejaswini Dhanaji - Student Representative Ph.D Scholar, (Enrl. 23922004) 9. Mr. Ashutosh Kr. Dubey - Student Representative M.Tech.-Packaging (Enrl. 24555001)

Item No. 18.2:	To propose a new Departmental Research Committee (DRC).
	All the members of the DFC unanimously recommended the following members for DRC. The details are as follows;
	1. Prof. Vibhore Kr. Rastogi - Chairperson 2. Prof. Kirtiraj K. Gaikwad - Member 3. Prof. Dharm Dutt - Member 4. Prof. Chhaya Sharma - Member 5. Prof. Subrata Biswas - Member 6. Prof. Millie Pant - Member 7. Prof. Dharmansh - Member 8. Ms. Ananya Mathur - Student Representative Ph.D Scholar, (Enrl. 24922001)
Item No. 18.3:	**To finalize the list of instruments/equipment to be purchased for the Department of Paper Technology in F.Y. 2025-26 under Plan Grant (OH-35).** All concerned faculty members have agreed to submit the necessary list of instruments/equipment before the 30th of April 2025.
Item No. 18.4:	**To consider the proposal regarding the renaming of the Department.** All the members of the Departmental Faculty Committee (DFC) have reviewed and unanimously considered the proposal to rename the department as the **"Department of Paper and Packaging Technology"**. This change aims to better align with the department's expanded academic and research scope, encompassing advancements in both paper and packaging technology.
Item No. 18.5:	**Any other item: NA**

The meeting ended with thanks to the chair.

(Prof. Kirtiraj K. Gaikwad)
Chairperson, DFC

Copy to:
1. A.R. to Director, IIT Roorkee
2. Dean- Faculty Affairs, IIT Roorkee
3. Dean- Academic Affairs, IIT Roorkee
4. All DFC members

(Prof. Kirtiraj K. Gaikwad)
Chairperson, DFC

Item No.105.4: **To consider the proposal regarding establishment of Centre for Regulatory Affairs.**

An MoU has been signed between Forum of Regulators (FOR) established under Electricity Act 2003 and having its secretariat at Central Electricity Regulatory Commission (CERC), New Delhi and IIT Roorkee for establishing a Centre of Regulatory Affairs (CRA) at IIT Roorkee. The MoU has been proposed by the Department of Hydro and Renewable Energy and recommended by the DFC of the Department. **(Appendix-A).**

There are regulatory authorities in the Power Sector, Telecommunication, Real Estate, Insurance, Petroleum, Pension sector, and Aeronautical tariff for which various research plans and capacity building are required, and accordingly, a specialized Centre for Regulatory Affairs and standardization for training and undertaking the research and advisory projects is required. This being an emerging area, the specialized Centre initially may operate from the GNEC and IITR main campus.

The IAPC, in its 152nd meeting held on 11.06.2025, recommended the proposal in principle with the suggestion that the 'Governing Body' should act as an "Advisory Body". **(Appendix-B).**

The above is submitted for the consideration and approval of the Senate.

<u>**MOU**</u>

THIS Memorandum of Undertaking (MoU) has been entered into by FORUM OF REGULATORS (represented by Secretary, Forum of Regulators and having its secretariat office at *Central Electricity Regulatory Commission (CERC). 8th Floor, World Trade Centre, Nauroji Nagar, New Delhi* (hereinafter referred to as "FOR" which expression shall, unless repugnant to the context, be deemed to mean and include its successors and permitted assigns), of the First Party.

AND

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE, established under the Institute of Technology Act, 1961, enacted by the Parliament of Republic of India, having its office at Roorkee, Uttarakhand – 247667 hereinafter referred to as "IITR" which expression shall, unless repugnant to the context, be deemed to mean and include its successors and permitted assigns), of the Second Party.

WHEREAS: -

The functions of the **Forum of Regulators (FOR)** include, among others,;Harmonization of regulation in power sector; Laying of standards of performance of licensees as required under the Act; Sharing of information among the members of the Forum on various issues of common interest and also of common approach; Undertaking research work in-house or through outsourcing on issues relevant to power sector regulation; Evolving measures for protection of interest of consumers and promotion of efficiency, economy and competition in power sector; Data collection and analysis; Subsidy accounting; Monitoring of renewable purchase compliance and such other functions as the Central Government may assign to it, from time to time.

The **Indian Institute of Technology Roorkee**, an institute providing Graduate, Post Graduate and Ph. D. degrees in the Technical Discipline/ Sciences, collaborates with Government, organisations, foundations and industries, both national and international and having expertise

in the area of scientific and technological education and research, and the application of scientific knowledge and technology to human advancement and social development including renewable energy such as hydro, solar, biomass, hydrogen and pumped storage projects etc. and providing technical support in different areas of power integration and regulation. IITR has multidisciplinary faculty and professors with relevant experience in electricity regulation to undertake research and academic activity .

IIT Roorkee Greater Noida Centre (GNEC) is as extension centre located at Greater Noida. GNEC campus is equipped with labs, classrooms, conferencing facility and IT labs. This provides an enabling environment for students, researchers, and participant to acquire, share, enhance and promote knowledge-based ecosystem.

FOR wishes to engage with IITR to set up a "Centre of Excellence for Regulatory Affairs" (hereinafter referred as "Centre") within the premises of IITR, at Greater Noida and Roorkee campuses, so as to undertake regulatory and policy research; consulting services; capacity building (national and international) , set up discussion forums and knowledge management as per general framework given in the Annexures.

Any other programs/activities identified later would be detailed out in the due course.

AND THEREFORE, the parties agree to the following terms and conditions: -

1. **Functionality of Centre**

    The Centre would establish a team of Human Resources to coordinate the day-to-day functioning, dedicated for Centre activity. A faculty expert in Energy regulation and policy from Department of Hydro and Renewable Energy nominated by Director IITR will be the Coordinator/Head of the Centre and would be responsible for all the required communications with FOR with respect to this MoU.

    Senior or junior research and/or administrative staff may be recruited based on focus/priorities and shall be contingent upon the corpus created out of the seed fund (based on contribution from Regulatory Bodies).

The Centre shall be governed by a Governing Body to approve annual plan, review, assess the activities and progress as per the applicable Institute rules.

2. **Governing Body of the Centre**

   (A) Composition

   a) Director of IITR - Chairman;

   b) 1 (One) Serving Representative from ERC – Member to be nominated by Chairperson, FOR ;

   c) 1 (One) Representative from FOR Secretariat (Central Electricity Regulatory Commission) - Member;

   d) 2 (Two) faculties with relevant experience from IITR - Member;

   e) 2 (Two) distinguished scholars drawn from leading centres in institutions known for their excellence in regulatory research/practice from within India and/or from outside India, in consultation with FOR Secretariat at CERC - Member;

   f) One retired Regulator to be nominated by Chairperson, FOR

   g) Coordinator / Head of the centre - Member Secretary.

   (B) Function

   The Governing Body shall evolve a procedure for Conduct of proceedings of the centre. The Governing Body shall consider and approve the Centre's Annual plan of activities, budget and expansion in other regulatory areas. Proceedings will be reported to the FOR and IITR.

3. **The objectives and functions of the Centre are as follows:**

   a) Academic and Policy Research (Refer Annexure A)

   b) Advisory Services (Refer Annexure B)

   c) Capacity Building (Refer Annexure C)

   d) Knowledge Management (Refer Annexure D)

   e) Postgraduate Degree Programs (Refer Annexure E)

4. **The functions of the Centre would include the following:**

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a) Understanding the current regulatory framework and the ecosystem, including the functions of the Central and State Electricity Regulators, public and private entities involved in activities of planning, generation, transmission, distribution, Retailing, Trading, Energy Exchanges, PPAs, Licensing, SOPs, tariff, and other aspects of the power sector, and research ecosystem in the academic institutions.

b) Identifying gaps and regulatory challenges in the current energy sector and conducting studies such as co-optimisation of generation and transmission costs energy transition roadmap in India, Discom viability, market studies on renewable and other emerging technologies in the electricity sector , cost trends etc and publication of the same .

c) Create new knowledge and information base (by way of an online web portal with access to all ERCs) necessary to meet the current needs and future regulatory challenges of the sector for supporting the growth of power sector and hold regular knowledge sessions with ERCs. .

d) Exposure to master's and undergraduate students in regulatory affairs. Enhancing career prospects of students through placement in utility and regulatory affairs and in private consulting companies engaged in providing regulatory and policy advisory services

e) Independent and collaborative research, undertake projects and studies on specific issues, organize seminars and conferences, and publish relevant material. The same to be made available to all ERCs alongwith models and data used in such reports .

f) Support organizations in developing sound business strategies for competing in a complex and challenging regulatory environment.

g) Collaborate with other reputed institutes

h) Offering Master Degree in Energy Planning and Regulations.

i) Training, skill development and capacity development activities for creating a pool of specialized workforce and existing manpower of the regulators, utilities, financial institutions, industry, and Governments

j) Developing a network of experts in the area of planning and regulations in the infrastructure sector.

5. The MoU will remain in force for an initial term of five years from the date of signing and may be extended upon mutual written agreement. Either party may terminate the MoU by providing a six-month written notice. Any funds or commitments outstanding will be settled equitably during this period

6. The Center shall be provided with a seed money of Rs. 5 Crore one time by FOR. The Centre will undertake financial audit as per policy of IITR For this support, the Centre will undertake research study without any fee on subject(s) of relevance to the ERCs as decided by FOR / Chairperson, FOR and submit at least one report annually and conduct training course(s) where 25-30 seats will be offered per year to the nominees of FOR without any fee. If need be, the program will be conducted in 2 batches . However, such participants shall bear their travel expenses

7. In addition to the above, there will be optional annual contribution of Rs 2.0 Lakh each from interested Regulatory Commissions, whose 2 staff members shall be given free of cost training at the Center. However, such participants shall bear their travel expenses.

8. Members of FOR may approach the Centre for any need based research or capacity building program on mutually agreed cost basis.

9. The Centre shall also carry out sponsored studies/ capacity building programs subject to not adversely affecting the work and studies for FOR members. For this purpose, funding shall be arranged from the beneficiaries of the deliverables.

10. The Center will also offer fees-based research and masters and Ph.D. programs. Discounted fees for pursuing masters and PhD programs for nominees of ERCs may be offered

11. To enhance diversity of participants and also in order to lower the costs in various programs/activities, the Centre may also engage additional participants including those representing sector utilities, investors, lenders, other stakeholders, development institutions, academicians, students, consultants etc. for any of the activities / programs. Such participants would directly pay the Centre, a fee as decided by the Centre, and

which will be solely utilised by the Centre. The Centre will become self sustaining within 5 years

12. The Centre would ensure necessary budgetary and administrative approvals as required for a smooth conduct of the above programs/activities.

13. For Academic and Policy research, consultancy services and knowledge management programs, IITR and FOR would have rights on the design, content, presentation, audio and video recordings and outputs of the programs/activities in all formats and forms of creation, storage, recording, display, delivery, sharing, publication, distribution, archival and retrieval. The copyright of the reports/papers shall rest with the respective authors or as detailed in such publications based on data used. All ERCs will have seamless access to the input data used in policy-making, research, consultancy services, and knowledge management programs.

14. **Information/Cyber/Digital Security:** All digital information will be protected against unauthorized access, breaches, and cyber threats and implement robust cybersecurity measures, security audits, data encryption, access controls, and compliance with national and international cybersecurity standards.

15. **Research Ethics:** The Centre will adhere to ethical standards to ensure integrity, transparency, and accountability in research practices and outline the ethical standards to be followed in all research activities including adherence to ethical guidelines for data collection and analysis, ensuring informed consent, maintaining confidentiality, avoiding conflicts of interest, etc.)

16. For Capacity building programs, IITR will provide a 'Certificate of Participation' to each participant as per the criteria decided from time to time. The certificates would bear name and/or logos of IITR and FOR. All costs associated with travel of the visiting personnel would be borne by the respective Members of FOR.

17. With the consent of FOR secretariat, relevant information about the Centre, FOR and IITR and their respective logos may be used on brochures, advertisements, banners, websites/web pages, Apps, newsletters, discussion notes, working papers, program

material (hard and/or soft copies), online content, certificates and other means for information dissemination about the programs.

18. Prevalent taxes, duties, levies etc would be applicable on the amounts paid to the Centre, IITR from time to time.

19. In case of cancellation of a Program/Activity, the Centre at IITR would not be liable for any costs or liabilities associated with the same. Cost arising out of such cancellations and other committed expenses would be borne by FOR to the extent of programs requested by FOR Members.

20. **Dispute Resolution Mechanism:** The Centre will lay clear procedures for resolving disputes or disagreements, including methods such as mediation or arbitration

21. Degree programmes shall be as per the rules and regulations of IIT Roorkee in vogue.

22. This document constitutes the entire understanding and agreement of the Parties. No amendment, change, or modification of this agreement shall be valid unless put in writing and signed by the Parties hereto.

Both the Parties hereto have signed this MoU on the date above written.

Signed and Delivered   Signed   and
Delivered
For and on behalf of   For and on behalf of
(Forum of Regulators)   (IIT- Roorkee)

Witness 1   Witness 1
Name, Designation & Address   Name,   Designation   &
Address

Witness 2   Witness 2

Name, Designation & Address   Name,   Designation   &

Address

Academic and Regulatory Research:

    i.   To identify and address regulatory challenges by tapping the combined knowledge of all regulators, forums / associations, consultants, industry stakeholders, government, and government agencies.

    ii.   To carry out research that aids the regulators in effective regulation making.

    iii.   To undertake, promote and provide facilities for pursuing core, empirical, applied, and multidisciplinary research work in collaboration with other research bodies, industry and educational institutions.

    iv.   To institute, and grant assistantships, and other forms of financial assistance for facilitating research work.

Advisory Services:

    i.   To respond to emerging needs of the power sector stakeholders and provide them with necessary resources and expertise to operate effectively.

    ii.   To provide inputs in formulation of policies and regulations at both macro and micro levels.

Capacity building:

    i.   To establish itself as a centre of international standard for the purpose of imparting, disseminating, and promoting knowledge related to regulatory aspects from different functional and sector perspectives.

    ii.   To organise and sponsor training programmes, study courses, lectures, meetings, workshops, seminars, conferences, and symposia in India and abroad.

iii. To engage in capacity building among the regulators and other stakeholders based on research inputs.

<div align="right">**Annexure D**</div>

Knowledge Management:

i. Act as a specialised vehicle for developing a useful and broad knowledge base with relevance for policy making process, in general, and regulatory policymaking in particular.

ii. Prepare and publish peer-reviewed research papers in journals, periodicals, magazines, books as well as in print and social media.

iii. Create and maintain a world-class repository of knowledge and information with a state of art electronic database.

iv. Network and collaborate with organisations of national and international repute, persons of eminence in the relevant field for generating collaborative research.

v. Serve as a role model for other institutions in and outside India to enhance the quality of interaction in within regulators and between regulators and their stakeholders.

<div align="right">**Annexure E**</div>

Postgraduate degree programs:

i. A Master Degree program in Energy Planning and Regulations will be offered initially for working executives of Regulatory bodies, power utilities, developers, consulting firms and financial institutions.

ii. In addition, this degree may be offered to full-time students at campus as well on self-financing basis as per Institute norms.

iii. A doctoral degree program in Energy Planning and Regulations is also envisaged to be offered by the Centre.

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Proposal for Centre for Regulatory Affairs at IIT Roorkee

105th meeting of the Senate

July 09, 2025

Need for Centre for Regulatory Affairs

There are regulatory authorities in Power sector, Telecommunication, Real Estate, Insurance, Petroleum, Insurance, Pension sector and Aeronautical tariff for which various research plans and capacity building are required

Accordingly, a specialized Centre in the emerging area for Regulatory Affairs for education, training, research and advisory is required.

Power companies and different stakeholders look forward for various courses in regulation and power economics for their in service personal as the subjects are being treated as commodity and cost and delivery is subject to various business models.

There are several master's programme in academic institutions related to power however no such specific courses / programme on regulation and power economics.

Regulators have expressed the need for evidence-based regulations

Background

- A brain storming meeting at GNEC IITR was organised on May 03, 2019 where Pan India subject experts from power sector and other regulatory affairs organisations such as power generating and distribution companies, trading companies, regulatory, legal firms, consulting firms and government officials participated.

- Further a meeting was held with the interested faculty of different departments under the chairmanship of Deputy Director on July 09, 2021. The concept of Centre for Regulatory Affairs was also discussed and summary of proceedings

- Department faculty committee in its meeting held on Jan 06, 2025 overwhelmingly welcomed and recommended the proposal of establishing the centre for Regulatory affairs as a need of hour which augurs well and aligns with the recently launched B Tech programme in energy engineering.

- Thereafter Central Electricity Regulatory Commission was approached and the Forum of Regulators comprising of all central and state regulators has agreed to support.

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Seed Money by FOR

The Forum of Regulators (FOR) (a body under the Electricity Act 2003 of Electricity Commission of centre and state governments) signed the **MOU with IIT Roorkee on May 21, 2025** to establish the **Centre for Regulatory Affairs** with the **seed money of Rs. 5 Crore.**

Objective

To impart quality education, training, communication, and to carry out research on policies, regulations, and standardisation to consumers, regulators, governments, industry, and utilities.

Function of the Centre:

- Academic and Policy Research
- Postgraduate/Doctoral Degree Programs
- Knowledge Management
- Capacity Building
- Advisory Services

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Composition of Governing Body

Centre shall be governed by a Governing Body to approve annual plan, review, assess the activities and progress **as per Institute rules.**

- Director of IITR - **Chairman;**

- 1 (One) Serving Representative from ERC – Member to be nominated by Chairperson, FOR;

- 1 (One) Representative from FOR Secretariat (Central Electricity Regulatory Commission) - Member;

- 2 (Two) faculties with relevant experience from IITR - Member;

- 2 (Two) distinguished scholars drawn from leading centres in institutions known for their excellence in regulatory research/practice from within India and/or from outside India, in consultation with FOR Secretariat at CERC - Member;

- 1 (One) former Regulator to be nominated by Chairperson, FOR

- Coordinator / Head of the centre - **Member Secretary.**

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Function of Governing Body

- The Governing Body shall evolve a procedure for Conduct of proceedings of the centre.

- The Governing Body shall consider and approve the Centre's annual plan of activities, budget and expansion in other regulatory areas.

- Proceedings will be reported to the FOR and IITR.

Functionality of the Centre

- Centre will function as per prevailing institute rules.

- A team of Human Resources to coordinate the day-to-day functioning, dedicated for Centre activity.

- A faculty expert in Energy regulation and policy from Department of Hydro and Renewable Energy nominated by Director IITR will be the Coordinator/Head of the Centre and would be responsible for all the required communications with FOR.

- Senior or junior research and/or adminstrative staff be recruited based on focus/priorities and be contingent upon the corpus created out of the seed fund.

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Activities Planned

- Understanding the regulatory framework and the ecosystem

- Identifying gaps and regulatory challenges in the current energy sector, including the energy transition roadmap in India.

- Create new knowledge and information base for supporting the growth of power sector.

- Exposure to master's and undergraduate students in regulatory affairs, thus enhancing career prospects of students

- Independent and collaborative research,

- Support organizations in developing sound business strategies

- Collaborate with other reputed institutes

- Offering Master Degree in Energy Planning and Regulations to working executives and/or to students at campus.

- Training, skill development and capacity development activities

- Developing a network of experts

Tentative List of Courses

Core 1   Fundamentals, Institutions & Evolution of Regulations in India

Core 2   Legal & Regulatory Framework including all relevant laws

Core 3   Economics of Regulations, Competition, & Market

Core 4   Tariff Fundamentals, Pricing Principles, Approach of Tariff fixation

Core 5   Infrastructure Regulatory Bodies, Policies & Important Regulations

Elective 1   Multi Year Tariff Regulation for the Power Sector

Elective 2   Smart Grid, Ancillary Services & Grid Flexibility

Elective 3   Demand Side Management and Energy Efficiency

Elective 4   Electricity Regulatory bodies, Principles Functions, Tariff & Licensing

Elective 5   Carbon Pricing, Carbon Market & Green Hydrogen

Elective 6   Distribution Reforms, Governance & Effective Regulations

-29-(A)

Tentative List of Courses

Elective 7	Understanding Natural Gas, Petroleum, & Refining Business
Elective 8	Introduction to Data Science, AI/ML& Data Science Applications
Elective 9	Petroleum Law & Polic & Petro-retailing Business & Important Regulations
Elective 10	Introduction to Machine Learning Data Preparation Strategies for ML
Elective 11	Telecommunications Law, Policies & Regulations
Elective 12	Telecom Tariff, Quality of Service, Spectrum, Licensing
Elective 13	Airport Authorities- Law, Policies. Regulations & Rules Tariff Setting and Principals
Elective 14	RERA Act, Rules & Regulations, Regulatory bodies functioning and Important Orders & Appellate Tribunals
Project 1	Capstone Project-1 Relating to Specialised Knowledge
Project 2	Capstone Project-2 Relating to Core Knowledge

Item No.105.5: **To consider the proposal for recognizing Joint-PhD Supervision with Foreign Institutions or Industries (both within and outside India) as equivalent to Single-PhD Supervision for the purpose of internal assessment within the Institute.**

A proposal for recognizing Joint-PhD Supervision with Foreign Institutions or Industries has been submitted by the Dean of International Relations. **Appendix-A**.

The IRC, in its 73rd meeting held on 02.05.2025, after detailed deliberation, recommended the above proposal for recognizing Joint-Ph.D. Supervision with the foreign academic Institutions as equivalent to Single-Ph.D. Supervision for the purpose of internal assessment of the Faculty Member within the Institute.

The above is submitted for the consideration and approval of the Senate.

Proposal for Consideration of Joint-PhD Supervision with Foreign Institutes or with Industries (both within and outside India) as a Single-PhD Guidance for Internal Assessment within the Institute

Background: The Institute has signed several Joint-Dual PhD programs with Foreign Institutes/Universities. In addition, it is being encouraged to submit bi- and multi-national consortium-based international projects, which ultimately leads to joint supervision of PhDs. Also, a large number of scholarships/fellowships are being advertised by various International and National funding agencies, which lead to joint supervision of PhDs. Joint supervision also helps enhance academic and research collaborations with International Universities / Institutes. Moreover, many national and international projects require industry partnerships, and joint supervision with industries will help increase industrial collaboration.

However, internal assessment of faculty (for higher faculty positions, awards, faculty appraisal, etc.) within the Institute requires the single guidance of PhDs.

Proposal: To further improve the collaboration with Foreign Institutes as well as with Industries (both within and outside India) and encourage faculty members for the same, the following is proposed:

"Joint-PhD Supervision with Foreign Institutes (with QS ranking within the top 500 or with Institutions with whom Institute has signed MoU) or with Industries (both within and outside India) will be considered as Single-PhD Guidance for Internal assessment/Consideration within Institute for those PhDs which have an only one supervisor within the Institute".

The above is placed for further consideration by the Institute.

(V.C. Srivastava)
05/03/2025
Dean, International Relations

Item No.105.6: **To consider the proposal of Dean (International Relations) for changes in policies for the Joint Doctoral Degree Program (JDDP).**

The Dean, IR, vide e-mail dated June 10, 2025, has proposed that the Research Scholars who have completed candidacy requirements may also be permitted to register under JDDP **(Appendix-A).**

As per the JDDP MOU, a research scholar can register for JDDP before completing candidacy requirements.

The IRC, in its 74th meeting held on 13.06.2025, considered and recommended changes in the policies related to the Joint Doctoral Degree Program (JDDP), as detailed below:

"Research scholars who have completed their candidacy requirements may be permitted to register under the JDDP, subject to the following conditions:

(i) The partner university allows enrollment after the completion of the candidacy examination.

(ii) The student submits an undertaking stating that the thesis will be submitted only after the completion of two years of enrollment in the JDDP."

The above is submitted for consideration and approval of the Senate.

Fwd: Regarding some changes in policies for JDDP students

From : DR Academic <dracademic@iitr.ac.in>	Tue, Jun 10, 2025 02:43 PM

Subject : Fwd: Regarding some changes in policies for JDDP students

To : Assit RegistrarEvaluation <arevaluation@iitr.ac.in>, Academic Affairs Office <aao-phd@iitr.ac.in>

RKS Sir: for IRC.

Regards,

Anbu R
Deputy Registrar
Academic Affairs Office
IIT Roorkee

From: "Dean International Relations" <dean.ir@iitr.ac.in>
To: "Dean AcademicAffairs" <daa@iitr.ac.in>
Cc: "dracademic" <dracademic@iitr.ac.in>, "Assoc DeanofAcademicAffairs" <adaa-curriculum@iitr.ac.in>, "Assoc DeanofAcademicAffairs" <adaa-evaluation@iitr.ac.in>
Sent: Tuesday, June 10, 2025 11:20:02 AM
Subject: Regarding some changes in policies for JDDP students

Dean of Academic Affairs

This is to bring to your attention that several students have expressed interest in joining the Joint/Dual Doctoral Degree Program (JDDP) for the upcoming semester. However, some of these have already completed their candidacy exams and, thus, as per some of the already signed Memoranda of Understanding (MoUs), are not eligible to join the JDDP.

In light of the above, I would like to propose that these students be allowed to enroll in the JDDP program (even after completion of their candidacy exam), under the following conditions:
(i) Provided that the partner university allows them to enroll after the completion of the candidacy exam.
(ii) The student has to take an undertaking that he/she will submit the thesis only upon completion of two years of enrollment in the JDDP.

I believe this will simplify and streamline the process for all future JDDP enrollments.

Regards,
Vimal
-
Prof. Vimal Chandra Srivastava
Dean, International Relations
Institute Chair Professor, Dept. of Chemical Engg.
Joint Faculty, Centre for Sustainable Energy

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Associate Faculty, Centre for Nanotechnology
Indian Institute of Technology Roorkee
Roorkee - 247667, Uttarakhand, India.
Administrative email: dean.ir@iitr.ac.in,
Personal emails: vimal.srivastava@ch.iitr.ac.in, vimalcsr@yahoo.co.in
Tel: +91-1332-28-4471 (IR Office), 5889 (Dept. Off)
Web-pages: Personal, ORCID, WebOfKnowledge, Scopus, Scholar, Linkedin
Regards

Waseem Akhtar
Project Officer (Admin.)
International Relations Office
Indian Institute of Technology Roorkee
Landline: +91-1332-4871
Mobile/WhatsApp: +91-7906-844-238
https://ir.iitr.ac.in/ContactUs
https://ir.iitr.ac.in/HowToApply

Item No.105.7: **To consider the request for Early Submission of Thesis:**

(a) **Mr. Sandeep Rana (En. No. 22915024), Department of Electronics & Communication Engineering.**

Mr. Sandeep Rana (En. No. 22915024) was registered to the Ph.D. program in the Department of Electronics & Communication Engineering under the QIP category on July 18, 2022. He holds an M.Tech. degree from Delhi Technological University, New Delhi as his qualifying degree.

He completed all candidacy requirements on **November 16, 2023**, with a CGPA of 9.857.

He has submitted a request for early thesis submission by the end of June 2025, citing that he is currently on study leave from his parent institute, Govind Ballabh Pant Institute of Engineering and Technology (GBPIET), Pauri Garhwal. His QIP-sanctioned leave is valid from July 15, 2022, to July 14, 2025, and as per the rules of his parent institute, this leave cannot be extended.

Per Ph.D. Rules and Regulations **R.6.1**:
"The minimum working period for the submission of thesis is two years from the date of candidacy. For part-time students the minimum working period shall be 3 years from the date of candidacy."

Accordingly, He will complete two years from the date of candidacy on **November 16, 2025**, which is after his proposed submission date.

He has submitted a request for early submission through the Special SRC Recommendation Form. The details of his publications are attached for review at **Appendix-A.**

(b) Mr. Japjeet Singh (En. No. 21910070), Department of Civil Engineering.

Japjeet Singh (En. No. 21910070) was registered to the Ph.D. program in the Department of Civil Engineering under the *Institute Assistantship* category on December 12, 2021. He holds an M.Tech. degree from IIT Roorkee as his qualifying degree.

He completed all candidacy requirements on **October 20, 2023**, with a CGPA of 8.545.

He has submitted a request for early thesis submission before the completion of the two-year period from the date of candidacy, i.e., before October 20, 2025, citing that his mother has been unwell. Due to her health condition, she had been living with him in Roorkee in a rented accommodation until last year.

Per Ph.D. Rules and Regulations **R.6.1**:
"The minimum working period for the submission of thesis is two years from the date of candidacy. For part-time students the minimum working period shall be 3 years from the date of candidacy."

He has requested early submission through the Special SRC Recommendation Form. The details of his publications are attached at **Appendix-B.**

The IRC, in its 74th meeting held on 13.06.2025, considering the publications, recommended the requests of the above Ph.D. students for early submission of the Thesis.

The above is submitted for the consideration and approval of the Senate.

To,
Prof. Akhilesh Mohan, PhD Supervisor,
ECE Department, IIT Roorkee

Subject: Request for Permission to Submit Ph.D. Thesis Before the Scheduled Time

Respected Sir,

I, Sandeep Rana, am a Ph. D. scholar (Enrolment No. **22915024**) enrolled in the Department of Electronics & Communication Engineering under your supervision.

I humbly seek your kind permission to allow me to submit my Ph.D. thesis by the end of June 2025, which is earlier than the normally scheduled submission time. I am a **QIP scholar** enrolled in the Ph.D. program and currently working as an Assistant Professor at **G. B. Pant Institute of Engineering & Technology, Pauri Garhwal (An Autonomous Institute of the Government of Uttarakhand).**

As per the Institute (IITR) Bye-laws for regular Ph.D. scholars, a thesis can be submitted after the completion of two years from the date of candidacy, provided the scholar has earned 24 satisfactory units. I was granted candidacy on **16/11/2023**, and I will have completed the required units by the **end of Spring Semester 2024-25 (May 2025)**, although the official confirmation is awaited.

My study leave, sanctioned under the QIP scheme, is valid for three years—**from 15/07/2022 to 14/07/2025**—and cannot be extended further as per the regulations of my parent institution. If I am unable to submit the thesis within this period, I would be required to convert my status from a full-time to a part-time research scholar. According to the current rules for part-time scholars, submission of the thesis is permitted only after completing **three years** from the date of candidacy. This transition would delay my degree by at least one and a half years, and adversely affect my career progression and financial benefits, including the eligibility for two advance increments granted to Ph.D. holders in my parent institute.

I would also like to humbly state that my research work has been completed, and the thesis manuscript has been drafted. Furthermore, I have fulfilled all the publication requirements of the Institute. I have published **three journal papers and two conference papers**, and **two additional manuscripts are under review** (a list of publications is attached for your kind perusal).

In view of the above circumstances, I sincerely request your **kind approval to permit me to submit my Ph.D. thesis by the end of June 2025**, well within my sanctioned study leave, and in compliance with the Institute's Bye-laws.

I shall remain sincerely grateful for your kind consideration and support in this matter.

Thank you for your attention to this matter.

Forwarded & Recommended

Yours sincerely,
Sandeep Rana   *30/5/2025*
Ph.D. Scholar, QIP
Department of Electronics & Communication Engineering, IIT Roorkee
Roll No: 22915024
Phone: +91-9997059553

(AKHILESH MOHAN)

SANDEEP RANA

Enrol. No.: 22915024

Electronics and Communication Engineering

sandeep_r1@ece.iitr.ac.in

Mobile.: 9997059553

SPECIAL SRC RECOMMENDATIONS

Student Name

SANDEEP RANA

Enrollment

22915024

Department (Where Enrolled)

Electronics and Communication Engineering

Date of Registration

18/07/2022

Research Status

FTRS - Full Time Research Scholar

Category

QIP

Fellowship

QIP

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GEN

Form Suibmitted Date

30/05/2025

Supervisor 1:

Department of Supervisor(s):

Electronics and Communication Engineering

Name of Supervisor(s):

Akhilesh Mohan

Supervisor 2:

Department of Supervisor(s):

Name of Supervisor(s):

Supervisor 3:

Department of Supervisor(s):

Name of Supervisor(s):

Date Of Initial Registration

18/07/2022

Date of Candidacy

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Any Other:

Request for Permission to Submit Ph.D. Thesis Before the Scheduled Time

[Attached detailed report]

〜 View Attached Document

Remark:

Respected SRC Members,

Please find attached application and my supervisor's recommendation for your kind approval to permit me to submit my Ph.D. thesis by the end of June 2025. My research work has been completed (List of publication is attached for your kind perusal) and the thesis manuscript has been drafted. It is currently with my supervisor for final review and corrections.

I sincerely request your kind approval to allow me to submit my Ph.D. thesis by the end of June 2025, well within my sanctioned study leave.

I shall remain sincerely grateful for your kind consideration and support in this matter.

Thank you for your attention to this matter.

Yours sincerely,
Sandeep Rana
Ph.D. Scholar, QIP
Department of Electronics & Communication Engineering, IIT Roorkee
Roll No: 22915024
Phone: +91-9997059553

[Attached detailed report]

〜 View Attached Document

Does it require Dean SRIC Approval:

YES
NO ⊙

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[Attached detailed report]

> ✎ View Attached Document

Form Submission Date

30/05/2025

Form Came To Ph.D. Section Date

06/06/2025, 12:19 PM

AAO Remark:

Student Remark:- Respected SRC Members, Please find attached application and my supervisor's recommendation for your kind approval to permit me to submit my Ph.D. thesis by the end of June 2025. My research work has been completed (List of publication is attached for your kind perusal) and the thesis manuscript has been drafted. It is currently with my supervisor for final review and corrections. I sincerely request your kind approval to allow me to submit my Ph.D. thesis by the end of June 2025, well within my sanctioned study leave. I shall remain sincerely grateful for your kind consideration and support in this matter. Thank you for your attention to this matter. Yours sincerely, Sandeep Rana Ph.D. Scholar, QIP Department of Electronics & Communication Engineering, IIT Roorkee Roll No: 22915024 Phone: +91-9997059553

Movement Details:-

Designation	Remark	Action	Date
HOD		Recommended	06/06/2025
DRC		Recommended	05/06/2025
Chairperson SRC		Recommended	03/06/2025
Member SRC		Recommended	03/06/2025
Member SRC		Recommended	02/06/2025
Supervisor_1		Recommended	02/06/2025

[Recommend]   [Not Recommend]

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List of Publications

Journals

1. **S. Rana**, A. Kumar, A. Mohan, B. Kumar Kanaujia and L. Matekovits, "A Planar Wideband Antenna for Full Duplex Communication with Significant Peak Gain," in IEEE Access, vol. 12, pp. 153181-153187, 2024, doi: 10.1109/ACCESS.2024.3478803. **(SCIE Q1 Journal, IF = 3.4)**

2. **S. Rana**, A. Kumar and A. Mohan, "A Shared-Radiator Co-polarized Antenna for Full-Duplex Communication in 5G n78 Band," in IEEE Antennas and Wireless Propagation Letters, vol. 24, no. 2, pp. 334-338, Feb. 2025, doi: 10.1109/LAWP.2024.3495022. **(SCIE Q1 Journal, IF = 3.7)**

3. **S. Rana**, A. Kumar and A. Mohan, "A wideband dual polarized in-band full duplex antenna with higher order modes suppression," in International Journal of Microwave and Wireless Technologies (Cambridge University Press), 1–11, 2025. doi:10.1017/S1759078725000315. **(SCIE Q3 Journal, IF = 1.4)**

4. **S. Rana**, V. Kumar and A. Mohan, "Design of an Eight-Port MIMO Antenna for Direct Integration into the Back Cover of 5G Mobile Terminals," communicated in AEU- International Journal of Electronics and Communications (Elsevier Publisher).

5. **S. Rana**, A. Kumar and A. Mohan, "Design of a Co-polarized Dual-band Full-Duplex Antenna with Broadside Radiation," communicated in IEEE Antennas and Wireless Propagation Letters.

Conferences

1. **S. Rana** and A. Mohan, "Design and Analysis of an Ultra-Wideband Equal Magnitude and Out-Of-Phase Power Divider," 2023 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), Ahmedabad, India, 2023, pp. 1-4, doi: 10.1109/MAPCON58678.2023.10464144.

2. **S. Rana**, G. Srivastava and A. Mohan, "A Compact Planar Wideband Antenna with Higher-Order Modes Suppression for 5G NR n79 band," 2024 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), Hyderabad, India, 2024, pp. 1-4, doi:10.1109/MAPCON61407.2024.10923611.

Sandeep... 30-05-2025
Self attested

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SPONSORSHIP CUM RELIEVING CERTIFICATE

This is to certify that Mr./Ms. Sandeep Rana of Department of Electronics & Communication is hereby relieved with effect from 15/07/2022 to join Ph.D. programme under Q.I.P. at I I T Roorkee (ECE Department) for a period
(Name of Department of selection)
of Three years.

During the above said period of his/her stay, he/she will be treated on deputation and he/she will be paid his/her normal salary alongwith admissible allowances in full.

Mr./Ms. Sandeep Rana has executed a bond to serve this college for a period of Three years upon completion of his / her programme of study.

14.7.22
Signature of Head of the Institution/
Competent Authority
Director
G.B.Pant Inst.of Engg.& Tech.
Ghurdauri, Pauri Garhwal
(Uttarakhand)-246194
(OFFICE SEAL)

To be submitted to :

Coordinator
Quality Improvement Programme
Continuing Education Centre
Indian Institute of Technology
ROORKEE - 247 667

To,
Dean of Academic Affairs
Indian Institute of Technology,
Roorkee, Uttarakhand

Subject: Request for Early Submission of Ph.D. Thesis.

Respected Sir,

I am a Ph.D. scholar in the Department of Civil Engineering, joined Ph.D. program on 19/12/2021, since then I have completed 3.5 years. I am doing my PhD. under the supervision of Prof. C.S.P. Ojha and co-supervision of Dr Vishal Singh (NIH Roorkee).

I have completed all the requirements of my Ph.D. research and recently submitted my pre-synopsis. However, my submission was not accepted due to Rule 6.1 of the Ph.D. guidelines, which requires a minimum of two years to be completed after the date of candidacy. I was granted candidacy on 20/10/2023, as per Rule 6.1, I am currently short of the two-year period from the date of candidacy. I fully understand the importance of this rule. However, I would like to mention that because I have done my M. Tech at IIT Roorkee under the same supervisor, my Ph.D. work has been a continuation of my M. Tech thesis, which enabled me to complete my Ph.D. work in 3.5 years.

I would like to humbly state that both my supervisors and the SRC committee are fully satisfied with the quality and completeness of my research work. I have completed all five of my research objectives of which three have been published in Q1 journals with high-impact factor, and two are currently under review. In addition, I have presented my work at international conferences. On the personal front, I would like to mention that my mother has been unwell. Due to her health condition, she had been living with me in Roorkee in a rented accommodation until last year. Managing academic responsibilities alongside personal issues has been challenging, and I have been trying to complete the Ph.D. process as early as possible.

It's my humble request if under special case I could be allowed to submit my Ph.D. thesis before the completion of the two-year period from the date of candidacy.

I shall be truly grateful for your support and understanding.

Thanking you,

Yours sincerely,
Japjeet Singh
En.no.: 21910070
Ph.D. Scholar (Hydraulics Engineering)
Department of Civil Engineering
IIT Roorkee

I strongly recommend. He has completed all the objectives of PhD work including PhD work for SRC is fully satisfied with his work.
CSPOjha
11.6.2025

Supervisor
(Prof. CSP Ojha)

Co-Supervisor
(Dr. Vishal Singh)

JAPJEET SINGH
Enrol. No.: 21910070
Civil Engineering
j_singh1@ce.iitr.ac.in
Mobile.: 7986048266

SPECIAL SRC RECOMMENDATIONS

Student Name

JAPJEET SINGH

Enrollment

21910070

Department (Where Enrolled)

Civil Engineering

Date of Registration

18/12/2021

Research Status

FTRS - Full Time Research Scholar

Category

MHRD

Fellowship

MHRD-SRF

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Form Suibmitted Date

11/06/2025

Supervisor 1:

Department of Supervisor(s):

Civil Engineering

Name of Supervisor(s):

C. S. P. Ojha

Supervisor 2:

Department of Supervisor(s):

Name of Supervisor(s):

Supervisor 3:

Department of Supervisor(s):

NIH Roorkee

Name of Supervisor(s):

Dr. Vishal Singh

Date Of Initial Registration

18/12/2021

Date of Candidacy

20/10/2023

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Any Other:

Request for Early Submission of Ph.D. Thesis Under Special Consideration

[Attached detailed report]

〰 View Attached Document

Remark:

I am a Ph.D. scholar in the Department of Civil Engineering under supervision of Prof. C.S.P. Ojha and co-supervision of Dr Vishal Singh (NIH Roorkee). I joined Ph.D. program on 19/12/2021, since then I have completed 3.5 years.

I recently submitted my pre-synopsis. However, my submission was not accepted due to Rule 6.1 of the Ph.D. guidelines, which requires a minimum of two years to be completed after the date of candidacy. I was granted candidacy on 20/10/2023, as per Rule 6.1, I am currently short of the two-year period from the date of candidacy. I fully understand the importance of this rule. However, I would like to mention that because I have done my M. Tech at IIT Roorkee under the same supervisor, my Ph.D. work has been a continuation of my M. Tech thesis, which enabled me to complete my Ph.D. work in 3.5 years.

I have successfully completed all five research objectives—three are published in Q1 journals, and two are under review. Also, both my supervisors and the SRC committee are fully satisfied with my work. On the personal front, I would like to mention that my mother has been unwell. Due to her health condition, she had been living with me in Roorkee in a rented accommodation until last year. Managing academic responsibilities alongside personal issues has been challenging, and I have been trying to complete the Ph.D. process as early as possible.

I have attached following documents with this form in a single PDF file.

1) Consent letters from my supervisor and SRC committee addressed to Dean of Academic affair.

2) List of publications completed during my Ph.D.

3) Relevant medical reports of my mother

I humbly request your kind consideration for allowing early submission of my Ph.D. thesis under special case.

[Attached detailed report]

〰 View Attached Document

Connect with us through WhatsApp messages for requests and queries | For Ph.D. portal: 7668908253 | For Ph.D. Thesis: 8630896939

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Project No.

[Attached detailed report]

⟋View Attached Document

Form Submission Date

11/06/2025

Form Came To Ph.D. Section Date

11/06/2025, 10:42 PM

AAO Remark:

Student Remark:- I am a Ph.D. scholar in the Department of Civil Engineering under supervision of Prof. C.S.P. Ojha and co-supervision of Dr Vishal Singh (NIH Roorkee). I joined Ph.D. program on 19/12/2021, since then I have completed 3.5 years. I recently submitted my pre-synopsis. However, my submission was not accepted due to Rule 6.1 of the Ph.D. guidelines, which requires a minimum of two years to be completed after the date of candidacy. I was granted candidacy on 20/10/2023, as per Rule 6.1, I am currently short of the two-year period from the date of candidacy. I fully understand the importance of this rule. However, I would like to mention that because I have done my M. Tech at IIT Roorkee under the same supervisor, my Ph.D. work has been a continuation of my M. Tech thesis, which enabled me to complete my Ph.D. work in 3.5 years. I have successfully completed all five research objectives—three are published in Q1 journals, and two are under review. Also, both my supervisors and the SRC committee are fully satisfied with my work. On the personal front, I would like to mention that my mother has been unwell. Due to her health condition, she had been living with me in Roorkee in a rented accommodation until last year. Managing academic responsibilities alongside personal issues has been challenging, and I have been trying to complete the Ph.D. process as early as possible. I have attached following documents with this form in a single PDF file. 1) Consent letters from my supervisor and SRC committee addressed to Dean of Academic affair. 2) List of publications completed during my Ph.D. 3) Relevant medical reports of my mother I humbly request your kind consideration for allowing early submission of my Ph.D. thesis under special case.

Movement Details:-

Designation	Remark	Action	Date

📞 **Connect with us through WhatsApp messages for requests and queries | For Ph.D. portal: 7668908253 | For Ph.D. Thesis:** 8630896939

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| Member SRC | | Recommended | 11/06/2025 |
| Supervisor_1 | | Recommended | 11/06/2025 |

Recommend   Not Recommend

Connect with us through WhatsApp messages for requests and queries | For Ph.D. portal: 7668908253 | For Ph.D. Thesis: 8630896939

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Publications:	Impact Factor	Cite Score	Quartile
Japjeet Singh, Vishal Singh & Chandra Shekhar Prasad Ojha. "A cluster-based data assimilation approach to generate new daily gridded time series precipitation data in the Himalayan River Basins." Water Resources Research, 61(1), e2024WR037324.	4.6	8.6	Q1
Japjeet Singh, Vishal Singh, & Chandra Shekhar Prasad Ojha (2024). "Elevation dependent precipitation changes in historical and future times in the Himalayan Upper Ganga Basin, India." Atmospheric Research, 307, 107501.	4.5	9.2	Q1
Japjeet Singh, Vishal Singh, Chandra Shekhar Prasad Ojha & Manohar K. Arora (2023). "Assessment of recent changes (2011–2020) in glacier thickness and runoff variability in Gangotri glacier, India," Hydrological Sciences Journal, DOI: 10.1080/02626667.2023.2258861	2.8	6.6	Q1
Publication under review:			
Japjeet Singh, Vishal Singh & Chandra Shekhar Prasad Ojha. "Machine Learning Driven Glacier Thickness Estimation in The Indian Himalaya Using Innovative Pixel Based Skeletonization Approach" (Water Resources Research journal)	4.6	8.6	Q1
Japjeet Singh, Vishal Singh & Chandra Shekhar Prasad Ojha. "Assessment of Cryosphere Dynamics in 21st century in The Himalayan Upper Ganga Basin Under Changing Climate " (Journal of Hydrology)	5.9	11.1	Q1

Conference:

*"Quantifying runoff variability and Glacier thickness variations from 2011 to 2020 in Gangotri glaciated region, India." **Japjeet Singh**, Vishal Singh & Chandra Shekhar Prasad Ojha Poster presented at *European Geosciences Union (EGU) General Assembly Conference* Vienna, Austria, April 2024.*

Item No.105.8: **To consider the recommendations of the Committee constituted to review/update the Ph.D. Ordinances and Regulations.**

The Committee, with the following members, was constituted to review/update the Ph.D. Ordinances and Regulations vide notification no. AAO/Notification/7519 dated December 30, 2024:

1. Associate Dean (Evaluation)   - Chairperson
2. Associate Dean (Curriculum)   - Member
3. Associate Dean (IT Systems and Admission)   - Member
4. Prof. Ramachandran C.N., Deptt. of Chemistry - Member
5. Prof. Maheshanand, Deptt. of Mathematics   - Member
6. Mr. Raj Kumar Sharma (Project Officer)   - Member Secretary

The Committee discussed the existing Ph.D. Ordinances and Regulations and submitted its recommendations.

The IRC, in its 74th meeting held on 13.06.2025, considered and recommended the report of the Committee with minor modifications **(Appendix-A)**.

The above is submitted for the consideration and approval of the Senate.

ORDINANCES, ADMISSION PROCESS, AND REGULATIONS

FOR

THE DEGREE
OF
DOCTOR OF PHILOSOPHY (Ph.D.)
[2025]

Indian Institute of Technology Roorkee
Roorkee-247667

PREAMBLE

Indian Institute of Technology Roorkee (IITR), being the first technical institution in Asia and one of the premier technical institutions in India today, has been a front runner in imparting state-of-the-art education in science and technology to the people of this country, and has produced engineers and scientists par excellence. Indian Institute of Technology Roorkee inherits the legacy of excellence in teaching and research of the erstwhile University of Roorkee as is evident from its illustrious alumni and their engineering feats like Aswan to Bhakra-Nangal dam across the world, standing as testimonies of their capabilities and excellence.

The academic program leading to the degree of Doctor of Philosophy shall be abbreviated as Ph.D. program. The Ph.D. degree is granted for research work in areas recognized by the Academic Departments/Centres/Schools of the Institute subject to the conditions and regulations contained hereinafter.

Indian Institute of Technology Roorkee (IITR) offers Ph.D. programs through its Departments/Centres/Schools. The award of Ph.D. degree is in recognition of high academic achievements, independent research and application of knowledge to the solutions of technical and scientific problems in Science, Technology, Architecture & Planning, Humanities & Social Sciences and Management; creative and productive inquiry is the basic concept underlying the research work.

The Ph.D. program is broad-based and involves a prescribed course credit requirement and a research thesis. The institute also encourages interdisciplinary areas through a system of co-supervision and provides excellent opportunities for such programs. The institute undertakes sponsored research and development projects from industrial and other organizations in the public as well as private sector.

The research work shall be an original work characterized either by the discovery of facts, or by a fresh approach towards the interpretation and application of facts, or development of innovative products and technologies. It shall evince the candidate's capacity for critical examination and sound judgment and shall represent original contribution to the existing knowledge.

The degree of Doctor of Philosophy (Ph.D.) of the Indian Institute of Technology Roorkee (IITR) shall be conferred on a candidate who successfully completes all the requirements specified in these ordinances and regulations, which were approved by Senate/Board of Governors.

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THE INSTITUTE

Indian Institute of Technology Roorkee, erstwhile University of Roorkee, is the oldest technical institution of the country. Established as the Roorkee College in 1847 and rechristened as the Thomason College of Civil Engineering in 1854, it made tremendous contributions in the development of infrastructural base-roads and highways, canals and irrigation networks, railways and engineering industries. Recognising its outstanding contributions and its potential for growth, the college was elevated to be the first Technical University of India on November 25, 1948. Nurtured as the premier institution by the State of Uttar Pradesh, the University was declared an Institute of national importance and converted into the Indian Institute of Technology Roorkee by an Act of Parliament with effect from September 21, 2001.

The academic activities of the Institute are spread over three campuses: (i) 365 acres campus at Roorkee, (ii) 25 acres campus at Saharanpur and (iii) 10 acres campus of Greater Noida Extension Centre at Greater Noida. The Institute offers several undergraduate programs leading to Bachelor's degree in different disciplines of engineering, sciences, architecture, and design. In addition, the Institute offers Integrated dual-degree programs and Integrated Master's programs in different disciplines of engineering and sciences, and postgraduate programs in specialised areas leading to Master's degree in technology, architecture, sciences, management and design. The Institute is also engaged in advanced level research and offers doctoral programs in the areas of cutting edge technologies and sciences.

The Institute boasts of a dedicated and highly qualified faculty of approximately 550 members actively involved in both teaching and research. In addition to their academic roles, faculty members also contribute their expertise through consultancy services to various public and private sector organizations. Currently, the Institute is home to over 5,500 undergraduate students, more than 2,000 postgraduate students, and over 3,000 Ph.D. scholars, including international students from several countries.

A number of academic and service centres are engaged in interdisciplinary research and there are many collaborative programs between the Institute and other institutions in India and abroad. The teaching and research at the Institute is amply supported by central facilities such as the Central Library with around 4 lakhs printed volumes of books, journals and periodicals. The Central Library is a member of the Indian National Digital Library in Engineering Science and Technology (INDEST) Consortium. The membership provides online access to about 15000 e-journals and 15000 e-books. Important centres and cells on the campus include: E-learning Centre, Institute Computer Centre, Institute Instrumentation Centre, The Tinkering Lab, TIDES Business Incubator, iHUB Divyasampark TIH, and Intellectual Property Right Cell.

The Institute prepares students to meet the ever-increasing technological and social challenges with its traditions of self-discipline, hard work, all round personality development and a creative approach to problem solving. An extensive infrastructure exists to imbibe and cultivate these attributes amongst the students. To uphold academic excellence and remain responsive to evolving academic and industry demands, the Institute undertakes periodic curriculum revisions, ensuring that its programs remain contemporary, relevant, and aligned with global standards.

The Institute has procured a large number of state-of-the-art equipment and various other facilities, thus updating and modernizing its laboratories. All the Departments of the Institute have modern laboratories equipped with sophisticated facilities.

A large number of distinguished organizations interact with the Institute through research and consultancy services, which bears testimony to the important role being played by the Institute in the national development. The Institute also offers, on request, tailor-made short-term continuing education programs, specifically for personnel from industry and service organizations.

The Indian Institute of Technology Roorkee has a unique character and is fully residential for the students and the faculty. The Institute campus is vibrant with diverse creative activities, which constantly serve to bring students and the staff in close contact, thereby fostering an all-round intellectual development. The Institute campus has an excellent gymnasium, badminton and squash courts, lawn tennis courts, a swimming pool, billiards tables, and recreational centres like the Students' Clubs, Hobbies Club, Boat Club, Cultural Society, and Institute Cinema Club. The students are housed comfortably in hostels with excellent dining facilities. A fairly equipped Institute Hospital caters to the health needs of the campus community.

The Institute organizes several co-curricular activities for all-round personality development of the students, such as THOMSO, the annual youth festival; COGNIZANCE, an all-India technical festival. Hobbies Club and its annual exhibition SRISHTI is one of the unique features of the Institute that promotes creativity among students.

Students are encouraged to participate in various sports and cultural activities to help them develop a well-balanced personality. Every year, they organize an exhibition of fine arts, sculptures and carvings, philately, photography, scientific models, etc., besides sports activities. Being a rather compact campus, a cheerful and friendly atmosphere prevails and students feel at home very soon after joining the Institute. The lush green surroundings and the stately Ganga Canal flowing nearby provide a very stimulating and creative environment.

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ACADEMIC DEPARTMENTS, CENTRES, SCHOOL AND UNITS

There are twenty-three academic departments in the Institute, one school, ten academic centres, seven academic service units and five other support units.

Academic Departments

1. Applied Mathematics and Scientific Computing*
2. Architecture and Planning
3. Biosciences and Bioengineering
4. Chemical Engineering
5. Chemistry
6. Civil Engineering
7. Computer Science and Engineering
8. Design
9. Earth Sciences
10. Earthquake Engineering
11. Electrical Engineering
12. Electronics and Communication Engineering
13. Humanities and Social Sciences
14. Hydrology
15. Hydro and Renewable Energy
16. Management Studies
17. Mathematics
18. Mechanical and Industrial Engineering
19. Metallurgical and Materials Engineering
20. Paper Technology*
21. Physics
22. Polymer and Process Engineering*
23. Water Resources Development and Management

*Note: These departments are at Saharanpur Campus.

School

1. Mehta Family School for Data Science & Artificial Intelligence

Academic Centres

1. Disaster Mitigation and Management
2. Indian Knowledge Systems
3. International Centre of Excellence for Dams
4. Nanotechnology
5. Photonics and Quantum Communication Technology
6. Semiconductor Design and Technology
7. Space Science and Technology
8. Sustainable Energy
9. Sustainable Rural Development
10. Transportation Systems

Academic Service Centres

1. Centre for Continuing Education
2. E-Learning Centre
3. Institute Computer Centre
4. Institute Instrumentation Centre
5. Greater Noida Extension Centre IITR
6. Mahatma Gandhi Central Library
7. Rethink! The Tinkering Lab

Other Units

1. DRDO Industry Academia Centre of Excellence (DIA-CoE)
2. iHUB Divyasampark TIH - under NM-ICPS mission, Govt of India
3. Intellectual Property Right Cell
4. TIDES Business Incubator
5. Water for Welfare: An Uttarakhand Government Initiative

The Academic Departments, Centres and School offer the degree of Doctor of Philosophy (Ph.D.) to students of various disciplines.

PART-I

ORDINANCES

ORDINANCES FOR THE DOCTOR OF PHILOSOPHY (Ph.D.) PROGRAMS

Short Title & Commencement	O.1	(1)	These ordinances shall be called the Ordinances for the Doctor of Philosophy (Ph.D.) Programs and will be applicable to Ph.D. Programs of the Indian Institute of Technology Roorkee.
		(2)	These ordinances shall come into force with effect from such date as the Senate/Board may fix in this behalf.
Definitions	O.2	(1)	**"ADA"** shall mean Associate Dean, Admission & IT Systems.
		(2)	**"ADC"** shall mean Associate Dean, Curriculum**.**
		(3)	**"ADE"** shall mean Associate Dean, Evaluation.
		(4)	**"Applicant"** shall mean an individual who applies for admission to any Ph.D. program of the Institute.
		(5)	"**Board"** shall mean the Board of Governors of the Institute.
		(6)	**"Casual Student"** shall mean a student who is registered for a degree in a recognized Institution/ University in India or abroad and is officially sponsored by his parent institute to avail laboratory and other academic facilities or for attending a formal set of courses of the Institute.
		(7)	**"CFC"** shall mean Faculty Committee of the Centre.
		(8)	**"CGPA"** shall mean the Cumulative Grade Point Average.
		(9)	**"Competent Authority"** shall mean the Director of IIT Roorkee or any officer to whom the Director delegates the authority.
		(10)	**"Council"** shall mean the Council of the Indian Institutes of Technology.
		(11)	**"Course"** shall mean a curricular component identified by a designated code number and a title.
		(12)	**"Course Coordinator"** shall mean a faculty member who shall have full responsibility for the course and coordinating the academic activities associated with that course, including examinations and the award of grades.
		(13)	**"CRC"** shall mean the Research Committee of the Centre.
		(14)	**"Degree"** shall mean the Ph.D. Degree of the Institute as may be approved by the Board from time to time.
		(15)	**"DAA"** shall mean the Dean of Academic Affairs.

			(16)	**"DFC"** shall mean Departmental Faculty Committee.
			(17)	**"DoSW"** shall mean the Dean of Students' Welfare.
			(18)	**"DRC"** shall mean Departmental Research Committee.
			(19)	**"Faculty Advisor"** shall mean a faculty nominated by the Department/Academic Centre/School to advise a student on the courses to be taken by him/her and other matters related to the academic program.
			(20)	**"GEN-EWS"** shall mean the General Economically Weaker Section.
			(21)	"**IRC**" shall mean Research Committee of the Institute
			(22)	**"Institute"** shall mean the Indian Institute of Technology Roorkee.
			(23)	**"OBC-NC"** shall mean the other backward classes – non creamy layer as notified by the Government of India from time to time.
			(24)	**"PD"** shall mean a person with different abilities as specified by the Government of India from time to time.
			(25)	**"PG"** shall mean Postgraduate.
			(26)	**"Research Student"** shall mean a person registered for the Ph.D. program of the Institute before becoming the candidate.
			(27)	**"ScFC"** shall mean the Faculty Committee of the School.
			(28)	**"SC/ST'** shall mean the scheduled castes/scheduled tribes as notified by the Government of India from time to time.
			(29)	**"SGPA"** shall mean the Semester Grade Point Average.
			(30)	**"Student"** shall mean a student registered for an academic program of the Institute.
			(31)	**"Supervisor(s)"** shall mean member(s) of the academic staff of the Institute approved by Competent Authority to guide/supervise the research/academic work of the research student/candidate.
			(32)	**"Co-supervisor(s)"** shall mean member(s) of the academic staff of the Institute or any person from other organization recommended by DRC/CRC/ScRC, Head of the Department/Centre/School and approved by Competent Authority to guide/supervise the research/academic work of the research student/ candidate.

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			(33)	**"Caretaker Supervisor"** shall mean a member of the academic staff appointed to look after the administrative interests of a research student/ candidate in the absence of the Supervisor(s).
			(34)	**"Course Work"** shall mean courses of study prescribed by the Department/Centre/School through the Student Research Committee, to be undertaken by a research student registered for the Ph.D. Degree.
			(35)	**"Full-time Research Student/Candidate"** shall mean a person registered for the Ph.D. Degree devoting full time at the Institute for completing the degree requirements.
			(36)	**"Part time Research Student/Candidate"** is a person who is registered for the Ph.D. degree and has been allowed to devote part of his time for completing the degree requirements.
			(37)	**"Registration Period"** shall mean the length of time span commencing with the date of initial registration at the Institute.
			(38)	**"ODC"** shall mean Oral Defence Committee.
			(39)	**"Residency"** shall mean the minimum period for which a student/candidate must attend the Institute.
			(40)	**"SRC"** shall mean Student's Research Committee.
			(41)	**"Sponsored Research Student/Candidate"** shall mean a research student/candidate sponsored by an organization/employer who provides full financial support to the student for pursuing Ph.D.
			(42)	**"ScRC"** shall mean the Research Committee of the School.

Ordinances	O.3	(1)	The Institute shall offer Ph.D. programs and of such minimum duration as the Board may approve on the recommendation of the Senate either on its own or on the initiative of a Department/Academic Centre/ School, and/or on the direction of the Board/Council/ Government of India, provided that the ==Institute Research Committee (IRC)== shall recommend all such programs.
		(2)	The minimum entry qualifications and the policy and procedure of admission to Ph.D. programs shall be such as may be specified by the Institute/Government of India and/or laid down in the regulations.
		(3)	A Ph.D. student shall be required to earn a minimum number of credits through various curricular components like lectures/laboratory courses, project, etc. at the Institute or at such other institutions as have been approved by the Institute. For a Ph.D. student, the thesis/project and other similarly designated academic activities shall have to be undertaken under the guidance of one or more supervisor(s) from the Institute. However, a Ph.D. student may be permitted by the DRC/CRC/ScRC to carry out in full or part of his/her thesis/project outside the Institute. In such cases, an additional supervisor from the host organization/institute, if considered necessary, may be appointed by the DRC/CRC/ScRC on the recommendation of the supervisor(s) from the Institute.
		(4)	A Ph.D. student shall be required to complete all the requirements for the award of the Degree within such period as may be specified in the regulations, including those credits earned at such other institutions as have been recognized by the Institute for this purpose.
		(5)	The date of initial registration of a student in a Ph.D. program shall normally be the date on which the student registers in the program for the first time. This date shall be construed as the date of joining of the student in the program for all intents and purposes.
		(6)	A student shall be required to attend every lecture, tutorial and practical class. However, for late registration, sickness or other such exigencies, absence may be allowed as provided for in the regulations.

			(8)	A Ph.D. student may be granted such scholarship/ assistantship/stipend, etc. and awarded such prizes and medals as may be specified in the regulations in accordance with the directions of the Government of India and/or the decision of the Council/Board from time to time.
			(9)	The procedure for the admission of a student to a Ph.D. program shall be such as may be specified in the regulations; the casual students may be allowed access to academic programs in the manner as provided for under the regulations.
			(10)	The procedure for withdrawal from a Ph.D. program, rejoining the program, the award of grades and the SGPA/CGPA, the examination and all such matters as may be connected with the running of a Ph.D. program shall be such as may be specified in the regulations.
			(11)	The award of the Ph.D. degree to an eligible student shall be made in accordance with the procedure laid down in the regulations.
			(12)	A student admitted to a Ph.D. program shall abide by the "Standing Orders for Students" issued by the Institute from time to time. These Standing Orders shall deal with the discipline of the students in the Bhawans/Hostels, Departments/Centres/School, the Institute premises and outside. The Standing Orders may also deal with such other matters as are considered necessary for the general conduct of the students, and co-curricular and extra-curricular activities. These Standing Orders shall be approved by the Director on the recommendation of the Dean of Students' Welfare.
			(13)	The regulations for the Ph.D. program shall be framed by the IRC, which shall be considered and approved by the Senate.
			(14)	In special circumstances, the Chairman of the Board may, on behalf of the Board, approve amendment, modification, insertion or deletion of an ordinance, which in his opinion is necessary or expedient for the smooth running of a program, provided that all such changes shall be reported to the Board in its next meeting for approval.

		(15)	Notwithstanding anything contained in these Ordinances & Regulations, all students shall be governed by the regulations, guidelines and procedures framed by the Senate in this regard, and in force from time to time.
		(16)	Notwithstanding anything contained in the above Ordinances, no regulations shall be made in contravention of the decision of the Board/Council and/or the direction of the Government of India in regard to the duration of the Ph.D. program, the amount and number of scholarship/assistantship and the number of studentships and the procedure of admission and the percentage of students of various categories, viz. reserved (SC, ST, OBC-NC, PD, GEN-EWS) and unreserved categories.

PART-II

ADMISSION PROCESS

ADMISSION PROCESS

Academic Session	A.1	(1)	An academic session will consist of two semesters. The first semester will normally commence in July (Autumn semester), and the second in January (Spring semester).
			Ph.D. applicants seeking Institute Assistantship will normally be admitted in any of the two semesters in an academic session.
			In addition, Ph.D. applicants with external funding may apply for the admission to the program throughout the year.

Admission Categories	**A.2**	(1)	**Full-time Research Scholar (FTRS)**
			
			(a) Institute Assistantship Research Scholar (IARS)
			
			(b) Externally Funded Research Scholar (EFRS)
			
			    • Fellowships
			    • Foreign Nationals
			    • Project Funded
			(c) In-Service External Research Scholar (ISERS)

		(2)	**Part-time Research Scholar (PTRS)** (a) In-Service Internal Research Scholar (P-ISIRS) (b) In-Service External Research Scholar (P-ISERS) (c) Extensive Professional Experience Research Scholar (P-EPERS)
		(3)	**MoU Category** (a) Full Time as per terms of MoU (b) Part Time as per terms of MoU
Eligibility for Admission	**A.3**	(1)	An applicant should possess minimum qualifications in appropriate area(s) and she/he is required to fulfil the Department/Centre/ School wise minimum educational qualification, as specified in the admission brochure, to be eligible to apply for admission for the Ph.D. program.
		(2)	**Additional Provisions for applicants under Externally Funded Research Scholars (EFRS) Category** **(a) Fellowships** These applicants can apply through rolling advertisement as available on the Institute website. If the advertisement for the Institute Assistantship Research Scholars (IARS) category is in process, their applications will be considered along with those of the IARS category applicants.

			(b) Foreign Nationals Foreign nationals will be considered at par with General category candidates for minimum CGPA requirements. These candidates will be provided with support for English language proficiency, if required. **(c) Project Fellows** ==Candidates employed in a project at the Institute may be considered under EFRS category if they fulfil the minimum eligibility criteria. The project duration should be at least 2 years, and at the time of registration, funding for at least 12 months should be available in the project.==
		(3)	**Additional Provisions for In-service External Research Scholars (ISERS)/ Part Time In-service Internal Research Scholars (P-ISIRS)/ Part Time In-service External Research Scholars (P-ISERS) Candidates** At the time of registration, the candidates should have at least two years' experience in a Government/Semi-Government organization/Public Sector Undertaking, AICTE/UGC recognized educational institute, or a registered company with an annual turnover of more than Rs. Twenty Crores. They should have permission from the employer for pursuing the Ph.D. program with adequate leave of absence to complete the course work requirements. ==This requirement of leave of absence is waived off for candidates working within 100 km of the Institute. Candidates in P-ISIRS category should, in addition, be regular employees of the Institute.==
Admission Procedure	**A.4**	(1)	Departments/Centres/School may prescribe higher or additional short-listing criteria beyond the minimum eligibility criteria. Thus, shortlisting criteria may be different in different specializations within a Department/Centre/School. Admission will be on the basis of performance in the written test and/or interview. Candidates who are residing abroad may appear for interview through video conferencing. Selected candidates who are unable to produce the proof of qualifying degree at the time of registration may be admitted provisionally. They should provide the same by the due date as specified by the Institute, failing which their admission shall be cancelled.

		(2)	**Admission under Quality Improvement Program (QIP)** These admissions shall be governed by QIP norms.
Thesis Supervisor	**A.5**	(1)	Every research scholar shall be assigned a thesis supervisor. Details of the supervisors of all the students admitted during a semester shall be communicated by the Departments/Centres/School to the Academic Office, within one month from the date of registration.
Financial Assistance	**A.6**	(1)	The Institute may provide financial assistance in the form of teaching or research assistantships, referred to as Institute Assistantships. Assistantships are awarded for up to 60 months. A student is expected to devote up to ten hours per week towards job(s) assigned by the Department/Centre/School. The renewal of assistantship is contingent on the student's satisfactory semester progress performance, timely completion of the candidacy in the academic program, and in the discharge of assistantship duties. After the expiry of project funding, project fellows may be offered Institute Assistantship. The duration of support shall be for a maximum period of 60 months which will include the duration of assistantship drawn from the project funding. These assistantships will be over and above any limit/quota of Institute Assistantships for the Departments/Centres/School. Financial assistance from the Institute will not be available to candidates who are recipients of fellowships from UGC/CSIR/DST/ICMR/DBT, etc. and candidates registered under ISERS/P-ISIRS/P-PISERS category. Tuition fee waivers may be available as per the policies of the Institute.

PART-III

REGULATIONS

REGULATIONS FOR THE DOCTOR OF PHILOSOPHY (Ph.D.) PROGRAMS

Registration	R.1	(1)	**(a) New Students**
			All new students should report at the Institute on the day as specified in the offer of admission, along with the documents specified therein.
			New students, awaiting the results of the qualifying degree, will be allowed to register provisionally on the submission of an undertaking. In case a student registers after the last date of addition/change of courses, she/he cannot register for credit courses in that semester. However, the duration for completing the candidacy requirements shall be counted from the date of admission to the Ph.D. program.
			(b) Current Students
			Students are required to register every semester till they submit the thesis. The registration process involves:
			(i) Submission of prescribed Progress and Performance Report.
			(ii) Depositing prescribed fee and dues (if any), and completing the online registration process.
			If a student is likely to submit her/his thesis within 15 days from the date of registration, she/he need not register in that semester. If a student wishes to stay in the campus after submission of thesis, she/he will need to register.
			(c) Change of Registration for switchover program (from M.Sc/M.Tech/M.Des/MURP/M.Arch/IDD/ IMT to Ph.D.)
			Students pursuing M.Sc/M.Tech./M.Des/M.Arch/ MURP/IDD/IMT programs of IIT Roorkee may opt for a Ph.D. program. This option can be availed after completing two semesters of M.Tech/M.Des/M.Arch/ MURP, or three semesters of M.Sc, or after completing all theory courses of IDD/IMT with CGPA of minimum 8.0.
			(d) Joint Doctoral Degree and Dual Doctoral Degree
			Students pursuing Ph.D. at IIT Roorkee may opt for Joint Doctoral Degree/Dual Doctoral Degree program through MoUs between specific institutions and IIT Roorkee with the approval of DAA and Senate.

(i) Joint Ph.D. Degree

- Students must meet the admission requirements and complete the degree requirements of their home institution.

- Students will receive the degree only from their home institution, with a remark indicating that the program has been completed jointly with the host institution.

(ii) Dual Degree Ph.D. Program

- Students must meet the admission requirements and complete the degree requirements of both the institutions.

- Students will receive a separate degree from each institution.

(iii) Common Conditions for Joint Doctoral Degree and Dual Degree Programs

- Students must have a Supervisor at each institution.

- Students must spend a minimum of 6 months at the host institution over the entire duration of the program.

- Tuition fees shall be payable as per the MoU guidelines.

(e) Double Degree (Two-degrees) Ph.D. and M.Tech./M.Sc./MURP/M.Arch./ M.Des./MBA

- A student admitted to a Ph.D. program with a Master's Degree in an allied discipline, will be awarded M.Tech./M.Sc./MURP/M.Arch./ M.Des./MBA degree along with the Ph.D. degree, provided the student earns the course credits (excluding the thesis) required for an M.Tech./M.Sc./MURP/M.Arch./M.Des./MBA program, offered by the parent Department/ Centre/School, with CGPA 8.5 or more (course credits requirements is given in R4(2) Table 2).

- A student admitted in a Ph.D. program with a Bachelor's degree will also be awarded M.Tech./M.Sc./MURP/M.Arch./M.Des./MBA degree along with the Ph.D. degree, provided the student earns the course credits (excluding

the thesis) required for an M.Tech./M.Sc./ MURP/M.Arch./M.Des./MBA program, offered by the parent Department/Centre/School, with CGPA 8.5 or more (course credits requirements is given in R4(2) Table 2).

- Candidates shall earn all credits for the course work (excluding thesis) of an M.Tech./M.Sc./ MURP/M.Arch./M.Des./MBA Program offered by the parent Department/Centre/School. The requirement of earning credits for pre-Ph.D. courses will be waived-off for such candidates.

- Fellowship will be allowed for a duration of five-year from the date of initial registration in the Ph.D. program.

- Other requirements for award of Ph.D. degree shall apply.

- On meeting the requirements, the student shall be eligible for two degrees (M.Tech./M.Sc./ MURP/M.Arch./M.Des./MBA and Ph.D.) on defending her/his Ph.D. thesis.

- The exit policy relevant to the Ph.D. program shall be applicable to the students who leave the program prior to completion.

(f) Change of Registration from Full-time to Part-time Program

If a student wishes to join an organization, she/he can request for change of her/his registration status to part-time, provided that all requirements for candidacy have been completed. The DAA can approve the request on the recommendation of DRC/CRC/ScRC.

(f) Change of Registration from Part-time to Full-time Program

If a part-time student has secured an authorized leave for the intended duration of stay (not less than one semester) from her/his parent organization, she/he can request to change status from part-time to full-time.

Joining process and constitution of SRC for students	R.2	(1)	The following process should be followed for initiating the Ph.D. program:
			(a) All new students should report to the Head of Department/Centre/School. The Department/Centre/School shall allot the supervisor(s) to every selected student within one month from the date of registration.
			(b) Login and password for Academic Information System (AIS) is provided by the Academic Affairs Office at the time of registration. Students should fill their details and name of the supervisor(s) on the PhD Forms in AIS Portal.
			(c) The thesis supervisor(s), once decided, shall propose the Student Research Committee (SRC) which shall comprise of three members and the supervisor(s). One of these three members shall be proposed as the Chairperson, SRC by Chairperson, DRC/CRC/ScRC. The proposed Chairperson, SRC should be a faculty member of IIT Roorkee and have supervised at least one Ph.D. at IIT Roorkee. Additional members may be added to the SRC based on the recommendations of the SRC and the DRC/CRC/ScRC.
			The SRC members must have requisite expertise and may be drawn from any Department/Center/School, CFTI, reputed national research institutes, or from industry. Retired experts can also be selected as SRC members.
			If required, the SRC meetings may be conducted through video conferencing.
			Once SRC has been approved by the Head of Department/Centre/School, the SRC will recommend to the Chairperson DRC/CRC/ScRC the courses which the candidate shall register for.
Supervisor	R.3	(1)	**Thesis Supervisor**
			Every candidate shall have a thesis supervisor from the Institute. The supervisor can be:
			(a) Any full-time faculty member holding a Ph.D. degree with minimum 3 years of service remaining.

(b) Visiting Faculty/Emeritus Fellow/Scientific Officer/ Professor of practice /full-time faculty member with less than 3 years of service remaining, holding a Ph.D. degree, can supervise a Ph.D. student jointly with a faculty member as defined in (a) above.

(c) Co-supervisor, holding a Ph.D. degree in relevant subject, can be from outside the Institute, if recommended by the DRC/CRC/ScRC. In such cases, the co-supervisor should submit a No Objection Certificate from her/his parent organization.

(d) In addition to the supervisor, there can be at most two co-supervisors, with NOT more than one from outside the Institute. However, in case of Joint/Dual degree programs, this condition may be relaxed as per the MoU.

(e) Students with Institute Assistantship may be assigned thesis supervisor by the DRC/CRC/ScRC. There will not be any limit on the number of research scholars which can be concurrently supervised by a faculty member subject to the condition that the research scholars with Institute Assistantship can be at most five. However, students who have submitted thesis and awaiting final viva-voce will not be counted in this quota of five.

In the case of Joint Faculty, two more Ph.D. students with Institute Assistantship will be allowed in the Department/Center/School to which the faculty is associated jointly. Further, in case of co-supervision, 1 student shall be counted as 0.5 student for each supervisor/co-supervisor.

	(2)	**Addition of a Supervisor/Co-supervisor**
		Addition of a co-supervisor may be approved by the Head of Department/Centre/School on the recommendation of the SRC and DRC/CRC/ScRC. If a co-supervisor is added for the supervision of a thesis, his/her period of association with the thesis should be at least 18 months.
		However, a co-supervisor/caretaker supervisor may be appointed upon the recommendation of the SRC and DRC in the following cases:

			- If the sole supervisor of a student ends his/her formal association with the Institute, a supervisor/ co-supervisor may be added on the recommendations of the SRC and DRC/CRC/ ScRC, - If a sole supervisor proceeds on leave (for 6 months or less), the Chairperson SRC may assume as caretaker supervisor to carry out the administrative role of the supervisor. - If a sole supervisor proceeds on leave (for more than 6 months), the Chairperson DRC/CRC/ScRC in consultation with the supervisor may appoint a co-supervisor for both administrative and academic supervision.
		(3)	**Request for change of Supervisor by Student** The DRC/CRC/ScRC can consider the request for a change of supervisor, with the consent of the current supervisor and the proposed supervisor. In case this consent is not forthcoming, the issue may be referred to a three-member committee comprising of the Head of Department/Centre/School, Chairperson DRC/ CRC/ScRC and Chairperson SRC. The committee shall make every effort to salvage the academic program of the student while ensuring due credits to the current supervisor in publications, patents and thesis. The Head of Department/Centre/School will send the name of new supervisor to the DAA for record. In such cases, if required, the Chairperson, DRC/CRC/ ScRC and Head of the Department/Center/School may reconstitute the SRC and intimate it to DAA for record.

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Course Credit Requirements	R.4	(1)	**Course Credit Requirements for a Ph.D. program**

Course Credit Requirements for a Ph.D. program

Minimum course credit requirements for a Ph.D. program are given in Table 1 below:

Table 1: Minimum Course credit requirements for candidacy to Ph.D. program

SL.NO	Qualification	Credit Requirements
1	M. Tech., M. Arch./MURP, or equivalent admitted to any one of the Engineering/ Science/ HSS/ Management, Departments/Centres/School	Minimum 9 credits of P.G. level theory courses
2	M.Sc/M.A./M.B.A. or equivalent, admitted to Science/HSS/Management, Departments/Centres/School	Minimum 12 credits of P.G. level theory courses
3	M.Sc. or equivalent, admitted to any one of the Engineering, Departments/Centres/School	Minimum 15 credits of P.G. level theory courses
4	B.Tech or equivalent admitted to any one of the Science/ Engineering/HSS/ Management, Departments/ Centres/School	Minimum 24 credits of P.G. level theory courses.

Note:

(a) All students need to earn 02 additional credits for Seminar.

(b) Students can take at most ONE Self-study theory course/NPTEL course of PG level as approved by the SRC.

			(2)	**Course Credit Requirements for Double Degree (Two-degrees) Ph.D. and M.Tech./M.Sc./MURP/ M.Arch./ M.Des./MBA**
				Minimum course credit requirements for Double Degree (Two-degrees) Ph.D. and M.Tech./M.Sc./ MURP/M.Arch./M.Des./MBA program are given in Table 2. These course credit requirements also encompass the credit requirements for Ph.D. program candidacy.

Table 2: Minimum Course credit requirements for Double Degree (Two-degrees) Ph.D. and M.Tech./M.Sc./ MURP/M.Arch./M.Des./MBA program

SL.NO	Qualification	Credit Requirements
1	M. Tech., M. Arch./MURP, or equivalent, M.Sc/M.A./M.B.A. or equivalent, admitted to any one of the Engineering/ Science/HSS/Management, Departments/Centres/School	Minimum 40 credits of P.G. level theory courses
2	B.Tech or equivalent admitted to any one of the Science/ Engineering/HSS/ Management, Departments/ Centres/School	Minimum 50 credits of P.G. level theory courses.

Note:
   (a) All students need to earn 02 additional credits for Seminar.
   (b) Students can take at most ONE Self-study theory course/NPTEL course of PG level as approved by the SRC.

(3) **Course Credit Requirements: Candidates under Extensive Professional Experience (EPE) category**

The credit requirements will be applicable for EPE students as per their qualifying degree given in Table 3.

On the recommendation of the SRC, the candidate can complete the credit requirements in the form of Project for Professionals (08 credits)/ Thesis for Professionals (16 credits) and NPTEL PG courses and/or Self-study PG courses. The project/thesis credits can be completed across the semesters, within the stipulated period of candidacy. The seminar of 02 credits is essential. There is no minimum residency requirement for such students.

Table 3: Minimum Course credit requirements for candidacy to Ph.D. program under EPE Category

SL.NO	Qualification	Credit Requirements	Mode of Credit Completion
1	M. Tech., M. Arch./MURP, or equivalent admitted to any one of the Engineering/ Science/HSS/ Management, Departments/ Centres/School	Minimum 9 credits of P.G. level theory courses	In the form of Project for Professionals (08 credits) and remaining credits in the form of NPTEL PG courses and/or Self-study PG courses.
2	M.Sc/M.A./M.B.A. or equivalent, admitted to Science/HSS/ Management, Departments/ Centres/School	Minimum 12 credits of P.G. level theory courses	
3	M.Sc. or equivalent, admitted to any one of the Engineering, Departments/ Centres/School	Minimum 15 credits of P.G. level theory courses	
4	B.Tech or equivalent admitted to any one of the Science/Engineering/HSS/ Management, Departments/ Centres/School	Minimum 24 credits of P.G. level theory courses	In the form of Thesis for Professionals (16 credits) and remaining credits in the form of NPTEL PG courses and/or Self-study PG courses.

Note: All students need to earn 02 additional credits for Seminar.

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		(4)	**Minimum CGPA and Probation**
			Students shall register for all the courses recommended by the SRC and earn a minimum of 7.00 CGPA. Technical Communications, Communication skills, Language Courses and Project/Lab courses shall not be counted towards the minimum course credits and the calculation of CGPA. The candidate should secure an Audit Pass (AP) grade for an audit course.
			A candidate with less than 7.00 CGPA shall be allowed to take up more courses in the following semester while keeping the maximum duration for completing the candidacy requirements unchanged, and in this case, courses with best grades will be considered.
			Ph.D. students are allowed to take additional courses as audit/credit courses even after completion of the candidacy.
Relaxation in Course Credit Requirement	**R.5**	(1)	Students who have completed extra course credits in qualifying degree, as enumerated below can request for relaxation in course credits. The SRC may recommend such requests for the consideration of the DAA.
			(a) B.Tech. with Minor Specialization/Honours Courses
			Relaxation in course credit requirements, up to a **maximum of 6 credits**, may be considered for students who have completed B.Tech. degree with Minor Specialisation/Honours Courses. The SRC should examine the courses claimed as extra P.G. level credits with respect to the contact hours and content. Courses/credits earned during on job training shall not be considered for relaxation in course credit requirements.
			(b) Master's Degree
			Relaxation in course work requirement may be considered if a candidate registers for the Ph.D. program within two years from the completion of respective Master's Degree.
			(i) A Candidate who has completed the M.Tech./ IDD/M.Sc/M.Arch/MURP/MBA/IMS/IMT/ M.Des. program from IIT Roorkee can request for relaxation of a maximum of 9 credits of P.G. level courses earned during these programs (other

			than project, dissertation and labs) towards fulfilment of her/his course requirement for the Ph.D. program on the recommendation of the SRC and approval of the DAA, **provided these credits were in excess of the minimum requirement for the said degree.**
			(ii) On the recommendation of SRC, relaxation in course work may be admissible to a candidate who has completed Ph.D. course work from IISc/IISERs/IIMs, or other IITs with a CGPA 7.0 or more on a 10-point scale, provided the candidate is admitted to the Ph.D. program at IIT Roorkee within 18 months of completing such courses. Such candidate must complete 02 credits Seminar and Research Proposal for Candidacy at IIT Roorkee.
			(iii) On the recommendation of SRC, full exemption from course credits is admissible for candidates who have completed M.Tech./M.Arch./MURP/ M.Sc./MBA from IITs, IISc, IISERs, or IIMs with CGPA 8.50 or more on a 10 point scale and are admitted in the relevant stream or discipline.
Candidacy for Ph.D.	**R.6**	(1)	A student shall be admitted to candidacy for Ph.D. after the successful completion of the following: (a) Required course and seminar credits with a CGPA of at least 7.00 (b) Comprehensive examination with minimum 7.00 grade point (64 marks out of 100 marks) (c) Approval of the research proposal. The report on the candidacy will be communicated by the SRC to the DAA for consideration.
		(2)	**Comprehensive Examination** The comprehensive examination is designed to test the comprehension of student in the broad subject area of research. The syllabus for comprehensive examination shall be defined by the SRC. Departments/Centres/ Schools shall have clearly defined procedure regarding the format and evaluation of the comprehensive examination in respective specializations.

			Candidate can avail up to a maximum of two attempts to clear the comprehensive examination. However, the minimum duration between the two attempts should be at least one month.
		(3)	**Duration for completing Candidacy requirements** The maximum duration for completing candidacy requirements from the date of registration shall be as follows: Table 4: Maximum duration for completing candidacy

SL.NO	Qualification	Duration for Candidacy
1	M. Tech., M. Arch./MURP, or equivalent admitted to any one of the Science/Engineering/ HSS/Management, Departments/Centres/School	18 months
2	M.Sc/M.A./M.B.A. or equivalent, admitted to Science/HSS/Management, Departments/ Centres/School	18 months
3	B.Tech/M.Sc. or equivalent, admitted to any one of the Engineering, Departments/Centres/School	24 months
4	B.Tech or equivalent admitted to any one of the Science/ Engineering/HSS/ Management, Departments/ Centres/School	24 months

In case a student is unable to complete the candidacy requirement within the stipulated period, a three-month extension, on the recommendation of the SRC and DRC/CRC/ScRC, may be given by DAA and a further three-month extension may be given by IRC. **However, requests for such extensions must be submitted to the Academic Affairs Office at least ONE month in advance.**

Performance Monitoring	R.7	(1)	A Ph.D. student shall submit a progress report in every semester, and deliver a seminar once every year till the submission of the thesis. The annual seminar should include the work done so far and highlight the progress made in the one-year period since the last seminar. The SRC shall evaluate the progress and communicate it to the Academic Affairs Office.

			Performance of a student in each semester, after the candidacy is approved, shall be in terms of units.
			• If a Ph.D. student who has not completed candidacy requirements gets two consecutive unsatisfactory progress reports, his/her academic registration will stand cancelled.
			A warning will be issued to a student by the Academic Affairs Office after his/her first unsatisfactory progress report.
			• A full-time (part-time) Ph.D. student who has completed candidacy requirements shall register every semester for 6 units (resp. 4 units) for the thesis work to be evaluated by the supervisor(s). For each unit, the grade earned shall be either Satisfactory or Unsatisfactory.
			A warning will be issued by the Academic Affairs Office to the student if he/she accumulates 6 Unsatisfactory units.
			If a student accumulates 12 Unsatisfactory units, then his/her academic registration in the program will stand cancelled.
Submission of Thesis	R.8	(1)	**Thesis Submission** The thesis shall contain a critical account of the candidate's research. It should be characterized by discovery of facts or fresh approach towards interpretation of facts and theories or significant contribution to knowledge or development of innovative products and technologies or a combination of these. It should bear evidence of the candidate's capacity for analysis and judgment as well as his/her ability to carry out independent investigation, design or development. The student should have published (or, accepted for publication) at least two papers, out of which at least one paper from the thesis work should be in a peer reviewed journal of repute. A patent filed and published from the thesis work carried out during Ph.D. program should be considered equivalent to a published paper. In case the patent is published with a group of students, the first among them in order of authors shall be entitled to claim the credit.

If a researcher starts a scientific spin-off which is incubated at IIT Roorkee, he/she can take benefit of this start-up towards completion of Ph.D. requirements in the following way:

- The founder, through his/her SRC, will propose to form a committee to Dean SRIC for consideration through ADII, consisting of the SRC and two experts. The committee, as approved by the Dean, SRIC, will consider and submit its recommendations on submission of the Ph.D. thesis without research paper publications. The Dean, SRIC will consider the report of this committee on equivalence of research paper publications. The recommendations of the Dean, SRIC will be sent to DAA for consideration.

- In case two or more students, OR a student with a faculty jointly incubate a start-up, only one student, as recommended by the committee, shall be entitled to claim credit.

The thesis shall be written in English in the specified format. The specifications of the thesis are given in Appendix-A.

The supervisor(s) shall convene a meeting of the SRC when the research work is complete, the student has earned at least 24 Satisfactory units, and a draft of the thesis is ready.

The student shall submit a draft copy of the thesis to the SRC members at least 7 days prior to the scheduled Final SRC Meeting.

The student will present his/her research work to the SRC and if the SRC approves it for submission, the SRC will send its recommendation to the DAA along with a list of potential examiners.

The supervisor may check the availability of potential examiners before the SRC meeting and should take into consideration the following points while finalizing the panel of examiners:

			• Any person related to the candidate or supervisor(s) should not appear in the panel of examiners. • Any examiner on the panel should not be a co-author, collaborator, or co-supervisor of the student, and should be an established researcher. • The recommended panel of examiners would include a substantial representation from institutions across the globe. Any person working in the laboratory(ies)/institution(s) where the research scholar or co-supervisor(s) from outside the institution, if one, is employed, cannot however, appear in the panel of examiners. • The examiners on the panel should have a Ph.D. degree and should preferably be at the level of Professor/Associate Professor or equivalent. The student should submit the thesis within four months of the Final SRC meeting. However, in case a candidate fails to submit his/her thesis within the stipulated time and has an appropriate justification for the same, the DAA may, on the recommendations of the SRC and DRC/CRC/ScRC and, on individual merits of each case, grant him/her extension in time beyond four months. However, no further extension will be given beyond 8 months for the submission of thesis. The external examiner can participate in the viva-voce examination through a digital communication medium with the prior approval of the DAA.
		(2)	**Minimum Duration for Thesis Submission** The minimum working period for the submission of thesis for a full-time Ph.D. student is two years from the date of candidacy. For a part-time student the minimum working period for the submission of thesis shall be three years from the date of candidacy.
		(3)	**Maximum Duration for Thesis Submission** The maximum period for the submission of thesis shall be five years for full-time students, and six years for part- time students from the date of initial registration. If a student has converted his/her status from full-time to part-time before five years, the maximum duration for thesis submission shall be same as a part-time student.

			The DAA may extend this limit by six months on the recommendations of the SRC and DRC/CRC/ScRC. Further extension by six months may be considered by the IRC on the recommendations of the SRC and DRC/CRC/ScRC.
Evaluation and Defense of Thesis	**R.9**	(1)	The thesis shall be sent to three examiners for evaluation, and if any two out of three examiners recommend acceptance of the thesis, the student shall be asked to defend his/her thesis in front of the Oral Defense Committee (ODC).
			The ODC shall consist of the Head of the Department/Centre/School (or nominee), Chairperson SRC, the external examiner and supervisor(s).
			The DAA shall appoint one of the thesis examiners from which the reports have been received as External Examiner of the ODC. If the ODC for the oral defense of the thesis cannot be conducted within the stipulated time due to unavoidable circumstances, the DAA may appoint the Chairman of the SRC or another internal expert to conduct the defense. In such cases also, the Ph.D. work will be deemed to have been carried out under the guidance of the supervisor(s) only.
			Before the thesis defense, the student shall consider the comments of the examiners and submit a detailed response for the consideration of the ODC. In case major revisions are required, the revised thesis should be submitted within one year. The ODC shall communicate its recommendations to the DAA.
			Evaluation of a thesis shall be as per the rules in force at the time of the submission of the thesis.
			A candidate shall not be permitted to resubmit the thesis more than once.
Leave, Assistantship and Semester Withdrawal	**R.10**	(1)	**Leave**
			A full-time Ph.D. student should be present in the campus except when on authorized leave. He/she will be entitled to casual leave for 8 days, vacation leave for 15 days, and 15 days leave on medical grounds in an academic year. An academic year will be counted from the date of registration. Once during the entire program, the Head of the Department/Centre/School, on the recommendation of the thesis supervisor, may sanction additional leave of maximum 15 days. A

			student is entitled to Assistantship/Fellowship for the sanctioned leave period including periods of maternity leave (180 days) and paternity leave (15 days).
			The absence beyond the due leaves will be without Assistantship/Scholarship/Fellowship.
			On the recommendation of the Supervisor, duty leave up to a maximum of one year in the entire duration of the program may be granted by the Head of the Department/Centre/School for field trips, to visit other institutions, and to present paper(s) in Seminars/ Conferences/Workshops. Requests for duty leave for more than one year will be considered by the IRC.
			For Dual/Joint degree programs, leave rules will be as per the individual MoU.
			A proper leave account of each Ph.D. student/ candidate shall be maintained by the Department/ Centre/School concerned.
		(2)	**Assistantship** Assistantship/Fellowship shall be released by the Finance and Accounts Section on the recommendation of the Supervisor and Head of the Department/Centre/ School.
		(3)	**Semester Withdrawal** A student can seek withdrawal from a semester on medical grounds, or under exceptional conditions beyond her/his control. Request on medical ground shall be supported by documents issued by the Institute hospital, or issued by a certified medical practitioner and vetted by the Institute Chief Medical Officer. Such requests shall be considered by the DAA. A student may, temporarily, withdraw from his/her Ph.D. Program after the due recommendations of the SRC and DRC/CRC/ScRC, and approval of the DAA. Temporary withdrawal may be granted for up to one year (two semesters). Further extensions may be considered by the IRC on the recommendations of the SRC and DRC/CRC/ScRC. The period of temporary withdrawal will not be counted, when counting the number of semesters completed by the Ph.D. student in the program. Withdrawal will not be granted retrospectively.

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			Institute Assistantship shall not be given during the withdrawal period. However, the Institute Assistantship may be given for total number of 60 months (excluding the withdrawal period) or till the defense of the thesis, whichever is earlier.
Cancellation of Registration	R.11	(1)	Registration of a student may be cancelled if: (a) He/she is found to have falsified any document at any point of time; (b) He/she fails to register in a semester; (c) He/she fails to meet the minimum required academic performance; (d) He/she is found to be involved in an act of misconduct.
Unfair means and Plagiarism	R.12	(1)	(a) All Ph.D. thesis should go through a similarity check using appropriate software. With the help of supervisor, the candidates should address the similarities flagged by the software which merit corrective action. (b) The guidelines as shown in Appendix-B shall be applicable for checking plagiarism. (c) In case a student is found adopting or suspected of adopting unfair means before, during and after the examination or lifting of some other's work(s) and inserting it in his/her project, seminar and Thesis etc., without proper acknowledgment, credit and reference or plagiarizing the Thesis/project report etc., such penal action shall be taken by the Institute as may be necessary to uphold the sanctity and integrity of the examination system and the credibility of the Institute. (d) All such cases may be taken suo-moto cognizance of by the Institute Standing Committee (ISC) appointed by the Senate for this purpose. Such cases may also be reported by examiners/ invigilators/supervisor(s)/Chairman, DRC/CRC/ ScRC or any individual to Dean of Academic Affairs and/or the Institute Standing Committee for consideration. General instructions for penal action for use of unfair means and plagiarism are given in Apendix-C. After giving an opportunity to the concerned student(s) to explain the conduct or defend against the charge, the Chairman, Senate

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			on the recommendation of Institute Standing Committee shall take action and impose appropriate penalty on the concerned research student(s), including cancellation of registration or award of F Grade in the concerned course(s) etc.
			(e) Any case pertaining to purported resorting to unfair means/plagiarism before and after the examination/Dissertation etc. shall be dealt with by the Institute Standing Committee for dealing with the offence/case.
			The penalty in such cases of unfair means/ plagiarism which have been found to be true and
			(i) Which have occurred before or after the examination, or partly before and during or during and after the examination.
			(ii) Which have been detected after the examination/declaration of the result/award of the degree.
			(iii) Which have been reported or detected after a research paper research report/note/ communication has been published in a Research Journal/widely circulated magazine /proceedings of conferences/seminar or a monograph or a book, and or any electronic device, shall be recommended by the appropriate committees of the Department/ Institute Standing Committee, as the case may be. The imposition of any such penalty shall be at the discretion of the Director, who, after considering the full facts and the report on the matter (i) may impose the same penalty, (ii) may reduce the penalty, or (iii) may enhance the penalty as recommended by the committee.
Excellence in Doctoral Research Award	R.13	(1)	This award is to recognize and honour the outstanding Ph.D. work by the graduating students. This award is given to a maximum of five students each year and carries a cash prize of Rs. 50,000/- and a citation for each awardee.
			Out of the maximum five awards, one award will be given as Dr. Sushil Sharma Excellence in Doctoral Research Award, preferably in the area of Physics.
			The eligibility and selection process for these awards will be according to the criteria laid down by the Institute.

SPECIFICATIONS FOR THESIS

1. The thesis shall be typed or printed on 21cm x 28cm size paper 100 gsm. No handwritten thesis will be accepted.

2. The thesis shall be typed on both side with 1.5 spacing with a margin of 3.5 cm on the left 2.5 cm on the top and 1.25 cm on the right and bottom.

3. The thesis must contain the following copyright certificate in the beginning of the thesis, on a separate page on the left side:

   © **INDIAN INSTITUTE OF TECHNOLOGY ROORKEE, 20_   ALL RIGHTS RESERVED**

4. Thesis Title must be in Capital words: Font size 12 (Bold) Times New Roman (As per the specified format).

5. The title page of the thesis must include the student's name and enrollment number, formatted as per the prescribed guidelines. The remaining sections of the thesis should follow the sequence outlined below:

   - The declaration by the candidate and the supervisor(s).
   - Abstract of the thesis not exceeding 1500 words.
   - Acknowledgement
   - List of abbreviations (if any)
   - Table of contents
   - List of Figures and Tables (if any)
   - Chapters of the Thesis
   - References
   - Appendix (if any)

6. The list of references should preferably be in alphabetic order of the authors' names. These references should be listed giving (i) the author's name and his initials (ii) the title of the paper and the name of the journal (iii) the name of the book and the publisher (iv) the number of volume, page numbers and the year of publication. Standard abbreviations may be used in the names of the journals.

7. The diagrams should be legible and printed on a light background. Tabular matter should be clearly arranged. Decimal points may be indicated by a full-stop.

8. The thesis shall be spiral bound at the time of initial submission.

9. After the viva-voce examination the thesis shall be submitted in hard bound. The thesis shall be bound in card sheet paper of 18.6 kg. ream weight of cover page with soft binding (size 22 cm x 29 cm) in green colour. The name of the candidate, the degree and the year shall be printed in bold on the cover and in gold on the bound edge (As per the specified format).

Note: Soft copy of the thesis on AIS Portal should also be submitted after final viva-v examination.

GUIDELINES FOR CHECKING PLAGIARISM

1. **Exclusion of material while checking**

   (a) All quoted material.

   (b) Matches up to 20 words.

   (c) All material (e.g. figures/images and tables) used with the permission of the original source.

   (d) Material published by students from the thesis/dissertation.

   (e) Bibilography.

2. **Acceptance Levels**

   (a) Introduction and Literature review portion: commonality up to 20% may be accepted.

   (b) Remaining material (e.g. Methodology, Results, Discussion, Conclusion and future research): commonality up to 10% may be accepted.

   (c) Overall similarity index should normally not exceed 20%.

INSTRUCTION FOR PENALTY FOR USE OF UNFAIR MEANS

1. Reporting and Handling of Unfair Means Cases

(a) Any contravention of the instructions printed on the cover page of the answer book or informed in the examination hall by the invigilators or the use of any unfair means to write the answer will render the student liable for penal provisions.

(b) In case of unfair means being suspected by the invigilator, the reporting to the Dean of Academic Affairs will be carried out as per form UF-0 and the student will be allowed to complete the examination in the same answer script. Marking may be made in the answer script up to which the student has already written the answers when use of unfair means was reported.

(c) A Committee appointed by the Director shall enquire into cases of reported use of unfair means during the examination. The student will be given an opportunity to present his/her case before the committee. The committee shall decide the level of the offence (as per the Table) and submit its recommendation to the Director for consideration.

2. Penal Provisions for Using Unfair Means

Severity of Offence	Details	Offence	
Level 1	During the examination, if a student is found verbally communicating with another student inside or outside the examination hall.	If the student continues to talk after the first warning given by the faculty / invigilator in the same examination, the student may be stopped from writing for 15 minutes per offence by taking the answer sheet. If the student repeats it more than three times, then the answer sheet be taken and the student be asked to leave the examination.	
Level 2	(a) A student is found carrying prohibited item(s). * Or found transferring matter from any source	**Offence-I** Zero marks to be awarded to the student in the concerned course component examination	**Offence-II** If a student is caught carrying prohibited items repeatedly during any of the examination in a semester, then the student be given a course backlog in all the exams in which the student was caught carrying such items.
	(b) Answer Script carried out of the examination room during or after the examination.	Backlog to be awarded in that course.	Semester Backlog i.e. the running semester will be dropped if the student repeats it in the examination of other courses too.
Level 3	Impersonation (Identity Mismatched)	• Semester Backlog in the running semester for both students. • If the impersonating student is not a student of the Institute, than an FIR may be lodged.	Expulsion from the Institute.

❖ Prohibited items include chits, electronic gadgets like tablets, mobile phones, smartwatches, earbuds, etc. (Not applicable to the exams conducted as Computer Based Test, subjective Communicated to DAA).

❖ If mobile phone of a student is found in the premises of Lecture Hall Complex, it will be treated as Unfair means offence of Level-2.

  • Cases not covered above to be dealt by the Standing Committee of Unfair Means.
  • The severity of the offence (Level 2 or 3) will be decided by the committee based on the facts available.

Note: If the student repeats the offence beyond the 2nd offence the case would be considered under the offence of immediate next level. The levels are:

Actions during the Examination	Actions after the Examination
• Barring student to write for 15 minutes • Asking student to leave the examination room	• Zero marks awarded in the concerned examination • Backlog in the concerned course • Backlog in the ongoing semester • Expulsion from the Institute

UNFAIR MEANS USAGE REPORTING FORM
INDIAN INSTITUTE OF ROORKEE

PART - A
(To be filled by the Invigilator)

Note: A separate sheet should be used for each student.

1. Examination: **MTE / ETE / PRS** (strike through whichever is not applicable)
2. Enrolment No. of the student..
3. Name of the student ....
4. Course Code .... Course Name ....
5. Day.......................Date....................Time.................Location...................
6. Student is caught under Level:
   ☐ Level I: During the duration of examination, if a student is found verbally communicating with another student inside or outside the examination hall.
   ☐ Level II: a) A student is found carrying prohibited item(s).
   ☐ Level II: b) Answer Script carried out of the examination room during or after the examination.
   Level III: Impersonation (Identity mismatched)
7. Proof attached along with brief description:
   ....
   ....
   ....
   ....

Date .... (Signature of the (Signature of the Invigilator-
Time .... Invigilator-I) II/witness)
Name of the invigilator-I Name of the invigilator-II/witness

_____

PART - B
(To be filled by the student after the submission of the answer script at the end of the examination)

1. Response of the student:
   ....
   ....
   ....

Date................... (Signature of the student) (Signature of the
Time.................... Enrolment No.: Invigilator)

Academic Journey of a Ph.D. Scholar at IIT Roorkee: A Snapshot

Admission, Academic Registration and Fee Payments

↓

Finalization of Supervisor and SRC Formation

↓

Complete the Course Credit Requirements

↓

Complete the Candidacy
(By successfully completing the Comprehensive Examination and Research Proposal)

↓

Final SRC Meeting
(Synopsis Submission)

↓

Thesis Submission
(Within Four Months of Synopsis Submission)

↓

Thesis Evaluation

↓

Viva Voce
(Successful Defense of the Thesis)

↓

Award of the Degree at Convocation

Semester wise Academic Registration and Fee Payments

(From the Date of Admission to the program to Thesis Submission)

Annual Progress Seminar

(From the Date of Admission to the program to Synopsis Submission)

Activities at Academic Affairs Office Level

Activities at Department Level

For more details, please refer to the Ph.D. Ordinance and Regulations

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Item No.105.9: **To consider the general guidelines for Implementation and Evaluation of following:**

(i) Community Outreach (CORE) course;
(ii) Participation in Professional Development Programs by industry/field experts (PPD-1 and PPD-2) Non-Credit Element, under new UG program.

IIT Roorkee has introduced a new curriculum for its undergraduate programmes w.e.f. Academic Year 2023-24. Under this curriculum, the Community Outreach (CORE) course, designated as XXC-399, is offered across both semesters of the 3rd year in UG programs and carries 2 credits. This is a field-work based course (community immersion/ helping community through understanding and solving local problems) with an objective to provide/ create opportunities for the students to work with the society in the form of a community development project/ rural upliftment of the underprivileged, etc.

Participation in Professional Development Programs (PPD) is a mandatory non-credit component in the 2nd and 3rd year of UG programs. The Participation in Professional Development Programs (PPD) component aims to enhance students' career readiness, leadership, and industry exposure. It fosters skill development, networking, and lifelong learning through workshops, seminars, and industry interactions. This mandatory non-credit component ensures students gain practical insights, improving their professional competence and employability.

The IAPC, in its 151st meeting held on 23.04.2025, recommended the general guidelines with modification for implementation and evaluation of the following:

a) Community Outreach (CORE) course;

b) Participation in Professional Development Programs by industry/field experts (PPD-1 and PPD-2) Non-Credit Element, under the new UG program.

The modified guidelines are attached as **Appendix-A** and **Appendix-B**, respectively.

The above is submitted for the consideration and approval of the Senate.

General guidelines for Implementation and Evaluation of Course:

Community Outreach (CORE)

The course, designated as XXC-399, is offered across both semesters of the 3rd year in UG programs and carries 2 credits.

Scope and Objectives: It's a field-work based course (community immersion/helping community through understanding and solving local problems) with an objective to provide/create opportunities for the students to work with the society in the form of community development project/rural upliftment of the underprivileged etc.

Implementation: Departments are to identify potential societal problems related to their domains/area of expertise. This may also be done in association with NGOs, local government bodies, boot camps etc. Students be encouraged to use non-teaching days for the work. Minimum 14 hours of engagements shall be considered equivalent to one (1) credit. Students can be evaluated based on their contributions in the community projects through demonstration, exhibit, presentation of the output etc.

Evaluation:

o The Department shall appoint a faculty, who will act as the Course Coordinator. The Department shall also appoint an evaluation committee to assist the Course Coordinator in evaluation.

o The evaluation may involve report submission/ presentation/ oral viva-voce/ demonstration of working model etc.

o The Course Coordinator will submit the grades through AIS portal.

o The grading for the course shall be as per the grading criteria for practical/project/ seminar courses.

o Evaluation should be carried out by the evaluation committee/ course coordinator (to be decided by the Department) within the last date for the evaluation of Project/Thesis/Seminar for all programs as notified in the Academic Calendar.

Administrative Support:

o The departments may be sanctioned INR 3000/- per student, towards meeting the expenditures related to field visits/boot camp etc.t, if required.

o The geographical limits will be Haridwar and Dehradun district. However, if a student wishes to take up any project at his/her hometown, it may be allowed without any travel assistance and academic leave.

****

General guidelines for Implementation and Evaluation of Non-credit element:

Participation in Professional Development Programs by industry/field experts (PPD-1 and PPD-2)

Participation in Professional Development Programs (PPD) is a mandatory non-credit component in the 2nd and 3rd year of UG programs.

Scope and Objectives: The Participation in Professional Development Programs (PPD) component aims to enhance students' career readiness, leadership, and industry exposure. It fosters skill development, networking, and lifelong learning through workshops, seminars, and industry interactions. This mandatory non-credit component ensures students gain practical insights, improving their professional competence and employability.

Implementation: The following activities can be included for evaluation.

- Participation in Workshops, Seminars, & Conferences (excluding cultural).
- Successful completion of Technical & Soft Skills Courses.
- Participation and achievement in national/international Events/Hackathons/ Competitions etc.

Note: Students should ensure to attend above events on the days other than ETE/MTE. Exemption/permission will not be given to attend these activities during ETE/MTE.

Evaluation:
Departments are to identify potential activities of their domains/expertise etc., and based on participation, engagement level, and learning outcomes can be used to assess students effectively.

- o The Department shall appoint a faculty, who will act as the Course Coordinator. The Department shall also appoint an evaluation committee to assist the Course Coordinator in evaluation.

- o The Course Coordinator will submit satisfactory units (on 0-2 scale) through AIS portal.

****

Item No.105.10: **To consider the general guidelines for the Implementation and Evaluation of the Course, Internship Social Activity (ISA).**

IIT Roorkee has introduced a new curriculum for its postgraduate programmes w.e.f. Academic Year 2024-25. Under this curriculum, the Internship Social Activity (ISA) course, designated as XXC-691, is offered across the Autumn semester of the 2nd year in PG programs and carries 3-5 credits as specified in the respective programme structures.

The objective is to develop social responsibility, practical problem-solving skills, and community engagement among students through experiential learning, and real-world impact in societal development.

The course has two distinct components:

(a) Internship or Social Activity Engagement – minimum 2 credits
(b) Industry-academia interaction (IAI)   – minimum 1 credit

The IAPC, in its 151st meeting held on 23.04.2025, recommended the general guidelines for implementation and evaluation of the Course, Internship Social Activity (ISA) with modifications. The modified guidelines are attached as **Appendix-A.**

The above is submitted for the consideration and approval of the Senate.

General guidelines for Implementation and Evaluation of Course:

Internship Social Activity (ISA)

The course, designated as XXC-691, is offered across the Autumn semester of the 2nd year in PG programs and carries 3-5 credits as specified in respective programme structures.

Scope and Objectives: The objective is to develop social responsibility, practical problem-solving skills, and community engagement among students through experiential learning, and real-world impact in societal development. The course has two distinct components:

(a) Internship or Social Activity Engagement – minimum 2 credits

  o The objective of this basket is to provide/create opportunities for students to work with the society/industry/external laboratories/institutes of global repute. 2-4 credits be earned via an internship or social activity engagement. A two-weeks internship/social activity engagement will yield in 1 credit. Students may take up capstone projects with an industry to engage in real-time project execution.

(b) Industry-academia interaction (IAI) – minimum 1 credit

  o One (1) credit be mandatorily earned via IAI (industry-academia interaction) modules. These modules will require 14 hours of interaction with industry, which may be in the form of attending technical workshops and/or expert lectures being held in the institute. Such modules will be approved by respective DAPC/CAPC/SAPC.

Implementation: Departments are to identify potential societal/industry problems related to their domains/area of expertise. Students can work for society in the form of community development projects/teaching/rural upliftment of the underprivileged etc. This may also be done in association with NGOs, local government bodies, boot camps, etc. Students be encouraged to work with the leading industries/research laboratories/ institutes and learn practical aspects of their area of interest/research work. Students can be evaluated based on their contributions in the community projects through demonstration, exhibit, presentation of the output etc.

Note: Part-time students can do internship on site in consultation/prior approval by the supervisor/department.

Evaluation:

  o The Department shall appoint a faculty, who will act as the Course Coordinator. The Department shall also appoint an evaluation committee to assist the Course Coordinator in evaluation.

  o The evaluation may involve report submission/ presentation/ oral viva-voce/ demonstration of working model etc.

  o The Course Coordinator will submit the grades through AIS portal.

  o The grading for the course shall be as per the grading criteria for practical/project/ seminar courses.

  o Evaluation should be carried out by the evaluation committee within the last date for the evaluation of Project/Thesis/Seminar for all programs as notified in the Academic Calendar.

****

Item No.105.11: **To consider the issue of Open Elective Courses.**

The Institute has implemented the revised UG Curriculum w.e.f. Academic year 2023-24. Under the revised structure, the range of Open Elective Courses (OECs) in each programme has been fixed as 9-12 credits, effectively meaning that a student must study at least 3 OECs in his/her entire programme duration.

These three OECs are to be taken during the following semesters:
- 2nd Year Autumn
- 2nd Year Spring
- 3rd Year Autumn

Consequently, the approximate number of seats to be offered to undergraduate students is as follows:
- Every Autumn Semester: 2,800 seats
- Every Spring Semester: 1,400 seats

The Academic Affairs Office (AAO) has been consistently sensitizing the Departments/Centres/Schools about this requirement. However, an appropriate and adequate response has not been received, making it increasingly difficult for the AAO to meet the requirement.

It is therefore proposed that each Department/ Centre/ School must:
- Offer at least two OECs in the Autumn semester, and
- At least one OEC in the Spring semester,
- With a minimum class size of 80 students per course.

The Departments/Centres/Schools are requested to factor in this requirement while preparing the teaching load.

The IAPC, in its 151st meeting held on 23.04.2025, recommended the proposal.

The above is submitted for the consideration and approval of the Senate.

Item No.105.12: **To consider the revision in the department program structures as per the new PG Curriculum.**

The Senate, in its 100th and 101st meetings held on 06.03.2024 and 29.05.2024 respectively, had approved the PG programme structures of the following Departments/Centres. The Departments/Centres have submitted minor revisions to the respective structures, as detailed below:

a) M.Sc. Physics (Appendix-A)

- Reshuffling of existing PCCs
- PHC-529, presently in 1st semester, moved to 3rd semester.
- PHC-539, presently in 2nd semester, moved to 1st semester.
- PHC-547, presently in 3rd semester, moved to 2nd semester.

b) M.Tech. Dam Safety and Rehabilitation (Appendix-B)

- Shifting of PCC (DSC-505: Seepage through Dams) to PEC.
- Renaming of DSC-507 and coded as DSC-511.
- Shifting of PEC (DSL-507: Hydraulic Design of Spillways and Energy Dissipators) to PCC (DSC-513).
- Shifting of SSC (DSS-501: Sustainable Tourism around Dams) to PEC (DSL-513).

c) M.Tech. Transportation Systems Management (Appendix-C)

- In 1st semester, 04 PCCs has been renamed.
- Shifting of PCC (TSC-509: Transportation Planning and Management Studio) to PEC.
- Shifting of PEC (TSL-501: Public Transport Operations and Management) to PCC.
- Renaming/change in credits (LTP) of few PECs.

d) M.Tech. (Irrigation Water Management) (Appendix-D)

- Change in credits of PCCs 'On Farm Development' and 'Principles and Practices of Irrigation' from 4 to 3.
- Shifting of 01 PEC from 2nd semester to 1st semester.
- Separate PEC baskets introduced for 1st and 2nd semester.
- Credits of all PECs changed from for 4 to 3.

e) M.Tech. (Water Resources Development) (Appendix-E)

- Change in credits of PCC 'Applied Hydrology' from 4 to 3.
- Renaming and change in credits (LTP) of the existing PCC 'Design of Hydro Mechanical Equipment'.
- Shifting of 01 PEC from 2nd semester to 1st semester.
- Separate PEC baskets introduced for 1st and 2nd semester.
- Credits of all PECs changed from for 4 to 3.

f) M.Tech. (Drinking Water and Sanitation) (Appendix-F)

- Renaming/change in credits of existing PCC 'Water Resources Planning and Management'.
- Shifting of 01 PEC from 2nd semester to 1st semester.
- Separate PEC baskets introduced for 1st and 2nd semester.
- Credits of all PECs changed from for 4 to 3.

The IAPC, in its 151st and 152nd meetings held on 23.04.2025 and 11.06.2025 respectively, recommended the proposal.

The above is submitted for the consideration and approval of the Senate.

2025-26 onwards

DEPARTMENT OF PHYSICS
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : XXX M.Sc. (Physics)
Department : Department of Physics
Year : I
Model : 1-A

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
		Semester-I (Autumn)							
1.	PHC-521	Quantum Mechanics-I	PCC	4	3	1	0	3	0
2.	PHC-523	Advanced Mathematical Physics	PCC	4	3	1	0	3	0
3.	PHC-525	Classical Electrodynamics	PCC	4	3	1	0	3	0
4.	PHC-527	Classical Mechanics	PCC	4	3	1	0	3	0
5.	PHC-539	Physics of Earth's Atmosphere	PCC	2	2	0	0	2	0
6.		Social Science Course	SSC	2	-	-	-	-	-
		Total		**20**					
		Semester-II (Spring)							
1.	PHC-531	Condensed Matter Physics	PPI	3	3	0	0	3	0
2.	PHC-533	Statistical Mechanics	PPI	3	3	0	0	3	0
3.	PHC-535	Laboratory Work	PPI	3	0	0	6	0	4
4.	PHC-537	Elements of Nuclear and Particle Physics	PPI	3	3	0	0	3	0
5.	PHC-547	Quantum Mechanics-II	PPI	3	3	0	0	3	0
6.		Science, Technology, and Advanced Research-tools	STAR	3	-	-	-	-	-
7.	PHC-700	Seminar	SEM	2	-	-	-	-	-
		Total		**20**					

DEPARTMENT OF PHYSICS
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : **XXX M.Sc. (Physics)**
Department : **Department of Physics**
Year : **II**
Model : **1-A**

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
		Semester-I (Autumn)							
1.	PHC-691	Internship Social Activity	ISA	3	-	-	-	-	-
2.	PHC-529	Atomic, Molecular and Laser Physics	PPI	3	3	0	0	3	0
3.	PHC-543	Computational Physics	PPI	3	2	0	2	3	0
4.	PHC-545	Semiconductor Devices and Applications	PPI	3	3	0	0	3	0
5.		Program Elective-I	PPI	4	-	-	-	-	-
6.		Program Elective-II	PPI	3	-	-	-	-	-
7.	PHC-601	Project-I	PROJECT	2	-	-	-	-	-
		Total		**21**					
		Semester-II (Spring)							
1.		Program Elective-III	PEC	4	-	-	-	-	-
2.		Program Elective-IV	PEC	4	-	-	-	-	-
3.	PHC-602	Project-II	PROJECT	9	-	-	-	-	-
		Total		**17**					

Summary				
Semester	1	2	3	4
Semester-wise Total Credits	20	20	21	17
Total Credits	**78**			

M.Sc. (Physics)

Program Elective Courses

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week L	T	P	Exam Duration Theory	Practical
1.	PHL-502	Physics of Nanosystems	PEC	4	3	1	0	3	0
2.	PHL-504	Fiber and Nonlinear Optics	PEC	4	3	1	0	3	0
3.	PHL-505	Quantum Optics	PEC	4	3	1	0	3	0
4.	PHL-508	Introduction to Superstring Theory	PEC	4	3	1	0	3	0
5.	PHL-510	Advanced Characterization Techniques	PEC	4	3	1	0	3	0
6.	PHL-511	Atomic and Molecular Collision Physics	PEC	4	3	1	0	3	0
7.	PHL-513	Astrophysics	PEC	4	3	1	0	3	0
8.	PHL-514	Solar-Terrestrial Physics	PEC	4	3	1	0	3	0
9.	PHL-515	General Relativity	PEC	4	3	1	0	3	0
10.	PHL-516	Computational Nuclear Physics	PEC	4	3	1	0	3	0
11.	PHL-517	Particle Physics	PEC	4	3	1	0	3	0
12.	PHL-521	Weather Forecasting	PEC	4	3	1	0	3	0
13.	PHL-522	Nuclear Instrumentation	PEC	4	3	1	0	3	0
14.	PHL-523	Physics and Technology of Thin Films	PEC	4	3	1	0	3	0
15.	PHL-524	Advanced Nuclear Reactions	PEC	4	3	1	0	3	0
16.	PHL-525	Semiconductor Photonics	PEC	4	3	1	0	3	0
17.	PHL-526	Advanced Light Sources	PEC	4	3	1	0	3	0
18.	PHL-527	Superconducting Radio Frequency for Particle Accelerators	PEC	4	3	1	0	3	0
19.	PHL-528	Advanced Condensed Matter Physics	PEC	4	3	0	3	3	0
20.	PHL-529	Advanced Atmospheric Physics	PEC	4	3	0	3	3	0
21.	PHL-530	Advanced Laser Physics	PEC	4	3	0	3	3	0
22.	PHL-531	Advanced Nuclear Physics	PEC	4	3	0	3	3	0
23.	PHL-532	Advanced Quantum Field Theory	PEC	4	3	1	0	3	0
24.	PHL-533	Quantum Computing for Many Body Systems	PEC	4	3	1	0	3	0

M.Sc. (Physics)

Program Elective Courses

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
25.	PHL-534	Nuclear Astrophysics	PEC	3	3	0	0	3	0
26.	PHL-535	Superfluidity and Superconductivity	PEC	3	3	0	0	3	0
27.	PHL-536	Advanced Topics in Mathematical Physics	PEC	3	3	0	0	3	0
28.	PHL-537	Advanced Electroceramics Technology	PEC	3	3	0	0	3	0
29.	PHL-538	A Primer in Quantum Field Theory	PEC	3	3	0	0	3	0
30.	PHL-539	Advanced Atomic and Molecular Physics	PEC	3	3	0	0	3	0
31.	PHL-540	Quantum Theory of Solids	PEC	3	3	0	0	3	0

Science, Technology, and Advanced Research-tools Basket

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	PHT-501	Advanced Materials for Energy Harvesting and Storage	STAR	3	3	0	0	3	0
2.	PHT-502	Functional Materials	STAR	3	3	0	0	3	0
3.	PHT-503	Fundamentals of Nanoscience and Technology	STAR	3	3	0	0	3	0
4.	PHT-504	Computational Science with Python	STAR	3	2	0	2	3	0
5.	PHT-505	Quantum Simulations	STAR	3	2	0	2	3	0
6.	PHT-506	Superconducting Qubits-based Quantum Computing	STAR	3	3	0	0	3	0

INTERNATIONAL CENTRE OF EXCELLENCE FOR DAMS
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : XXX M.Tech. (Dam Safety and Rehabilitation)
Department : International Centre of Excellence for Dams
Year : I
Model : 2

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
		Semester-I (Autumn)							
1.	DSC-501	Hydrologic Safety Evaluation of Dams	PCC	3	2	1	0	0	0
2.	DSC-503	Reservoir Sedimentation and Silt Management	PCC	3	2	0	2	0	0
3.	DSC-509	Seismic Hazard Assessment for Dams	PCC	3	2	0	2	0	0
4.	DSC-511	Rock Mechanics and Dam Foundation Engineering	PCC	3	2	0	2	0	0
5.	DSC-513	Hydraulic Design of Spillways and Energy Dissipators	PCC	3	2	0	2	3	0
6.		Program Elective-I	PEC	3	-	-	-	-	-
7.		Social Science Course	SSC	2	-	-	-	-	-
		Total		**20**					
		Semester-II (Spring)							
1.		Program Elective-II	PEC	3	-	-	-	-	-
2.		Program Elective-III	PEC	3	-	-	-	-	-
3.		Program Elective-IV	PEC	3	-	-	-	-	-
4.		Program Elective-V	PEC	3	-	-	-	-	-
5.		Science, Technology, and Advanced Research-tools	STAR	3	-	-	-	-	-
6.	DSC-700	Seminar	SEM	2	-	-	-	-	-
		Total		**17**					

Program Code : **XXX   M.Tech. (Dam Safety and Rehabilitation)**
Department : **International Centre of Excellence for Dams**
Year : **II**
Model : **2**

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
		Semester-I (Autumn)							
1.	DSC-691	Internship Social Activity	ISA	5	-	-	-	-	-
2.	DSC-701A	Thesis Stage-I	THESIS	10	-	-	-	-	-
		Total		**15**					
		Semester-II (Spring)							
1.	DSC-701B	Thesis Stage-II	THESIS	14	-	-	-	-	-
		Total		**14**					

Summary				
Semester	**1**	**2**	**3**	**4**
Semester-wise Total Credits	20	17	15	14
Total Credits		**66**		

M.Tech. (Dam Safety and Rehabilitation)

<u>**Program Elective Courses**</u>

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week L	T	P	Exam Duration Theory	Practical
1.	DSL-501	Assessing and Managing Risks Associated with Dams	PEC	3	2	1	0	3	0
2.	DSL-502	Disaster Management and EAPs for Dams	PEC	3	2	0	2	3	0
3.	DSL-503	Dam Safety Surveillance, Instrumentation and Monitoring	PEC	3	2	1	0	3	0
4.	DSL-504	Environmental Monitoring and Impact Assessment of Dams	PEC	3	2	0	2	3	0
5.	DSL-505	Earthquake Geotechnical Engineering	PEC	3	2	0	2	3	0
6.	DSL-506	Geospatial Techniques for Monitoring of Dams	PEC	3	2	0	2	3	0
7.	DSL-508	Contract and Financial Management	PEC	3	2	1	0	3	0
8.	DSL-509	Seismic Safety Evaluation of Dams	PEC	3	2	0	2	3	0
9.	DSL-510	Planning and Design of Hydro-Mechanical Components in Dams	PEC	3	2	1	0	3	0
10.	DSL-511	Ground Improvement and Geo-synthetics	PEC	3	2	0	2	3	0
11.	DSL-512	Sustainable Tourism around Dams	PEC	3	2	1	0	3	0
12.	DSL-513	Seepage through Dams	PEC	3	2	0	2	3	0

M.Tech. (Dam Safety and Rehabilitation)

Science, Technology, and Advanced Research-tools Basket

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	DST-501	Analysis of Dam Instrumentation Data	STAR	3	2	1	0	3	0

Social Sciences Course Basket

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	DSS-502	Stakeholder Management of Dams and Large Infrastructure Projects	SSC	2	1	1	0	0	0

Appendix-A

CENTRE FOR TRANSPORTATION SYSTEMS
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : XXX   M.Tech. (Transportation Systems Management)
Department : Centre for Transportation Systems
Year : I
Model : 2

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week L	T	P	Exam Duration Theory	Practical
		Semester-I (Autumn)							
1.	TSC-502	Transport Policy & Planning	PCC	3	2	1	0	3	0
2.	TSC-504	Data Analytics for Transportation Systems	PCC	3	2	0	2	3	0
3.	TSC-506	Traffic Flow Analysis and Management	PCC	3	2	1	0	3	0
4.	TSC-508	Sustainable Mobility and Health	PCC	3	2	1	0	3	0
5.	TSC-510	Public Transport Operations and Management	PCC	3	2	1	0	3	0
7.		Social Science Course	SSC	2	-	-	-	-	-
		Total		**17**					
		Semester-II (Spring)							
1.		Program Elective-I	PEC	3	-	-	-	-	-
2.		Program Elective-II	PEC	3	-	-	-	-	-
3.		Program Elective-III	PEC	3	-	-	-	-	-
4.		Program Elective-IV	PEC	3	-	-	-	-	-
5.		Program Elective-V	PEC	3/4	-	-	-	-	-
6.		Science, Technology, and Advanced Research-tools	STAR	3	-	-	-	-	-
7.	TSC-700	Seminar	SEM	2	-	-	-	-	-
		Total		**20/21**					

CENTRE FOR TRANSPORTATION SYSTEMS
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : **XXX M.Tech. (Transportation Systems Management)**
Department : **Centre for Transportation Systems**
Year : **II**
Model : **2**

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
		Semester-I (Autumn)							
1.	TSC-691	Internship Social Activity	ISA	3	-	-	-	-	-
2.	TSC-701A	Thesis Stage-I	THESIS	10	-	-	-	-	-
		Total		**13**					
		Semester-II (Spring)							
1.	TSC-701B	Thesis Stage-II	THESIS	14	-	-	-	-	-
		Total		**14**					

Summary

Semester	1	2	3	4
Semester-wise Total Credits	17	20/21	13	14
Total Credits	**64/65**			

M.Tech. (Transportation Systems Management)

Program Elective Courses

S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical
1.	TSL-502	Freight Transportation Planning and Management	PEC	3	2	1	0	3	0
2.	TSL-504	Management of Transportation Projects	PEC	3	2	1	0	3	0
3.	TSL-508	Design of Inclusive Urban Transport	PEC	3	2	1	0	3	0
4.	TSL-510	Ropeway Infrastructure Planning and Design	PEC	3	2	1	0	3	0
5.	TSL-511	Multimodal Transportation	PEC	3	2	1	0	3	0
6.	TSL-512	Inland Navigation and Water Transport	PEC	3	2	1	0	3	0
7.	TSL-514	Airport Planning and Design	PEC	3	2	1	0	3	0
8.	TSL-516	Transport Economics	PEC	3	2	1	0	3	0
9.	TSL-518	Transportation Planning and Management Studio	PEC	4	0	0	8	0	0
10.	TSL-519	Geographical Information System (GIS) Applications in Transportation Systems	PEC	3	2	0	2	3	0
11.	TSL-520	Advanced Data Analytics for Transportation Systems	PEC	3	2	1	0	3	0
12.	TSL-521	Planning and Management for Active Transport	PEC	3	2	1	0	3	0
13.	TSL-522	Optimization Techniques for Transportation Systems	PEC	3	2	1	0	3	0
14.	TSL-523	Intelligent Transportation System	PEC	3	2	1	0	3	0
15.	TSL-524	Transport Infrastructure Design	PEC	3	2	1	0	3	0
16.	TSL-525	Road Traffic Safety and Management	PEC	3	2	0	2	3	0
17.	TSL-526	Electric Mobility Planning & Design	PEC	3	2	1	0	3	0
18.	TSL-527	AI / ML for Transportation Systems	PEC	3	2	1	0	3	0

Note: Students should opt for PECs in such a way that they earn 03 credits from practical components in the entire programme.

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M.Tech. (Transportation Systems Management)

<u>**Science, Technology, and Advanced Research-tools Basket**</u>

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	TST-501	Sustainable Transportation Systems	STAR	3	2	1	0	3	0

Appendix-B

DEPARTMENT OF WATER RESOURCES DEVELOPMENT AND MANAGEMENT
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code	: XXX **M.Tech. (Irrigation Water Management)/P.G. Diploma in Irrigation Water Management**
Department	: **Department of Water Resources Development and Management**
Year	: **I**
Model	: **2**

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
		Semester-I (Autumn)							
1.	WRC-503	Water Resources Planning and Management	PCC	4	3	1	0	3	0
2.	WRC-533	Design of Irrigation Structures and Drainage Works	PCC	4	3	0	2	3	0
3.	WRC-536	On Farm Development	PCC	3	2	0	2	3	0
4.	WRC-538	Principles and Practices of Irrigation	PCC	3	2	0	2	3	0
5.		Program Elective-I	PEC	3	-	-	-	-	-
6.		Social Science Course	SSC	2	-	-	-	-	-
		Total		**19**					
		Semester-II (Spring)							
1.		Program Elective-II	PEC	3	-	-	-	-	-
2.		Program Elective-III	PEC	3	-	-	-	-	-
3.		Program Elective-IV	PEC	3	-	-	-	-	-
4.		Program Elective-V	PEC	3	-	-	-	-	-
5.		Science, Technology, and Advanced Research-tools	STAR	3	-	-	-	-	-
6.	WRC-700	Seminar	SEM	2	1	0	2	-	-
		Total		**17**					

Note: P.G. Diploma course in IWM shall be of One Year duration comprising of semesters I and II only, with a minimum credit of 36

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DEPARTMENT OF WATER RESOURCES DEVELOPMENT AND MANAGEMENT
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : **XXX M.Tech. (Irrigation Water Management)/P.G. Diploma in Irrigation Water Management**
Department : **Department of Water Resources Development and Management**
Year : **II**
Model : **2**

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
		Semester-I (Autumn)							
1.	WRC-691	Internship Social Activity	ISA	4	-	-	-	-	-
2.	WRC-701A	Thesis Stage-I	THESIS	10	-	-	-	-	-
		Total		**14**					
		Semester-II (Spring)							
1.	WRC-701B	Thesis Stage-II	THESIS	14	-	-	-	-	-
		Total		**14**					

Summary				
Semester	**1**	**2**	**3**	**4**
Semester-wise Total Credits	19	17	14	14
Total Credits		**64**		

M.Tech. (Irrigation Water Management)/P.G. Diploma in Irrigation Water Management

Program Elective Courses for Semester-I (Autumn)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRL-601	Open Channel Hydraulics	PEC	3	2	0	2	3	0
2.	WRL-602	Data Analytics for Water Resources	PEC	3	2	0	2	2	1
3.	WRL-603	Smart Irrigation Systems	PEC	3	2	0	2	2	1
4.	WRL-604	Environmental Impact Assessment of Water Resources Project	PEC	3	3	0	0	3	0
5.	WRL-605	Circular Water Economy	PEC	3	3	0	0	3	0

Program Elective Courses for Semester-II (Spring)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRL-612	Underground Structures and Tunnels	PEC	3	2	1	0	3	0
2.	WRL-613	System Design Techniques	PEC	3	2	1	0	3	0
3.	WRL-614	Sediment Transport in Rivers	PEC	3	2	1	0	3	0
4.	WRL-617	Earth and Rockfill Dams	PEC	3	2	1	0	3	0
5.	WRL-620	River Engineering	PEC	3	2	0	2	3	0
7.	WRL-624	Climate Change and Water Resources	PEC	3	2	1	0	3	0
8.	WRL-645	Soil and Agronomy	PEC	3	2	1	0	3	0
9.	WRL-646	Renewable Energy System Technology	PEC	3	2	1	0	3	0

Program Elective Courses for Semester-II (Spring)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
10.	WRL-647	Water Quality Monitoring and Modeling	PEC	3	2	1	0	3	0
11.	WRL-648	Groundwater Development and Management	PEC	3	2	1	0	3	0
12.	WRL-649	Watershed Development and Management	PEC	3	2	1	0	3	0
13.	WRL-650	Remote Sensing and GIS Applications in Water Systems	PEC	3	2	0	2	3	0
14.	WRL-651	Sustainable Water Resources	PEC	3	2	1	0	3	0
15.	WRL-652	Ecohydrological Modeling and Sustainability	PEC	3	2	0	2	3	0
16.	WRL-655	Rural and Urban Water Supply	PEC	3	2	0	2	3	0
17.	WRL-656	Performance Evaluation of Irrigation Systems	PEC	3	1	0	4	1	2
18.	WRL-657	Operation Maintenance and Management of Irrigation Systems	PEC	3	2	1	0	3	0
19.	WRL-658	Water and Land Laws	PEC	3	2	1	0	3	0
20.	WRL-659	Rural Sociology and Irrigation Economics	PEC	3	2	1	0	3	0
21.	WRL-660	Evaluation of Irrigation Project	PEC	3	2	1	0	3	0
22.	WRL-661	Theory of Seepage	PEC	3	2	1	0	3	0
23.	WRL-662	Cropping System Modeling	PEC	3	2	1	0	3	0
24.	WRL-663	Environmental Impact of Irrigated Agriculture	PEC	3	2	1	0	3	0
25.	WRL-664	Smart Irrigation Systems	PEC	3	2	1	0	3	0

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M.Tech. (Irrigation Water Management)/P.G. Diploma in Irrigation Water Management

Science, Technology, and Advanced Research-tools Basket

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRT-501	Artificial Intelligence (AI) & Machine Learning (ML) for Water Resources	STAR	3	2	0	2	2	1
2.	WRT-502	Automation in Water Resources Management	STAR	3	2	0	2	2	1

Social Sciences Course Basket

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRS-501	Water and Society	SSC	2	2	0	0	2	0
2.	WRS-502	Policy and Strategies for DRR, Adaptation, Safety and Sustainability	SSC	2	2	0	0	2	0

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DEPARTMENT OF WATER RESOURCES DEVELOPMENT AND MANAGEMENT
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : XXX M.Tech. (Water Resources Development)/P.G. Diploma in Water Resources Development
Department : Department of Water Resources Development and Management
Year : I
Model : 2

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
		Semester-I (Autumn)							
		Program Core Courses (for CE/EE/ME backgrounds)							
1.	WRC-501	Design of Water Resources Structures	PCC	4	3	0	2	3	0
2.	WRC-503	Water Resources Planning and Management	PCC	4	3	1	0	3	0
3.	WRC-504	Applied Hydrology	PCC	3	2	0	2	3	0
4.	WRC-508	Hydromechanical and Electrical Equipment	PCC	3	2	0	2	3	0
5.		Program Elective-I	PEC	3	-	-	-	-	-
6.		Social Science Course	SSC	2	-	-	-	-	-
		Total		**19**					
		Semester-II (Spring)							
1.		Program Elective-II	PEC	3	-	-	-	-	-
2.		Program Elective-III	PEC	3	-	-	-	-	-
3.		Program Elective-IV	PEC	3	-	-	-	-	-
4.		Program Elective-V	PEC	3	-	-	-	-	-
5.		Science, Technology, and Advanced Research-tools	STAR	3	-	-	-	-	-
6.	WRC-700	Seminar	SEM	2	1	0	2	-	-
		Total		**17**					

Note: P.G. Diploma course in WRD shall be of One Year duration comprising of semesters I and II only, with a minimum credit of 36

DEPARTMENT OF WATER RESOURCES DEVELOPMENT AND MANAGEMENT
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : **XXX   M.Tech. (Water Resources Development)/P.G. Diploma in Water Resources Development**
Department : **Department of Water Resources Development and Management**
Year : **II**
Model : **2**

Teaching Scheme

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
		Semester-I (Autumn)							
1.	WRC-691	Internship Social Activity	ISA	4	-	-	-	-	-
2.	WRC-701A	Thesis Stage-I	THESIS	10	-	-	-	-	-
		Total		**14**					
		Semester-II (Spring)							
1.	WRC-701B	Thesis Stage-II	THESIS	14	-	-	-	-	-
		Total		**14**					

Summary

Semester	1	2	3	4
Semester-wise Total Credits	19	17	14	14
Total Credits		**64**		

M.Tech. (Water Resources Development)/P.G. Diploma in Water Resources Development

Program Elective Courses for Semester-I (Autumn)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRL-601	Open Channel Hydraulics	PEC	3	2	0	2	3	0
2.	WRL-602	Data Analytics for Water Resources	PEC	3	2	0	2	2	1
3.	WRL-603	Smart Irrigation Systems	PEC	3	2	0	2	2	1
4.	WRL-604	Environmental Impact Assessment of Water Resources Project	PEC	3	3	0	0	3	0
5.	WRL-605	Circular Water Economy	PEC	3	3	0	0	3	0

Program Elective Courses for Semester-II (Spring)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRL-611	Assessment of Water Resources Project	PEC	3	1	0	4	1	2
2.	WRL-612	Underground Structures and Tunnels	PEC	3	2	1	0	3	0
3.	WRL-613	System Design Techniques	PEC	3	2	1	0	3	0
4.	WRL-614	Sediment Transport in Rivers	PEC	3	2	1	0	3	0
5.	WRL-615	Geotechnical Engineering	PEC	3	2	1	0	3	0
6.	WRL-616	Hydropower and Appurtenant Works	PEC	3	3	0	2	3	0
7.	WRL-617	Earth and Rockfill Dams	PEC	3	2	1	0	3	0
8.	WRL-618	Masonry and Concrete Dams	PEC	3	2	1	0	3	0
9.	WRL-619	Irrigation Structures	PEC	3	2	1	0	3	0

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M.Tech. (Water Resources Development)/P.G. Diploma in Water Resources Development

Program Elective Courses for Semester-II (Spring)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week L	Contact Hours/Week T	Contact Hours/Week P	Exam Duration Theory	Exam Duration Practical
10.	WRL-620	River Engineering	PEC	3	2	0	2	3	0
11.	WRL-621	Finite Element Methods	PEC	3	2	1	0	3	0
12.	WRL-622	Water Resources System Reliability	PEC	3	2	1	0	3	0
13.	WRL-623	Groundwater Hydrology	PEC	3	2	1	0	3	0
14.	WRL-624	Climate Change and Water Resources	PEC	3	2	1	0	3	0
15.	WRL-625	Substation and Transmission Line Design	PEC	3	2	1	0	3	0
16.	WRL-626	Installation Maintenance and Testing of Hydro Generating Equipment	PEC	3	2	1	0	3	0
17.	WRL-627	Maintenance Management in Power Plants	PEC	3	2	1	0	3	0
18.	WRL-628	Power System Management	PEC	3	2	1	0	3	0
19.	WRL-629	Electrical Design of Hydro Power Station	PEC	3	2	1	0	3	0
20.	WRL-630	Power System Operation and Control	PEC	3	2	1	0	3	0
21.	WRL-631	Control and Instrumentation of Hydro Power Plant	PEC	3	2	1	0	3	0
22.	WRL-632	Power System Analysis	PEC	3	2	1	0	3	0
23.	WRL-633	Power Systems Reliability	PEC	3	2	1	0	3	0
24.	WRL-634	Insulating Systems	PEC	3	2	1	0	3	0
25.	WRL-635	Planning and Design of Small Hydro Power Schemes	PEC	3	2	1	0	3	0
26.	WRL-636	Power Electronics Controlled Hydro-Electric Systems	PEC	3	2	1	0	3	0
27.	WRL-637	Modelling and Simulation of Hydro-Electric Energy Systems	PEC	3	1	0	4	2	2
28.	WRL-638	Synchronous and Asynchronous Generators Laboratory	PEC	3	1	0	4	0	3
29.	WRL-639	Power Electronics Laboratory	PEC	3	1	0	4	0	3
30.	WRL-640	Control and Instrumentation Laboratory	PEC	3	1	0	4	0	3
31.	WRL-641	Design of Construction Job Facilities	PEC	3	2	1	0	3	0

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M.Tech. (Water Resources Development)/P.G. Diploma in Water Resources Development

Program Elective Courses for Semester-II (Spring)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
32.	WRL-642	Construction Plant Machinery	PEC	3	2	1	0	3	0
33.	WRL-643	Air Conditioning and Ventilation	PEC	3	2	1	0	3	0
34.	WRL-644	Construction Techniques	PEC	3	2	1	0	3	0
35.	WRL-645	Soil and Agronomy	PEC	3	2	1	0	3	0
36.	WRL-646	Renewable Energy System Technology	PEC	3	2	1	0	3	0
37.	WRL-647	Water Quality Monitoring and Modeling	PEC	3	2	1	0	3	0
38.	WRL-648	Groundwater Development and Management	PEC	3	2	1	0	3	0
39.	WRL-649	Watershed Development and Management	PEC	3	2	1	0	3	0
40.	WRL-650	Remote Sensing and GIS Applications in Water Systems	PEC	3	2	0	2	3	0
41.	WRL-651	Sustainable Water Resources	PEC	3	2	1	0	3	0
42.	WRL-652	Ecohydrological Modeling and Sustainability	PEC	3	2	0	2	3	0
43.	WRL-653	Project Planning and Management	PEC	3	2	0	2	3	0
44.	WRL-654	Hybrid Renewable Energy System	PEC	3	2	0	2	3	0
45.	WRL-655	Rural and Urban Water Supply	PEC	3	2	0	2	3	0

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M.Tech. (Water Resources Development)/P.G. Diploma in Water Resources Development

Science, Technology, and Advanced Research-tools Basket

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRT-501	Artificial Intelligence (AI) & Machine Learning (ML) for Water Resources	STAR	3	2	0	2	2	1
2.	WRT-502	Automation in Water Resources Management	STAR	3	2	0	2	2	1

Social Sciences Course Basket

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRS-501	Water and Society	SSC	2	2	0	0	2	0
2.	WRS-502	Policy and Strategies for DRR, Adaptation, Safety and Sustainability	SSC	2	2	0	0	2	0

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DEPARTMENT OF WATER RESOURCES DEVELOPMENT AND MANAGEMENT
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : XXX   M.Tech. (Drinking Water and Sanitation)/P.G. Diploma in Drinking Water and Sanitation
Department : Department of Water Resources Development and Management
Year : I
Model : 2

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
		Semester-I (Autumn)							
1.	WRC-506	Rural and Urban Water Supply	PCC	4	3	0	2	3	0
2.	WRC-543	Drinking Water and Sanitation Sustainability	PCC	4	3	0	2	3	0
3.	WRC-546	Wastewater Engineering	PCC	3	2	0	2	3	0
4.	WRC-548	Water Sanitation, Hygiene, and Infrastructural Management	PCC	3	2	0	2	3	0
5.		Program Elective-I	PEC	3	-	-	-	-	-
6.		Social Science Course	SSC	2	-	-	-	-	-
		Total		**19**					
		Semester-II (Spring)							
1.		Program Elective-II	PEC	3	-	-	-	-	-
2.		Program Elective-III	PEC	3	-	-	-	-	-
3.		Program Elective-IV	PEC	3	-	-	-	-	-
4.		Program Elective-V	PEC	3	-	-	-	-	-
5.		Science, Technology, and Advanced Research-tools	STAR	3	-	-	-	-	-
6.	WRC-700	Seminar	SEM	2	-	-	-	-	-
		Total		**17**					

Note: P.G. Diploma course in DWS shall be of One Year duration comprising of semesters I and II only, with a minimum credit of 36

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Program Code : **XXX   M.Tech. (Drinking Water and Sanitation)/P.G. Diploma in Drinking Water and Sanitation**
Department : **Department of Water Resources Development and Management**
Year : **II**
Model : **2**

Teaching Scheme

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
Semester-I (Autumn)									
1.	WRC-691	Internship Social Activity	ISA	4	-	-	-	-	-
2.	WRC-701A	Thesis Stage-I	THESIS	10	-	-	-	-	-
		Total		**14**					
Semester-II (Spring)									
1.	WRC-701B	Thesis Stage-II	THESIS	14	-	-	-	-	-
		Total		**14**					

Summary

Semester	1	2	3	4
Semester-wise Total Credits	19	17	14	14
Total Credits		**64**		

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M.Tech. (Drinking Water and Sanitation)/P.G. Diploma in Drinking Water and Sanitation

Program Elective Courses for Semester-I (Autumn)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRL-601	Open Channel Hydraulics	PEC	3	2	0	2	3	0
2.	WRL-602	Data Analytics for Water Resources	PEC	3	2	0	2	2	1
3.	WRL-603	Smart Irrigation Systems	PEC	3	2	0	2	2	1
4.	WRL-604	Environmental Impact Assessment of Water Resources Project	PEC	3	3	0	0	3	0
5.	WRL-605	Circular Water Economy	PEC	3	3	0	0	3	0

Program Elective Courses for Semester-II (Spring)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRL-613	System Design Techniques	PEC	3	2	1	0	3	0
2.	WRL-614	Sediment Transport in Rivers	PEC	3	2	1	0	3	0
3.	WRL-646	Renewable Energy System Technology	PEC	3	2	1	0	3	0
4.	WRL-647	Water Quality Monitoring and Modeling	PEC	3	2	1	0	3	0
5.	WRL-648	Groundwater Development and Management	PEC	3	2	1	0	3	0
6.	WRL-649	Watershed Development and Management	PEC	3	2	1	0	3	0
7.	WRL-650	Remote Sensing and GIS Applications in Water Systems	PEC	3	2	0	2	3	0
8.	WRL-651	Sustainable Water Resources	PEC	3	2	1	0	3	0
9.	WRL-652	Ecohydrological Modeling and Sustainability	PEC	3	2	0	2	3	0

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M.Tech. (Drinking Water and Sanitation)/P.G. Diploma in Drinking Water and Sanitation

Program Elective Courses for Semester-II (Spring)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
10.	WRL-665	WASH: Field Methods and Community Engagement	PEC	3	1	0	4	1	2
11.	WRL-666	Drinking Water for Low-Income Societies	PEC	3	2	1	0	3	0
12.	WRL-667	Wastewater and Fecal Sludge Management	PEC	3	2	1	0	3	0
13.	WRL-668	Resilience, Shocks, and Engineering	PEC	3	2	1	0	3	0
14.	WRL-669	Management and Operation of Water Utilities	PEC	3	2	1	0	3	0
15.	WRL-670	Water and Wastewater Engineering	PEC	3	2	1	0	3	0
16.	WRL-671	Flow Hydraulics and Urban Drainage	PEC	3	2	1	0	3	0

Science, Technology, and Advanced Research-tools Basket

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRT-501	Artificial Intelligence (AI) & Machine Learning (ML) for Water Resources	STAR	3	2	0	2	2	1
2.	WRT-502	Automation in Water Resources Management	STAR	3	2	0	2	2	1

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M.Tech. (Drinking Water and Sanitation)/P.G. Diploma in Drinking Water and Sanitation

Social Sciences Course Basket

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRS-501	Water and Society	SSC	2	2	0	0	2	0
2.	WRS-502	Policy and Strategies for DRR, Adaptation, Safety and Sustainability	SSC	2	2	0	0	2	0

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DEPARTMENT OF WATER RESOURCES DEVELOPMENT AND MANAGEMENT
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : **XXX   M.Tech. (Irrigation Water Management)/P.G. Diploma in Irrigation Water Management**
Department : **Department of Water Resources Development and Management**
Year : **I**
Model : **2**

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
		Semester-I (Autumn)							
1.	WRC-503	Water Resources Planning and Management	PCC	4	3	1	0	3	0
2.	WRC-533	Design of Irrigation Structures and Drainage Works	PCC	4	3	0	2	3	0
3.	WRC-536	On Farm Development	PCC	3	2	0	2	3	0
4.	WRC-538	Principles and Practices of Irrigation	PCC	3	2	0	2	3	0
5.		Program Elective-I	PEC	3	-	-	-	-	-
6.		Social Science Course	SSC	2	-	-	-	-	-
		Total		**19**					
		Semester-II (Spring)							
1.		Program Elective-II	PEC	3	-	-	-	-	-
2.		Program Elective-III	PEC	3	-	-	-	-	-
3.		Program Elective-IV	PEC	3	-	-	-	-	-
4.		Program Elective-V	PEC	3	-	-	-	-	-
5.		Science, Technology, and Advanced Research-tools	STAR	3	-	-	-	-	-
6.	WRC-700	Seminar	SEM	2	1	0	2	-	-
		Total		**17**					

Note: P.G. Diploma course in IWM shall be of One Year duration comprising of semesters I and II only, with a minimum credit of 36

DEPARTMENT OF WATER RESOURCES DEVELOPMENT AND MANAGEMENT
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : XXX M.Tech. (Irrigation Water Management)/P.G. Diploma in Irrigation Water Management
Department : Department of Water Resources Development and Management
Year : II
Model : 2

Teaching Scheme

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
Semester-I (Autumn)									
1.	WRC-691	Internship Social Activity	ISA	4	-	-	-	-	-
2.	WRC-701A	Thesis Stage-I	THESIS	10	-	-	-	-	-
		Total		**14**					
Semester-II (Spring)									
1.	WRC-701B	Thesis Stage-II	THESIS	14	-	-	-	-	-
		Total		**14**					

Summary

Semester	1	2	3	4
Semester-wise Total Credits	19	17	14	14
Total Credits	**64**			

M.Tech. (Irrigation Water Management)/P.G. Diploma in Irrigation Water Management

Program Elective Courses for Semester-I (Autumn)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRL-601	Open Channel Hydraulics	PEC	3	2	0	2	3	0
2.	WRL-602	Data Analytics for Water Resources	PEC	3	2	0	2	2	1
3.	WRL-603	Smart Irrigation Systems	PEC	3	2	0	2	2	1
4.	WRL-604	Environmental Impact Assessment of Water Resources Project	PEC	3	3	0	0	3	0
5.	WRL-605	Circular Water Economy	PEC	3	3	0	0	3	0

Program Elective Courses for Semester-II (Spring)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRL-612	Underground Structures and Tunnels	PEC	3	2	1	0	3	0
2.	WRL-613	System Design Techniques	PEC	3	2	1	0	3	0
3.	WRL-614	Sediment Transport in Rivers	PEC	3	2	1	0	3	0
4.	WRL-617	Earth and Rockfill Dams	PEC	3	2	1	0	3	0
5.	WRL-620	River Engineering	PEC	3	2	0	2	3	0
7.	WRL-624	Climate Change and Water Resources	PEC	3	2	1	0	3	0
8.	WRL-645	Soil and Agronomy	PEC	3	2	1	0	3	0
9.	WRL-646	Renewable Energy System Technology	PEC	3	2	1	0	3	0

Program Elective Courses for Semester-II (Spring)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
10.	WRL-647	Water Quality Monitoring and Modeling	PEC	3	2	1	0	3	0
11.	WRL-648	Groundwater Development and Management	PEC	3	2	1	0	3	0
12.	WRL-649	Watershed Development and Management	PEC	3	2	1	0	3	0
13.	WRL-650	Remote Sensing and GIS Applications in Water Systems	PEC	3	2	0	2	3	0
14.	WRL-651	Sustainable Water Resources	PEC	3	2	1	0	3	0
15.	WRL-652	Ecohydrological Modeling and Sustainability	PEC	3	2	0	2	3	0
16.	WRL-655	Rural and Urban Water Supply	PEC	3	2	0	2	3	0
17.	WRL-656	Performance Evaluation of Irrigation Systems	PEC	3	1	0	4	1	2
18.	WRL-657	Operation Maintenance and Management of Irrigation Systems	PEC	3	2	1	0	3	0
19.	WRL-658	Water and Land Laws	PEC	3	2	1	0	3	0
20.	WRL-659	Rural Sociology and Irrigation Economics	PEC	3	2	1	0	3	0
21.	WRL-660	Evaluation of Irrigation Project	PEC	3	2	1	0	3	0
22.	WRL-661	Theory of Seepage	PEC	3	2	1	0	3	0
23.	WRL-662	Cropping System Modeling	PEC	3	2	1	0	3	0
24.	WRL-663	Environmental Impact of Irrigated Agriculture	PEC	3	2	1	0	3	0
25.	WRL-664	Smart Irrigation Systems	PEC	3	2	1	0	3	0

M.Tech. (Irrigation Water Management)/P.G. Diploma in Irrigation Water Management

Science, Technology, and Advanced Research-tools Basket

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRT-501	Artificial Intelligence (AI) & Machine Learning (ML) for Water Resources	STAR	3	2	0	2	2	1
2.	WRT-502	Automation in Water Resources Management	STAR	3	2	0	2	2	1

Social Sciences Course Basket

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRS-501	Water and Society	SSC	2	2	0	0	2	0
2.	WRS-502	Policy and Strategies for DRR, Adaptation, Safety and Sustainability	SSC	2	2	0	0	2	0

DEPARTMENT OF WATER RESOURCES DEVELOPMENT AND MANAGEMENT
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : XXX M.Tech. (Water Resources Development)/P.G. Diploma in Water Resources Development
Department : Department of Water Resources Development and Management
Year : I
Model : 2

Teaching Scheme

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
		Semester-I (Autumn)							
		Program Core Courses (for CE/EE/ME backgrounds)							
1.	WRC-501	Design of Water Resources Structures	PCC	4	3	0	2	3	0
2.	WRC-503	Water Resources Planning and Management	PCC	4	3	1	0	3	0
3.	WRC-504	Applied Hydrology	PCC	3	2	0	2	3	0
4.	WRC-508	Hydromechanical and Electrical Equipment	PCC	3	2	0	2	3	0
5.		Program Elective-I	PEC	3	-	-	-	-	-
6.		Social Science Course	SSC	2	-	-	-	-	-
		Total		**19**					
		Semester-II (Spring)							
1.		Program Elective-II	PEC	3	-	-	-	-	-
2.		Program Elective-III	PEC	3	-	-	-	-	-
3.		Program Elective-IV	PEC	3	-	-	-	-	-
4.		Program Elective-V	PEC	3	-	-	-	-	-
5.		Science, Technology, and Advanced Research-tools	STAR	3	-	-	-	-	-
6.	WRC-700	Seminar	SEM	2	1	0	2	-	-
		Total		**17**					

Note: P.G. Diploma course in WRD shall be of One Year duration comprising of semesters I and II only, with a minimum credit of 36

DEPARTMENT OF WATER RESOURCES DEVELOPMENT AND MANAGEMENT
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : **XXX   M.Tech. (Water Resources Development)/P.G. Diploma in Water Resources Development**
Department : **Department of Water Resources Development and Management**
Year : **II**
Model : **2**

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
Semester-I (Autumn)									
1.	WRC-691	Internship Social Activity	ISA	4	-	-	-	-	-
2.	WRC-701A	Thesis Stage-I	THESIS	10	-	-	-	-	-
		Total		**14**					
Semester-II (Spring)									
1.	WRC-701B	Thesis Stage-II	THESIS	14	-	-	-	-	-
		Total		**14**					

Summary				
Semester	**1**	**2**	**3**	**4**
Semester-wise Total Credits	19	17	14	14
Total Credits		**64**		

M.Tech. (Water Resources Development)/P.G. Diploma in Water Resources Development

Program Elective Courses for Semester-I (Autumn)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week L	Contact Hours/Week T	Contact Hours/Week P	Exam Duration Theory	Exam Duration Practical
1.	WRL-601	Open Channel Hydraulics	PEC	3	2	0	2	3	0
2.	WRL-602	Data Analytics for Water Resources	PEC	3	2	0	2	2	1
3.	WRL-603	Smart Irrigation Systems	PEC	3	2	0	2	2	1
4.	WRL-604	Environmental Impact Assessment of Water Resources Project	PEC	3	3	0	0	3	0
5.	WRL-605	Circular Water Economy	PEC	3	3	0	0	3	0

Program Elective Courses for Semester-II (Spring)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week L	Contact Hours/Week T	Contact Hours/Week P	Exam Duration Theory	Exam Duration Practical
1.	WRL-611	Assessment of Water Resources Project	PEC	3	1	0	4	1	2
2.	WRL-612	Underground Structures and Tunnels	PEC	3	2	1	0	3	0
3.	WRL-613	System Design Techniques	PEC	3	2	1	0	3	0
4.	WRL-614	Sediment Transport in Rivers	PEC	3	2	1	0	3	0
5.	WRL-615	Geotechnical Engineering	PEC	3	2	1	0	3	0
6.	WRL-616	Hydropower and Appurtenant Works	PEC	3	3	0	2	3	0
7.	WRL-617	Earth and Rockfill Dams	PEC	3	2	1	0	3	0
8.	WRL-618	Masonry and Concrete Dams	PEC	3	2	1	0	3	0
9.	WRL-619	Irrigation Structures	PEC	3	2	1	0	3	0

M.Tech. (Water Resources Development)/P.G. Diploma in Water Resources Development

Program Elective Courses for Semester-II (Spring)

		Teaching Scheme			Contact Hours/Week			Exam Duration	
S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical
10.	WRL-620	River Engineering	PEC	3	2	0	2	3	0
11.	WRL-621	Finite Element Methods	PEC	3	2	1	0	3	0
12.	WRL-622	Water Resources System Reliability	PEC	3	2	1	0	3	0
13.	WRL-623	Groundwater Hydrology	PEC	3	2	1	0	3	0
14.	WRL-624	Climate Change and Water Resources	PEC	3	2	1	0	3	0
15.	WRL-625	Substation and Transmission Line Design	PEC	3	2	1	0	3	0
16.	WRL-626	Installation Maintenance and Testing of Hydro Generating Equipment	PEC	3	2	1	0	3	0
17.	WRL-627	Maintenance Management in Power Plants	PEC	3	2	1	0	3	0
18.	WRL-628	Power System Management	PEC	3	2	1	0	3	0
19.	WRL-629	Electrical Design of Hydro Power Station	PEC	3	2	1	0	3	0
20.	WRL-630	Power System Operation and Control	PEC	3	2	1	0	3	0
21.	WRL-631	Control and Instrumentation of Hydro Power Plant	PEC	3	2	1	0	3	0
22.	WRL-632	Power System Analysis	PEC	3	2	1	0	3	0
23.	WRL-633	Power Systems Reliability	PEC	3	2	1	0	3	0
24.	WRL-634	Insulating Systems	PEC	3	2	1	0	3	0
25.	WRL-635	Planning and Design of Small Hydro Power Schemes	PEC	3	2	1	0	3	0
26.	WRL-636	Power Electronics Controlled Hydro-Electric Systems	PEC	3	2	1	0	3	0
27.	WRL-637	Modelling and Simulation of Hydro-Electric Energy Systems	PEC	3	1	0	4	2	2
28.	WRL-638	Synchronous and Asynchronous Generators Laboratory	PEC	3	1	0	4	0	3
29.	WRL-639	Power Electronics Laboratory	PEC	3	1	0	4	0	3
30.	WRL-640	Control and Instrumentation Laboratory	PEC	3	1	0	4	0	3
31.	WRL-641	Design of Construction Job Facilities	PEC	3	2	1	0	3	0

M.Tech. (Water Resources Development)/P.G. Diploma in Water Resources Development

Program Elective Courses for Semester-II (Spring)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
32.	WRL-642	Construction Plant Machinery	PEC	3	2	1	0	3	0
33.	WRL-643	Air Conditioning and Ventilation	PEC	3	2	1	0	3	0
34.	WRL-644	Construction Techniques	PEC	3	2	1	0	3	0
35.	WRL-645	Soil and Agronomy	PEC	3	2	1	0	3	0
36.	WRL-646	Renewable Energy System Technology	PEC	3	2	1	0	3	0
37.	WRL-647	Water Quality Monitoring and Modeling	PEC	3	2	1	0	3	0
38.	WRL-648	Groundwater Development and Management	PEC	3	2	1	0	3	0
39.	WRL-649	Watershed Development and Management	PEC	3	2	1	0	3	0
40.	WRL-650	Remote Sensing and GIS Applications in Water Systems	PEC	3	2	0	2	3	0
41.	WRL-651	Sustainable Water Resources	PEC	3	2	1	0	3	0
42.	WRL-652	Ecohydrological Modeling and Sustainability	PEC	3	2	0	2	3	0
43.	WRL-653	Project Planning and Management	PEC	3	2	0	2	3	0
44.	WRL-654	Hybrid Renewable Energy System	PEC	3	2	0	2	3	0
45.	WRL-655	Rural and Urban Water Supply	PEC	3	2	0	2	3	0

M.Tech. (Water Resources Development)/P.G. Diploma in Water Resources Development

Science, Technology, and Advanced Research-tools Basket

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRT-501	Artificial Intelligence (AI) & Machine Learning (ML) for Water Resources	STAR	3	2	0	2	2	1
2.	WRT-502	Automation in Water Resources Management	STAR	3	2	0	2	2	1

Social Sciences Course Basket

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRS-501	Water and Society	SSC	2	2	0	0	2	0
2.	WRS-502	Policy and Strategies for DRR, Adaptation, Safety and Sustainability	SSC	2	2	0	0	2	0

DEPARTMENT OF WATER RESOURCES DEVELOPMENT AND MANAGEMENT
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : XXX M.Tech. (Drinking Water and Sanitation)/P.G. Diploma in Drinking Water and Sanitation
Department : Department of Water Resources Development and Management
Year : I
Model : 2

Teaching Scheme

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
		Semester-I (Autumn)							
1.	WRC-506	Rural and Urban Water Supply	PCC	4	3	0	2	3	0
2.	WRC-543	Drinking Water and Sanitation Sustainability	PCC	4	3	0	2	3	0
3.	WRC-546	Wastewater Engineering	PCC	3	2	0	2	3	0
4.	WRC-548	Water Sanitation, Hygiene, and Infrastructural Management	PCC	3	2	0	2	3	0
5.		Program Elective-I	PEC	3	-	-	-	-	-
6.		Social Science Course	SSC	2	-	-	-	-	-
		Total		**19**					
		Semester-II (Spring)							
1.		Program Elective-II	PEC	3	-	-	-	-	-
2.		Program Elective-III	PEC	3	-	-	-	-	-
3.		Program Elective-IV	PEC	3	-	-	-	-	-
4.		Program Elective-V	PEC	3	-	-	-	-	-
5.		Science, Technology, and Advanced Research-tools	STAR	3	-	-	-	-	-
6.	WRC-700	Seminar	SEM	2	-	-	-	-	-
		Total		**17**					

Note: P.G. Diploma course in DWS shall be of One Year duration comprising of semesters I and II only, with a minimum credit of 36

DEPARTMENT OF WATER RESOURCES DEVELOPMENT AND MANAGEMENT
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : **XXX   M.Tech. (Drinking Water and Sanitation)/P.G. Diploma in Drinking Water and Sanitation**
Department : **Department of Water Resources Development and Management**
Year : **II**
Model : **2**

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week L	T	P	Exam Duration Theory	Practical
		Teaching Scheme							
		Semester-I (Autumn)							
1.	WRC-691	Internship Social Activity	ISA	4	-	-	-	-	-
2.	WRC-701A	Thesis Stage-I	THESIS	10	-	-	-	-	-
		Total		**14**					
		Semester-II (Spring)							
1.	WRC-701B	Thesis Stage-II	THESIS	14	-	-	-	-	-
		Total		**14**					

Summary				
Semester	**1**	**2**	**3**	**4**
Semester-wise Total Credits	19	17	14	14
Total Credits		**64**		

M.Tech. (Drinking Water and Sanitation)/P.G. Diploma in Drinking Water and Sanitation

Program Elective Courses for Semester-I (Autumn)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRL-601	Open Channel Hydraulics	PEC	3	2	0	2	3	0
2.	WRL-602	Data Analytics for Water Resources	PEC	3	2	0	2	2	1
3.	WRL-603	Smart Irrigation Systems	PEC	3	2	0	2	2	1
4.	WRL-604	Environmental Impact Assessment of Water Resources Project	PEC	3	3	0	0	3	0
5.	WRL-605	Circular Water Economy	PEC	3	3	0	0	3	0

Program Elective Courses for Semester-II (Spring)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRL-613	System Design Techniques	PEC	3	2	1	0	3	0
2.	WRL-614	Sediment Transport in Rivers	PEC	3	2	1	0	3	0
3.	WRL-646	Renewable Energy System Technology	PEC	3	2	1	0	3	0
4.	WRL-647	Water Quality Monitoring and Modeling	PEC	3	2	1	0	3	0
5.	WRL-648	Groundwater Development and Management	PEC	3	2	1	0	3	0
6.	WRL-649	Watershed Development and Management	PEC	3	2	1	0	3	0
7.	WRL-650	Remote Sensing and GIS Applications in Water Systems	PEC	3	2	0	2	3	0
8.	WRL-651	Sustainable Water Resources	PEC	3	2	1	0	3	0
9.	WRL-652	Ecohydrological Modeling and Sustainability	PEC	3	2	0	2	3	0

M.Tech. (Drinking Water and Sanitation)/P.G. Diploma in Drinking Water and Sanitation

Program Elective Courses for Semester-II (Spring)

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
10.	WRL-665	WASH: Field Methods and Community Engagement	PEC	3	1	0	4	1	2
11.	WRL-666	Drinking Water for Low-Income Societies	PEC	3	2	1	0	3	0
12.	WRL-667	Wastewater and Fecal Sludge Management	PEC	3	2	1	0	3	0
13.	WRL-668	Resilience, Shocks, and Engineering	PEC	3	2	1	0	3	0
14.	WRL-669	Management and Operation of Water Utilities	PEC	3	2	1	0	3	0
15.	WRL-670	Water and Wastewater Engineering	PEC	3	2	1	0	3	0
16.	WRL-671	Flow Hydraulics and Urban Drainage	PEC	3	2	1	0	3	0

Science, Technology, and Advanced Research-tools Basket

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRT-501	Artificial Intelligence (AI) & Machine Learning (ML) for Water Resources	STAR	3	2	0	2	2	1
2.	WRT-502	Automation in Water Resources Management	STAR	3	2	0	2	2	1

M.Tech. (Drinking Water and Sanitation)/P.G. Diploma in Drinking Water and Sanitation

Social Sciences Course Basket

S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
1.	WRS-501	Water and Society	SSC	2	2	0	0	2	0
2.	WRS-502	Policy and Strategies for DRR, Adaptation, Safety and Sustainability	SSC	2	2	0	0	2	0

Item No.105.13: **To consider the proposal for including an International Research Scholar Representative in the IAPC, received from the Dean of International Relations.**

The modified composition (vide letter No. Acd./8213/UG-15 dated September 17, 2018) of the Institute Academic Programme Committee is at **Appendix-A.** As per Serial No. 6, "Four students' representatives nominated by the Dean of Students' Welfare, out of which at least one be a girl student".

In addition to the existing representatives, the Dean of International Relations, via an email dated April 8, 2025, requested to include an international research scholar of IIT Roorkee in the IAPC. **Appendix-B**

The IAPC, in its 152nd meeting held on 11.06.2025, recommended that one out of four student representatives of the IAPC should be an International Research Scholar nominated by the DoSW in consultation with the Dean of International Relations.

The above is submitted for the consideration and approval of the Senate.

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
ROORKEE
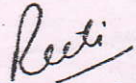
No. Acd./ ॄ२13 /UG-15   Dated: September 17 , 2018

NOTIFICATION

The Senate in its 74th meeting held on 14.08.2018 approved the amendments in the constitution of the Institute Academic Program Committee (IAPC). The modified constitution of the IAPC is:

1. Dean, Academic Affairs   -Chair
2. All Associate Deans, Academic Affairs
3. The immediate past Dean, Academic Affairs
4. Two Senate Nominees
5. Chairs of all DAPCs and CAPCs
6. Four students' representatives nominated by the Dean of Students' Welfare, out of which at least one be a girl student
7. Two officers from the Academic Office, one of whom will be the Secretary

Asst. Registrar (Curriculum)

Copy to:-

1. The Chairman Senate/ Director
2. All Head of Departments/ Centres
3. Chairman JEE
4. Chairman GATE
5. Dean of Students Welfare
6. Prof. Pramod Agrawal, Immediate Past Dean, Academic Affairs
7. Dean of Academic Affairs
8. Associate Dean of Acd. Affairs (Curriculum)/(Evaluation)/(Admission)
9. Asstt. Registrar (Meetings)
10. Channel I/ acad.iitr.ac.in

Fwd: Request for Inclusion of Ms. Anuradha Karunakalage in IAPC and IRC

From : DR Academic <dracademic@iitr.ac.in>   Wed, Apr 09, 2025 10:17 AM

Subject : Fwd: Request for Inclusion of Ms. Anuradha
Karunakalage in IAPC and IRC

To : Assit RegistrarEvaluation <arevaluation@iitr.ac.in>,
Assit RegistrarCurriculum <arcurriculum@iitr.ac.in>

Regards,

Anbu R
Deputy Registrar
Academic Affairs Office
IIT Roorkee

From: "Dean AcademicAffairs" <daa@iitr.ac.in>
To: "D.R.Academic D.R.Academic" <dracademic@iitr.ac.in>
Sent: Tuesday, April 8, 2025 6:47:32 PM
Subject: Fwd: Request for Inclusion of Ms. Anuradha Karunakalage in IAPC and IRC

Please include as proposed.

-With Best Regards
Prof. Naveen Kumar Navani / प्रो. नवीन कुमार नवानी
Dean of Academic Affairs / कुलशासक शैक्षणिक अफेयर्स
Indian Institute of Technology Roorkee / भारतीय प्रौद्योगिकी संस्थान रुड़की
ROORKEE - 247 667, Uttarakhand, India / रुड़की -247667, उत्तराखण्ड, भारत
Phone - (+91 / 01332) 28 5255 / 5567 (O), 5018 (R), 7088275555 (M)
E-mail / ई-मेल : daa@iitr.ac.in, naveen.navani@bt.iitr.ac.in
Office Webpage / ऑफिस वेबपेज

From: International <dean.ir@iitr.ac.in>
To: Dean <daa@iitr.ac.in>
Date: Tuesday, 8 April 2025 4:38 PM IST
Subject: Request for Inclusion of Ms. Anuradha Karunakalage in IAPC and IRC

DAA,

This is to request the inclusion of Ms. Anuradha Karunakalage, Coordinator of Academic Affairs for the International Students Affairs Council (ISAC), as a member of the Institute Academic Program Committee (IAPC) and the Institute Research Committee (IRC).
Ms. Karunakalage plays a critical role in representing international students in academic and research-related matters. Her expertise in academic coordination and understanding of research priorities would bring valuable insights to these committees,

strengthening their efforts to address academic and research issues effectively and inclusively.

The tenure of the above post is 01 year.
Below are the details of Ms. Anuradha Karunakalage:

- Name: Ms. Anuradha Karunakalage

- Email: anuradha_s1@es.iitr.ac.in

- Phone: +91 78170 22292

Please let us know if any further information or steps are required to process this request.
Thank you for your time and consideration.

Best regards,
Vimal
  -

Prof. Vimal Chandra Srivastava
G B Pant Institute Chair Professor
Dean, International Relations
Professor, Department of Chemical Engineering
Joint Faculty, Centre of Sustainable Energy
Associate Faculty, Centre for Nanotechnology
Indian Institute of Technology Roorkee
Roorkee - 247667, Uttarakhand, India.
Administrative email: dean.ir@iitr.ac.in
Personal emails: vimal.srivastava@ch.iitr.ac.in, vimalcsr@yahoo.co.in
Tel: +91-1332-28-4471, 5889 (O) / 286889 (R) / 9410372170 (M)
Webpages: Personal, ORCID, WebOfKnowledge, Scopus, Scholar, Linkedin

Item No.105.14: **To consider the proposal for including an International Research Scholar Representative in the IRC, received from the Dean of International Relations.**

The modified composition (vide letter No. Acd./Evl/8953/Senate dated September 20, 2018) of the Institute Research Committee is at **Appendix-A**. As per clause (g), "One research scholar each from Sciences, Engineering and Management/HSS Department, out of which at least one be a girl student, to be nominated by DOSW."

In addition to the existing representatives, the Dean of International Relations, via an email dated April 8, 2025, requested to include an international research scholar of IIT Roorkee in the IRC. **(Appendix-B)**

The IRC, in its 73rd meeting held on 02.05.2025, considered and recommended the proposal to include one International student to be nominated by Dean-IR in the Institute Research Committee.

The above is submitted for the consideration and approval of the Senate.

भारतीय प्रौद्योगिकी संस्थान रूड़की
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

A953

No. Acd./Evl/   / Senate   Dated: September 20 , 2018

Notification

The Senate in its 74th meeting held on 14.08.2018 approved the amendments in the constitution of the Institute Research Committee (IRC). The modified constitution of the IRC is:

(a)	Dean, Academic Affairs	- Chairperson
(b)	All Associate Deans, Academic Affairs	
(c)	The immediate past Dean, Academic Affairs	
(d)	Two Senate Nominees	
(e)	Chairs of all DRCs and CRCs	
(f)	One research scholar each from Sciences, Engineering and Management/HSS Department, out of which at least one be a girl student, to be nominated by DOSW.	
(g)	Two officers from Academic Office, one of whom will be the Secretary.	

Raghu
19/9/18
Assistant Registrar
(Evaluation)

Copy through e-mail to:-

1. Director for his kind information.
2. Dean of Academic Affairs.
3. Associate Dean of Academic Affairs - Evaluation / Curriculum / Admission.
4. All faculty members.
5. Joint Registrar, Academics.
6. Assistant Registrar (Meetings).
7. Channel-i.

Zimbra   arevaluation@iitr.ac.in

Fwd: Request for Inclusion of Ms. Anuradha Karunakalage in IAPC and IRC

From : DR Academic <dracademic@iitr.ac.in>   Wed, Apr 09, 2025 10:17 AM

Subject : Fwd: Request for Inclusion of Ms. Anuradha
Karunakalage in IAPC and IRC

To : Assit RegistrarEvaluation <arevaluation@iitr.ac.in>,
Assit RegistrarCurriculum <arcurriculum@iitr.ac.in>

Regards,

Anbu R
Deputy Registrar
Academic Affairs Office
IIT Roorkee

From: "Dean AcademicAffairs" <daa@iitr.ac.in>
To: "D.R.Academic D.R.Academic" <dracademic@iitr.ac.in>
Sent: Tuesday, April 8, 2025 6:47:32 PM
Subject: Fwd: Request for Inclusion of Ms. Anuradha Karunakalage in IAPC and IRC

Please include as proposed.

-With Best Regards
Prof. Naveen Kumar Navani / प्रो. नवीन कुमार नवानी
Dean of Academic Affairs / कुलशासक शैक्षणिक अफेयर्स
Indian Institute of Technology Roorkee / भारतीय प्रौद्योगिकी संस्थान रुड़की
ROORKEE - 247 667, Uttarakhand, India / रुड़की -247667, उत्तराखण्ड, भारत
Phone - (+91 / 01332) 28 5255 / 5567 (O), 5018 (R), 7088275555 (M)
E-mail / ई-मेल : daa@iitr.ac.in, naveen.navani@bt.iitr.ac.in
Office Webpage / ऑफिस वेबपेज

From: International <dean.ir@iitr.ac.in>
To: Dean <daa@iitr.ac.in>
Date: Tuesday, 8 April 2025 4:38 PM IST
Subject: Request for Inclusion of Ms. Anuradha Karunakalage in IAPC and IRC

DAA,

This is to request the inclusion of Ms. Anuradha Karunakalage, Coordinator of
Academic Affairs for the International Students Affairs Council (ISAC), as a member of
the Institute Academic Program Committee (IAPC) and the Institute Research
Committee (IRC).
Ms. Karunakalage plays a critical role in representing international students in
academic and research-related matters. Her expertise in academic coordination and
understanding of research priorities would bring valuable insights to these committees,

strengthening their efforts to address academic and research issues effectively and inclusively.

The tenure of the above post is 01 year.
Below are the details of Ms. Anuradha Karunakalage:

- Name: Ms. Anuradha Karunakalage

- Email: anuradha_s1@es.iitr.ac.in

- Phone: +91 78170 22292

Please let us know if any further information or steps are required to process this request.
Thank you for your time and consideration.

Best regards,
Vimal
 -

Prof. Vimal Chandra Srivastava
G B Pant Institute Chair Professor
Dean, International Relations
Professor, Department of Chemical Engineering
Joint Faculty, Centre of Sustainable Energy
Associate Faculty, Centre for Nanotechnology
Indian Institute of Technology Roorkee
Roorkee - 247667, Uttarakhand, India.
Administrative email: dean.ir@iitr.ac.in
Personal emails: vimal.srivastava@ch.iitr.ac.in, vimalcsr@yahoo.co.in
Tel: +91-1332-28-4471, 5889 (O) / 286889 (R) / 9410372170 (M)
Webpages: Personal, ORCID, WebOfKnowledge, Scopus, Scholar, Linkedin

Item No.105.15: To consider the committee report constituted for the "Excellence in Doctoral Research Award".

The Senate, in its 97th meeting held on **July 24, 2023 (vide Item No. 97.10)**, while deciding the medals, awards, and cash prizes for *Convocation 2023*, resolved that the *"Excellence in Doctoral Research Award"* shall be decided by the Institute Research Committee (IRC) / Dean of Academic Affairs.

Accordingly, the following committee was constituted to revisit the existing rules and recommend revised guidelines for the **Excellence in Doctoral Research Award**:

1. Prof. Vinay Sharma, Deptt. of Management Studies – *Convener*
2. Prof. Vipul Rastogi, Deptt. of Physics
3. Prof. Amalendu Patnaik, Deptt. of Electronics and Communication Engg.
4. Prof. Shiv Kumar Gupta, Deptt. of Mathematics
5. Prof. B.V. Manoj Kumar, Deptt. of Metallurgical and Materials Engg.
6. Prof. Sonal Atreya, Deptt. of Architecture and Planning

The committee discussed the existing rules and regulations for the Excellence in Doctoral Research Thesis Award. In light of changed academic environment and scientometrics and suggested its recommendation.

The IRC, in its 73rd meeting held on 02.05.2025, considered and recommended the report of the committee constituted for the "Excellence in Doctoral Research Award". **Appendix-A**

The above is submitted for the consideration and approval of the Senate.

Minutes of the meeting of the committee constituted to revisit the existing rules and recommended guidelines for the award of "Excellence in Doctoral Research Award".

The Committee met on 07.02.2025 in the Office of Associate Dean, Academic Affairs (Evaluation), Main Building, I.I.T. Roorkee at 03:30 pm onwards: -

The following members attended the meeting
1. Prof. Vinay Sharma (DOMS)   ---- Chairperson
2. Prof. Vipul Rastogi, Deptt. of Physics   ---- Member
3. Prof. B.V. Manoj Kumar, Deptt. of Met. & Mat. Engg. ---- Member
4. Prof. Shiv Kumar Gupta, Deptt. of Mathematics   ---- Member
5. Prof. Amalendu Patnaik Deptt. of E. & C. E   ---- Member

The following members could not attend the meeting, and sent suggestions.
1. Prof. Sonal Atreya, Deptt. of Arch. & Planning   ---- Member

The committee discussed the existing rules and regulations for the Excellence in Doctoral Research Thesis Award and, in the light of changed academic environment and scientometrics and suggested as follows:

1. The reports of all Ph.D. thesis examiners shall be made available to the students and supervisors even if these are received by the Academic Affairs Office after the conduct of Oral Defence Committee.

2. **Criteria for Excellence Award:**
   Recommendation of the examiners (A / B / C / D / E), would not be considered for Excellence Award. Instead, the recommendation(s) of the thesis examiner(s) will be considered for the award - The Examiner(s) shall be requested to mark the thesis for the **'Excellence in Doctoral Research Award'?** (Yes / No).

   If the answer is 'Yes', the Examiner(s) will be asked to elaborate recommendation in terms of one or more of the following:
   - Major break through in theory.
   - Major break through in design.
   - Likely to considerably impact the society.
   - Major break through in methodology.
   - Definition and terminology contributor.
   - In- depth characterization.
   - Potential for being used converted / translated into start-up.
   - Any other (please specify).

   This question would be included on the separate page of Examiner's Report on Thesis and would be optional. The examiner would be made aware that

the response to this question would not be shared with the student and his/her supervisor.

3. **Screening of applications:** Three different committees will be constituted to screen the applications.
   - (a) All Engineering Departments / Centres / School.
   - (b) All Science Departments / Centres.
   - (c) Dept. of Management Studies, Humanities and Social Sciences, Architecture & Planning and Design.

4. Eligibility: On the basis of Ph.D. thesis Examiners Recommendations for Excellence in Doctoral Research Award.

   These recommendations will not be shared with the supervisor and the student. It should only be accessible to the Dean of Academic Affairs (DoAA) through on-line portal.
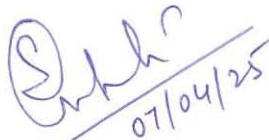
5. Revised Application Form for 'Excellence in Doctoral Research Award' is attached **(Annexure-01).**

6. Revised Template for 'Excellence in Doctoral Research Award' is attached **(Annexure-02).**

Prof. Vipul Rastogi)
(Member)
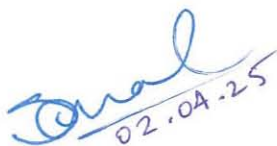
Prof. Prof. Amalendu Patnaik
(Member)
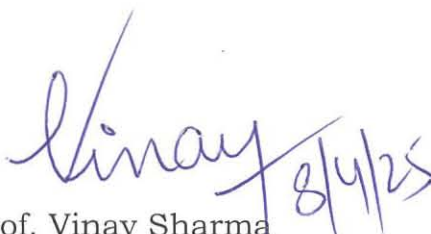
Prof. Shiv Kumar Gupta
(Member)
07/04/25

Prof. B.V. Manoj Kumar
(Member)
02.04.25

Prof. Sonal Atreya
(Member)
02.04.25

Prof. Vinay Sharma
(Chairperson)
8/4/25

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EXCELLENCE IN DOCTORAL RESEARCH AWARD – 25

1. Student Name *

    _____

2. Enrollment No.*

    _____

3. IITR Email ID*

    _____

4. Department / Centre / School*

    _____

5. Programme*

    _____

6. Mobile No.*

    _____

7. Title of Thesis *

    _____

8. Date of Viva-Voce Examination *

    _____

    Example: January 7, 2019

9. Kindly fill the essential information in the template below and upload the file   *
    here (Enrollment_Name.pdf). Max size: 10 MB

    [Download Template](#)

    Files submitted:

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

SENATE COMMITTEE FOR SCHOLARSHIPS AND PRIZES

Excellence in Doctoral Research Award

Details of Research Scholar:

Name : …...………………….

Enrollment No. : ………………………..

Program : ………………………..

Department/Centre/School : ………………………..

Name & Department of Supervisor(s)

(i) ………………..…………………………….

(ii)…………………….…..…………….…………..

Thesis Title: …………………………………..……………………….

Name of other Convocation Awards you have applied for (Please specify by headings).

………………………………………………………………

………………………………………………………………

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Excellence in Doctoral Research Award

<u>Certificate of Applicant</u>

I …………………………….., enrolled in the course of ………………………….. with enrollment number ..………………., in the Department / Centre / School of …………………………………………………..……, declare that the consent to apply for this award has been taken from all the team members of the thesis titled "…………….…………………………………………………………".

In future, if any objections are raised then I will be completely responsible for the consequences/ actions.

Signature of Applicant: …………………..

Date: ………………………..

A brief write-up on why you deserve this award (Maximum 1000 words).

……
……
……
……
…

Thesis Summary

……
……
……
……
…

List of Patents Applied/Granted/Start-up initiated only related to thesis work, duly endorsed by supervisor(s) (Attach supporting documents for the claims made as Annexure-I).

Patent(s) Granted:

……
……

Patent(s) Applied:

……
………

Start-up(s) initiated:

……
………

Any research grant received in your group as a result of your research work duly endorsed by your supervisor(s) (Attach supporting documents as Annexure-II).

……
……
……
……
…

Any International travel support received to present thesis related work at conference(s), workshop(s), symposium(s), etc., duly endorsed by your supervisor(s) (Attach supporting documents as Annexure-III).

………

…………………………………………………………-162-………………………………………………

………

………

List of publications only related to thesis work, duly endorsed by your supervisor(s) (Attach supporting documents for the claims made as Annexure-IV).

………

………

………

………

List of conferences where thesis related work was presented, duly endorsed by your supervisor(s) (Attach supporting documents for the claims made as Annexure-V).

………

………

………

………

…

Any other relevant information

………

………

………

………

NOTE

1. Format of the information should be in Arial font with Font size 11, Line Spacing of 1.5 with proper specified margin (Narrow).
2. After filling the above application form, kindly convert it into pdf format.
3. Attach all the related Proof/Certificate endorsed by the supervisor(s).
4. The application form and supporting documents shall be merged in a single pdf (Max. 10MB).
5. In case of any difficulty/confusion, kindly contact the SCSP office.

INSTRUCTIONS

This award is to recognize and honour the outstanding Ph.D. work by the graduating students. This award caries a cash prize of Rs. 50,000/- along with citation each to a maximum of five deserving students every year.

Out of the maximum five awards, one award will be given as **DR. SUSHIL SHARMA EXCELLENCE IN DOCTORAL RESEARCH AWARD**, preferably in the area of Physics.

ELIGIBILITY

- All Ph.D. students, who have successfully completed their final viva-voce examination and are receiving their Ph.D. Degree in the forthcoming annual convocation.
- The application should be recommended by his/her supervisor(s).

SELECTION PROCESS

The following procedure will be adopted to select the deserving student for this award:

- SCSP office will invite the application of the interested students at individual level via an online Form. Screening and further processing of applications will be done by the appointed committee (s).

MANDATORY DOCUMENTS

To apply for this award, the following documents are mandatory to submit:

- A brief write-up on why you deserve this award.
- List of publications, patents filed/ granted, research grant received on the basis of your doctoral research, international travel support received for attending conference outside India duly endorsed by your supervisor(s).

Item No.105.16: To consider the proposal for updating the Seminar Code from XYZ-700 to XYZ-900 for the Ph.D. program (where XYZ represents the department codes).

Presently, the seminar codes for the P.G and PhD programmes are the same, i.e., 700 series. It is proposed that the seminar codes for the Ph.D. programmes should start from the 900 series to avoid any confusion and also in line with the subject code for other PhD courses.

The IRC, in its 73rd meeting held on 02.05.2025, recommended the above proposal to update the seminar codes of PG and PhD Programmes, as detailed below.

- Seminar code for PG Programmes- XYZ-700
- Seminar code for PHD Programmes- XYX-900

The above is submitted for the consideration and approval of the Senate.

Item No.105.17: **To consider the proposal of the Head IIC for awarding Ph.D. Degrees in their respective fields of Master's/Core Study.**

The Head of the Institute Instrumentation Centre (IIC) submitted a proposal seeking approval to award Ph.D. degrees to IIC scholars in their respective fields of Master's/core study **(Appendix-A).**

The IIC offers a multidisciplinary Ph.D. program and admits scholars with diverse academic qualifications, including:
- M.Sc. in Physics, Applied Physics, Material Science, Chemistry, Electronics & Nanotechnology (with NET/GATE)
- M.Sc. in Biological Sciences, Life Sciences, or related fields (with NET/GATE)
- M.Tech. in Computer Science, Biotechnology, Nanotechnology, Material Science, or equivalent (with NET/GATE)
- B.Tech. in Engineering Physics, Electronics & Communication, Computer Science, Biotechnology (with NET/GATE) Research conducted by scholars at IIC is typically aligned with their core academic training. Currently, all Ph.D. degrees are awarded under the umbrella of the Institute Instrumentation Centre, regardless of the scholar's specific research domain.

Key Points in the Request:

1. Alignment with Scholar's Core Background: Awarding the Ph.D. degree in the field of the scholar's core academic background would ensure stronger alignment between their prior qualifications, research focus, and the doctoral degree awarded.

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2. Enhancing Academic and Professional Recognition: This alignment would improve the academic and professional recognition of the scholar's expertise, enhancing career prospects in academia, research, and industry.

3. Domain-Specific Evaluation: CRC members from IIC already include subject experts from relevant departments, ensuring rigorous domain-specific evaluation at the time of admission.

4. Interdisciplinary Approach in SRCs: SRCs are constituted to maintain the multidisciplinary spirit of IIC while including experts aligned with the scholar's research domain.

The IRC, in its 73rd meeting held on 02.05.2025, after detailed deliberation and taking into consideration the students' interest, approved the proposal of IIC received vide email dated 29th April, 2025 subject to the following conditions:

(a) Two DRC members from the relevant department must be co-opted during the selection process of students

(b) SRC chairperson must be from the relevant department and Course work of must be completed from the relevant department.

The above is submitted for the consideration and approval of the Senate.

From: Inst <iic@iitr.ac.in>
To: Dean <daa@iitr.ac.in>
Cc: Head <head@ic.iitr.ac.in>; ramesh <ramesh.chandra@ic.iitr.ac.in>
Date: Tuesday, 29 April 2025 5:43 PM IST
Subject: Request to Award PhD Degree in the fields of Master's/Core study to the PhD Students of IIC

Dear Sir,

1. This is regarding seeking approval to award PhD degrees to the scholars of the Institute Instrumentation Centre (IIC) in their respective fields of Master's/Core study. Currently, this centre has been offering multidisciplinary research opportunities through its PhD program and taking admissions with the following qualifications;

M.Sc. Physics, Applied Physics, Material Science, Chemistry, Electronics & Nanotechnology with NET/GATE, M.Sc. in Biological Sciences, Life Sciences or related with NET/GATE **(OR)**

M.Tech. (CS) / (Biotechnology) / (Nanotechnology) / (Material Science or equivalent) with NET/GATE. **(OR)**

B.Tech (Engineering Physics), (EC) /(CS)/(Biotechnology) with NET/GATE.

2. It would be beneficial for our scholars to receive their doctoral degrees in the areas directly related to their core academic background. This approach will not only enhance the academic relevance of their research but also align their qualifications with their specialized field of expertise. As the scholars of IIC are engaged in research that spread across various disciplines, allowing them to obtain degrees specific to their field of study will ensure both academic integrity and professional recognition in their chosen areas.

3. It may please be noted that the CRC members of this are the subject experts from various departments of the Institute and evaluate the aspirants from different subject fields at the time of PhD Admission Interview. Further, it is also intimated that the allocation of SRC members is done in such a way that represents the centre's multi-disciplinary approach.

4. It is highlighted that awarding the doctoral degree in their respective core field will significantly assist the scholars in their career pursuit post completion of the degree, as they will be primarily assessed in their core fields.

5. In view of the above, it is hereby requested to kindly consider the above issue and grant your approval on this matter.
--

अध्यक्ष/Head

संस्थान उपकरण केंन्द्र/Institute Instrumentation Centre

भारतीय प्रौद्योगिकी संस्थान रुड़की/Indian Institute of Technology Roorkee

Roorkee-247667 (India)
Tel: +91 1332 285307, 4350
Fax:+91 1332 273560
Website:https://iitr.ac.in/Centres/Institute%20Instrumentation%20Centre/index.html

Item No.105.18: To consider the proposal for submitting a One-Page Abstract of Ph.D. Thesis in Hindi.

The Chairperson, Hindi Cell, has forwarded the minutes of the 90th meeting of the *Rajbhasha Karyanvayan Samiti* **(Appendix-A)**. The decision of the *Samiti* is to include one-page abstract of the Ph.D. thesis should be submitted in Hindi.

संस्थान शोध समिति (आईआरसी) ने राजभाषा कार्यान्वयन समिति के कार्यवृत्त पर विचार किया और अनुशंसा की कि पी.एच.डी. थीसिस का एक पृष्ठ का सारांश हिंदी में होना चाहिए। राजभाषा प्रकोष्ठ के अध्यक्ष ने सहमति व्यक्त की है कि संबंधित छात्र के अनुरोध पर राजभाषा प्रकोष्ठ द्वारा अंग्रेज़ी से हिंदी में सारांश का अनुवाद करने में सहायता प्रदान की जाएगी। हालांकि, सारांश की शुद्धता और विषयवस्तु की जिम्मेदारी छात्र और पर्यवेक्षक (सुपरवाइज़र) की ही होगी।

The IRC, in its 73rd meeting held on 02.05.2025 considered the minutes of the Rajbhasha Karyanvayan Samiti and recommended that a one-page abstract of a Ph.D. thesis should be in Hindi. The Chairman of the Rajbhasha Cell has agreed to provide support from the Rajbhasha Cell for translating the abstract from English to Hindi upon request by the concerned student. However, the responsibility for the accuracy and content of the abstract remains with the student and the supervisor.

The above is submitted for the consideration and approval of the Senate.

सोमवार, दिनांक 24 मार्च, 2025 को आयोजित संस्थान राजभाषा कार्यान्वयन समिति की 90 वीं बैठक का कार्यवृत्त ।

बैठक में उपस्थित सदस्यः

1.	प्रो. कमल किशोर पंत, निदेशक	अध्यक्ष(पदेन)
2.	प्रो. उदय प्रताप सिंह, उप निदेशक	सदस्य (पदेन)
3.	प्रो. अविनाश पाराशर, अध्यक्ष, राजभाषा प्रकोष्ठ	सदस्य (पदेन)
4.	प्रो. नागेन्द्र कुमार, भूतपूर्व अध्यक्ष, राजभाषा प्रकोष्ठ	स्थाई विशेष आमंत्रित सदस्य (पदेन)
5.	प्रो. अश्विनी कुमार शर्मा, कुलशासक संकाय मामले	सदस्य (पदेन)
6.	प्रो. नवीन नवानी, कुलशासक शैक्षणिक मामले	स्थाई विशेष आमंत्रित सदस्य (पदेन)
7.	प्रो. आर.डी. गर्ग, कुलशासक पूर्व छात्र मामले	स्थाई विशेष आमंत्रित सदस्य (पदेन)
8.	प्रो. मिली पंत, कुलशासक, सहारनपुर परिसर	सदस्य (पदेन) (वेबेक्स द्वारा द्वारा भाग लिया गया)
9.	प्रो. रजत अग्रवाल, विभागाध्यक्ष प्रबंधन अध्ययन विभाग	सदस्य (पदेन) (अध्यक्ष, कंप्यूटर केन्द्र के स्थान पर)
10.	श्री प्रशांत गर्ग, कुलसचिव	सदस्य (पदेन)
11.	डॉ. संजीव कुमार सनी, उप पुस्तकालयाध्यक्ष, म.गां.के.पु.	सदस्य (पदेन) (पुस्तकालयाध्यक्ष के स्थान पर)
12.	श्रीमती सपना गुप्ता, हिंदी अधिकारी	सदस्य (पदेन)

विगत 89 वीं बैठक के कार्यवृत्त की पुष्टि की गई।

उक्त बैठक का कार्यवृत्त निदेशक (राजभाषा), शिक्षा मंत्रालय, भारत सरकार को भी प्रेषित किया गया तथा उसकी प्रति क्षेत्रीय कार्यान्वयन कार्यालय, उत्तर क्षेत्र, गाजियाबाद को भेजी गई थी।
(समिति ने इसे संज्ञान में लिया।)

राजभाषा प्रकोष्ठ द्वारा समिति को दी गई सूचनाएं, जिन्हें समिति द्वारा संज्ञान में लिया गया :-

1	धारा 3.3 के अंतर्गत सभी कागजात द्विभाषी जारी करना।	अध्यक्ष, राजभाषा प्रकोष्ठ ने समिति को सूचित किया कि धारा 3.3 के अंतर्गत आने वाले सभी दस्तावेज द्विभाषी जारी किए जा रहे हैं। **(समिति ने इसे संज्ञान में लिया।)**
2	हिंदी में पत्राचार की स्थिति	इस संबंध में अध्यक्ष, राजभाषा प्रकोष्ठ द्वारा समिति को सूचित किया गया कि 31 दिसम्बर, 2024 को समाप्त हुई तिमाही में संस्थान द्वारा क्रमशः 'क', 'ख' व 'ग' क्षेत्रों में किया गया पत्राचार निम्नवत हैः- 'क' क्षेत्र का प्रतिशत – 93.0 % है 'ख' क्षेत्र का प्रतिशत – 94.0 % है 'ग' क्षेत्र का प्रतिशत – 68.7 % है 'ग' क्षेत्र हेतु निर्धारित लक्ष्य प्राप्त कर लिया गया है। 'क' व 'ख' क्षेत्र हेतु निर्धारित 100 प्रतिशत के लक्ष्य की ओर बढ़ने के प्रयासों में वृद्धि जारी है। **(समिति ने इसे संज्ञान में लिया)**
3	हिंदी में प्राप्त पत्रों का उत्तर हिंदी में दिया जाना	अध्यक्ष, राजभाषा प्रकोष्ठ ने समिति को सूचित किया कि ऐसे सभी पत्रों का उत्तर हिंदी में ही दिया जा रहा है। **(समिति ने इसे संज्ञान में लिया)**
4	फाइलों पर हिंदी में टिप्पणी	अध्यक्ष, राजभाषा प्रकोष्ठ ने समिति को सूचित किया कि इस संबंध में निर्धारित 75 प्रतिशत के लक्ष्य को प्राप्त कर लिया गया है। **(समिति ने इसे संज्ञान में लिया)**
5	हिंदी भाषा, टंकण व आशुलिपि का प्रशिक्षण	अध्यक्ष, राजभाषा प्रकोष्ठ ने समिति को सूचित किया कि वर्ष 2024-25 हेतु हिंदी भाषा पत्राचार प्रशिक्षण कार्यक्रम (35 वां सत्र) के प्रबोध, प्रवीण तथा प्राज्ञ पाठ्यक्रम हेतु संस्थान के पंजीकृत प्रशिक्षार्थियों हेतु हिंदी भाषा की कक्षाएं जारी हैं तथा मई 2025 में परीक्षाएं आयोजित की जाएंगी।

		हिंदी टंकण/ शब्द संसाधन प्रशिक्षण के 68 वें सत्र (अगस्त 2024 से जनवरी 2025) के प्रशिक्षार्थियों की जनवरी 2025 में हिंदी टंकण की परीक्षा आईआईटी रूड़की केन्द्र पर आयोजित की जा चुकी हैं। संस्थान में आशुलिपिक के पद के स्थान पर 426 पद लिपिक वर्ग के हैं और ये कर्मचारी हिंदी टंकण एवं अंग्रेजी टंकण दोनों में ही निपुण है। **(समिति ने इसे संज्ञान में लिया)**
6	वेबसाइट पूरी तरह से द्विभाषी बनाना तथा उसे अद्यतित रखना	अध्यक्ष, राजभाषा प्रकोष्ठ ने समिति को सूचित किया कि संस्थान वेबसाइट के द्विभाषीकरण की प्रक्रिया में निम्नांकित विभागों की वेबसाइट एवं उनके मुख पृष्ठ को द्विभाषी किया जा चुका है :- प्रायोजित अनुसंधान एवं औद्योगिक परामर्श अनुभाग सूचना का अधिकार प्रकोष्ठ उन्नत भारत अभियान वास्तुकला एवं नियोजन विभाग रासायनिक अभियांत्रिकी विभाग मेहता फैमिली स्कूल ऑफ डेटा साइंस एंड आर्टिफिशियल इंटेलिजेंस जानपद अभियांत्रिकी विभाग संरक्षा कार्यालय जैव विज्ञान एवं जैव अभियांत्रिकी अभिकल्प (डिजाइन) विभाग संगणक विज्ञान एवं अभियांत्रिकी विभाग भूकंप अभियांत्रिकी विभाग भू विज्ञान विभाग साथ ही वेबसाइट के मुख पृष्ठ पर उद्धारित (अपलोड) नवीनतम सामग्री को द्विभाषी रुप में अद्यतित करने का कार्य समय-समय पर किया जा रहा है। **(समिति ने इसे संज्ञान में लिया)**
7	विभागीय आई. टी. सिस्टम्स में हिंदी में कार्य करने की सुविधा व इसका प्रयोग को सुनिश्चित करना	अध्यक्ष, राजभाषा प्रकोष्ठ ने समिति को सूचित किया कि सभी नए आई. टी. सिस्टम्स में हिंदी में कार्य करने की सुविधा अंतर्निहित है तथा पुराने सिस्टम्स में यह सुविधा उपलब्ध कराई जा चुकी है। **(समिति ने इसे संज्ञान में लिया)**
8	कोड/मैनुअल आदि पूरी तरह से द्विभाषी बनाना	अध्यक्ष, राजभाषा प्रकोष्ठ द्वारा समिति को सूचित किया गया कि संस्थान के सभी कोड/ मैनुअल द्विभाषी हैं। **(समिति ने इसे संज्ञान में लिया।)**
9	सभी कंप्यूटर्स पर द्विभाषी सुविधा (यूनीकोड में) उपलब्ध कराना	अध्यक्ष राजभाषा प्रकोष्ठ ने बताया कि संस्थान के समस्त कार्यालयों के कंप्यूटर्स में द्विभाषी सुविधा (यूनीकोड में) उपलब्ध है तथा इस संबंध में विभागों में स्थापित कंप्यूटर्स प्रयोगशालाओं का निरीक्षण भी किया गया है। **(समिति ने इसे संज्ञान में लिया)**
10	राजभाषाई निरीक्षणों की स्थिति	अध्यक्ष राजभाषा प्रकोष्ठ ने समिति को सूचित किया कि विगत तिमाही में संस्थान के लगभग 15 विभागों/अनुभागों का राजभाषा निरीक्षण किया गया। **(समिति ने इसे संज्ञान में लिया)**
11	अनुभागों को अपना पूरा काम हिंदी में करने के लिये अधिसूचित करना	अध्यक्ष राजभाषा प्रकोष्ठ ने समिति को सूचित किया कि संस्थान के पांच विभाग (निर्माण खण्ड, सुरक्षा विभाग, संस्थापन 'ब', सामान्य अनुभाग, संरक्षा अनुभाग) हिंदी में कार्य करने हेतु विनिर्दिष्ट हैं। **(समिति ने इसे संज्ञान में लिया)**

अध्यक्ष, राजभाषा प्रकोष्ठ ने समिति को सूचित किया कि 31 दिसम्बर, 2024 को समाप्त हुई तिमाही की त्रैमासिक रिपोर्ट की प्रतियां शिक्षा मंत्रालय, भारत सरकार के निदेशक (राजभाषा) तथा उप निदेशक, क्षेत्रीय कार्यान्वयन कार्यालय (उत्तर), गृह मंत्रालय, राजभाषा विभाग, गाजियाबाद को भेजी गई थी। क्षेत्रीय कार्यान्वयन कार्यालय (उत्तर), गृह मंत्रालय, राजभाषा विभाग, गाजियाबाद से ऑनलाइन समीक्षा प्राप्त हुई, जो समिति के समक्ष विचारार्थ प्रस्तुत है:-

क्षेत्रीय कार्यान्वयन कार्यालय (उत्तर), गृह मंत्रालय, राजभाषा विभाग, गाजियाबाद द्वारा की गई टिप्पणी	31 दिसम्बर, 2024 को समाप्त हुई तिमाही की त्रैमासिक रिपोर्ट की खास बातें
1. 'क' क्षेत्र तथा 'ख' क्षेत्र के साथ हिंदी पत्राचार का लक्ष्य 100 प्रतिशत है, जबकि आपका पत्राचार 93 प्रतिशत है। स्थिति अच्छी है। कृपया पूरा लक्ष्य प्राप्त करने का प्रयास करें।	अध्यक्ष, राजभाषा प्रकोष्ठ द्वारा समिति को सूचित किया गया कि 31 दिसम्बर, 2024 को समाप्त तिमाही में हिंदी के मूल पत्राचार का प्रतिशत निम्नानुसार रहा:

क्षेत्र	निर्धारित लक्ष्य	30 सितम्बर, 2024 को समाप्त तिमाही का प्रतिशत	31 दिसम्बर, 2024 को समाप्त तिमाही का प्रतिशत
क	100	92.7	93.0
ख	100	93.4	94.0
ग	65	68.4	68.7

समिति द्वारा इसे संज्ञान में लिया गया।

संस्थान राजभाषा कार्यान्वयन समिति की 89 वीं बैठक में लिए गए निर्णयों के संबंध में की गई कार्रवाई का विवरण अध्यक्ष, राजभाषा प्रकोष्ठ द्वारा समिति के समक्ष प्रस्तुत किया गया जो कि निम्नवत है-

बुधवार, दिनांक 04.12.2024 को आयोजित हुई 89 वीं बैठक में लिए गए ऐसे निर्णय जिन पर आगे कार्यवाही वांछित थी।	अनुपालन रिपोर्ट
1.निर्णय लिया गया था कि संस्थान में लगे हुए अंग्रेजी बोर्ड्स के द्विभाषीकरण हेतु कुलशासक, इंफ्रास्ट्रक्चर से संपर्क किया जाए।	अध्यक्ष, राजभाषा प्रकोष्ठ ने सूचित किया कि इस संबंध में कार्रवाई प्रक्रियाधीन है। (समिति ने इसे संज्ञान में लिया)
2.निर्णय लिया गया था कि प्रबंधन अध्ययन विभाग के चौराहा पर स्थापित ई-स्क्रीन पर प्रसारित किए जाने वाले हिंदी सुविचार को संस्कृत में भी प्रसारित किया जाए।	अध्यक्ष, राजभाषा प्रकोष्ठ द्वारा सूचित किया गया कि ई स्क्रीन पर प्रति सप्ताह एक सुविचार हिंदी और संस्कृत दोनों भाषाओं में प्रसारित किया जा रहा है। (समिति ने इसे संज्ञान में लिया)
3. निर्णय लिया गया था कि भारतीय भाषा उत्सव के संदर्भ में संस्थान के स्टाफ एवं छात्र-छात्राओं हेतु निम्नांकित कार्यक्रम आयोजित किए जाएं: • संस्थान की डिजिटल स्क्रीन पर भारत की विविध भाषाओं में एक सुविचार का प्रसारण किया जाए। • स्टाफ एवं छात्र-छात्राओं हेतु लगभग 300 शब्दों की एक निबंध प्रतियोगिता का आयोजन किया जाए, जिसका शीर्षक "आईआईटी रूड़की में मेरा अनुभव" रखा जाए।	अध्यक्ष, राजभाषा प्रकोष्ठ ने सूचित किया कि भारतीय भाषा उत्सव के संदर्भ में दिनांक 11 दिसम्बर, 2024 को आयोजित किए गए कार्यक्रमों का विवरण बिंदुवार प्रस्तुत है:- • इस संबंध में कार्रवाई पूर्ण की गई। • संस्थान के स्टाफ एवं छात्र-छात्राओं हेतु "आईआईटी रूड़की में मेरा अनुभव" नामक शीर्षक पर निबंध लेखन प्रतियोगिता का आयोजन किया गया, जिसमें प्रतिभागियों द्वारा बढ़-चढ़कर भाग लिया गया। इस संबंध में विजेता प्रतिभागियों का परिणाम ईमेल पर घोषित किया जा चुका है।

• संस्थान समुदाय हेतु एक क्विज (प्रश्नोत्तरी) प्रतियोगिता का भी आयोजन किया जाए। • एक सांस्कृतिक कार्यक्रम के आयोजन हेतु कुलशासक, छात्र कल्याण से संपर्क किया जाए।	• संस्थान स्टाफ एवं छात्रों हेतु एक क्विज (प्रश्नोत्तरी) प्रतियोगिता का भी आयोजन किया गया। • दिसम्बर माह में छात्रों के अवकाश पर होने के कारण यह कार्यक्रम अंतर्राष्ट्रीय मातृभाषा दिवस के अवसर पर आयोजित किया गया। (समिति ने इसे संज्ञान में लिया)
4. निर्णय लिया गया था कि फरवरी, 2025 में आयोजित होने वाले अंतर्राष्ट्रीय मातृभाषा दिवस समारोह के आयोजन हेतु भिन्न-भिन्न भाषा भाषी सदस्यों की एक समिति का गठन किया जाए तथा दिवस से जुड़ी गतिविधियों के संबंध में कुलशासक, अंतर्राष्ट्रीय संबंध से विचार विमर्श किया जाए।	अध्यक्ष, राजभाषा प्रकोष्ठ द्वारा सूचित किया गया कि इस संबंध में 20 फरवरी, 2025 को अंतर्राष्ट्रीय मातृभाषा दिवस समारोह का आयोजन किया गया, जिसमें विभिन्न प्रतियोगिताओं के भिन्न-भिन्न भाषा-भाषी प्रतिभागियों को पुरस्कृत किया गया, जिसमें अंतर्राष्ट्रीय छात्र-छात्राओं द्वारा भी प्रतिभागिता की गई। कार्यक्रम के मुख्य अतिथि राजस्थानी भाषा के प्रसिद्ध कवि एवं साहित्यकार, श्री नंद भारद्वाज थे तथा कार्यक्रम की अध्यक्षता संस्थान के उप निदेशक महोदय द्वारा की गई। (समिति ने इसे संज्ञान में लिया)

समिति द्वारा लिए गए महत्वपूर्ण निर्णय:

1. समिति ने निर्णय लिया कि संस्थान के सभी विभागों/अनुभागों को यह सूचित किया जाए कि 'क' व 'ख' क्षेत्र से मूल हिंदी पत्राचार का लक्ष्य 100 प्रतिशत है, अत: मूल रुप से भेजे जाने वाले पत्र हिंदी में अथवा आवश्यकतानुसार द्विभाषी भेजे जाएं।

2. समिति ने निर्णय लिया कि शैक्षणिक मामले कार्यालय की वेबसाइट को द्विभाषी किया जाए।

3. समिति ने निर्णय लिया कि पीएच.डी. थीसिस के सारांश (एब्स्ट्रेक्ट) के हिंदी अनुवाद को एक पृष्ठ में पूर्ण किया जाए।

4. समिति ने निर्णय लिया कि संस्थान में लगे सभी साइनबोर्ड को द्विभाषी रुप में लगवाया जाना सुनिश्चित किया जाए।

5. समिति ने संज्ञान में लिया कि न.रा.का.स. हरिद्वार की आगामी 40 वीं अर्द्धवार्षिक बैठक का आयोजन आईआईटी रूड़की द्वारा अगस्त 2025 में किया जाएगा।

6. समिति ने निर्णय लिया कि राजभाषा प्रकोष्ठ की अर्द्धवार्षिक पत्रिका 'प्रौद्योगिकी मंथन' में विभागों तथा संकाय सदस्यों द्वारा किए जाने वाले जन उपयोगी शोधों को आम जन की भाषा में प्रकाशित किया जाए, ताकि महत्वपूर्ण जानकारी लोगों तक पहुंच सके।

7. समिति ने निर्णय लिया कि 'प्रौद्योगिकी मंथन' पत्रिका से संबंधित आर.एन.आई. प्रक्रिया जो काफी समय से लंबित है, उसकी समस्त कागजी कार्रवाई को समाप्त कर दिया जाए तथा पत्रिका को पूर्व की भांति बिना रजिस्ट्रेशन प्रक्रिया के प्रकाशित किया जाए।

बैठक के अध्यक्ष/निदेशक को, धन्यवाद के साथ यह बैठक संपन्न हुई।

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Item No.105.19: To consider the Hindi names of the UG and PG programmes for degree certificates.

The degrees for several UG and PG programmes are scheduled to be awarded in Convocation-2025. The names of the programmes in English have been approved previously by the Senate and are listed alongside these names; the corresponding translations in Hindi for the UG and PG programmes are provided as **Appendix-A**.

It is stated that the Hindi names of the programmes have been vetted by the Hindi Cell.

The above is submitted for the consideration and approval of the Senate.

टिप्पणियाँ एवं आदेश
Notes and Order

Dean of Academic Affairs.

The office has ascertained that degrees will be awarded to the first batch of graduands of certain UG & PG programmes. The verification of Hindi and English names for those programmes are required such that the relevant degree formats can be finalized.

The PG programmes in which the degrees will be awarded to the first batch of graduands in Convocation'25 are:

Department Name in English	विभाग का नाम हिंदी में	Programme Name in English(M.Tech)	प्रोग्राम का नाम हिंदी में (प्रौद्योगिकी निष्णात)
Department of Applied Mathematics and Scientific Computing	अनुप्रयुक्त गणित एवं वैज्ञानिक संगणना विभाग	Applied Mathematics and Scientific Computing	अनुप्रयुक्त गणित एवं वैज्ञानिक संगणना
Department of Electronics and Communication Engineering	इलेक्ट्रॉनिकी एवं संचार अभियांत्रिकी विभाग	Terahertz Communication and Sensing	टेराहर्ट्ज़ संचार एवं संवेदन
Department of Electronics and Communication Engineering	इलेक्ट्रॉनिकी एवं संचार अभियांत्रिकी विभाग	Semiconductor Technology	अर्धचालक प्रौद्योगिकी
Department Name in English	**विभाग का नाम हिंदी में**	**Programme Name in English**	**प्रोग्राम का नाम हिंदी में**
Department of Management Studies	प्रबंधन अध्ययन विभाग	Executive Master of Business Administration	एक्जेक्यूटिव व्यवसाय प्रशासन में निष्णात / कार्यकरी

The report of the PG Curriculum Revision Committee 2023(**F/A**) had also mandated that the degree should be awarded with the programme specialization. Though the same has been revised by the 103rd Senate vide notification no. Acd./7675/ Senate-103 dated February 04, 2025(**F/B**). Accordingly, the degrees which were previously awarded based on the department name will now have to be awarded as per there specialization and department name.

The PG programmes in which the degrees with the revised names as per there specialization and department, will be awarded in Convocation'25. Accordingly, the Hindi and English names of the specialization and departments are as per **Annexure-I**.

The PG programmes in which the degrees were previously awarded as per there specialization only. The department names will also be required to be included in the degrees which will be awarded in Convocation'25. Accordingly, the Hindi and English names of the departments are as per **Annexure-II**.

The UG programmes/specializations in which the degrees will be awarded to the first batch of graduands in Convocation'25 are as per **Annexure-III**.

In view of the above the degree and department names, as applicable maybe approved with the recommendation of the Chairman, Hindi Cell.

Department/Centre/School Name in English	विभाग/केंद्र/स्कूल का नाम हिंदी में	Program Name in English (Master of Technology)	प्रोग्राम का नाम हिंदी में (प्रौद्योगिकी निष्णात)
Department of Civil Engineering	सिविल अभियांत्रिकी विभाग	Environmental Engineering	पर्यावरण अभियांत्रिकी
Department of Civil Engineering	सिविल अभियांत्रिकी विभाग	Geospatial Engineering	भूस्थानिक अभियांत्रिकी
Department of Civil Engineering	सिविल अभियांत्रिकी विभाग	Geotechnical Engineering	भूतकनीकी अभियांत्रिकी
Department of Civil Engineering	सिविल अभियांत्रिकी विभाग	Hydraulics Engineering	जलीय अभियांत्रिकी
Department of Civil Engineering	सिविल अभियांत्रिकी विभाग	Structural Engineering	संरचनात्मक अभियांत्रिकी
Department of Civil Engineering	सिविल अभियांत्रिकी विभाग	Transportation Engineering	परिवहन अभियांत्रिकी
Department of Earthquake Engineering	भूकम्प अभियांत्रिकी विभाग	Seismic Vulnerability and Risk Assessment	भूकम्पीय भेद्यता एवं आशंका-आकलन
Department of Earthquake Engineering	भूकम्प अभियांत्रिकी विभाग	Soil Dynamics	मृदा गतिकी
Department of Earthquake Engineering	भूकम्प अभियांत्रिकी विभाग	Structural Dynamics	संरचनात्मक गतिकी
Department of Electrical Engineering	विद्युत अभियांत्रिकी विभाग	Electric Drives and Power Electronics	विद्युतीय चालन एवं पावर इलेक्ट्रॉनिक्स
Department of Electrical Engineering	विद्युत अभियांत्रिकी विभाग	Electric Vehicle Technology	विद्युतीय-वाहन प्रौद्योगिकी
Department of Electrical Engineering	विद्युत अभियांत्रिकी विभाग	Instrumentation and Signal Processing	उपकरण एवं संकेत प्रक्रमन
Department of Electrical Engineering	विद्युत अभियांत्रिकी विभाग	Power System Engineering	पावर प्रणाली अभियांत्रिकी
Department of Electrical Engineering	विद्युत अभियांत्रिकी विभाग	System and Control	प्रणाली एवं नियंत्रण
Department of Electronics and Communication Engineering	इलेक्ट्रॉनिकी एवं संचार अभियांत्रिकी विभाग	Communication Systems	संचार प्रणालियाँ
Department of Electronics and Communication Engineering	इलेक्ट्रॉनिकी एवं संचार अभियांत्रिकी विभाग	Microelectronic and V.L.S.I.	माइक्रोइलेक्ट्रॉनिक एवं वी.एल.एस.आई.
Department of Electronics and Communication Engineering	इलेक्ट्रॉनिकी एवं संचार अभियांत्रिकी विभाग	R.F. and Microwave Engineering	आर.एफ. एवं माइक्रोवेव अभियांत्रिकी
Department of Electronics and Communication Engineering	इलेक्ट्रॉनिकी एवं संचार अभियांत्रिकी विभाग	V.L.S.I.	वी.एल.एस.आई.
Department of Hydrology	जलविज्ञान विभाग	Ground Water Hydrology	भूजल जलविज्ञान
Department of Hydrology	जलविज्ञान विभाग	Surface Water Hydrology	भूपृष्ठीय जलविज्ञान
Department of Hydrology	जलविज्ञान विभाग	Watershed Management	जलविभाजन प्रबंधन
Department of Mechanical and Industrial Engineering	यांत्रिक एवं औद्योगिक अभियांत्रिकी विभाग	Additive and Joining Technologies	योज्य एवं संयोजन प्रौद्योगिकियाँ
Department of Mechanical and Industrial Engineering	यांत्रिक एवं औद्योगिक अभियांत्रिकी विभाग	CAD,CAM and Robotics	कैड, कैम एवं रोबोटिक्स
Department of Mechanical and Industrial Engineering	यांत्रिक एवं औद्योगिक अभियांत्रिकी विभाग	Machine Design Engineering	यंत्र अभिकल्पना अभियांत्रिकी
Department of Mechanical and Industrial Engineering	यांत्रिक एवं औद्योगिक अभियांत्रिकी विभाग	Production and Industrial Systems Engineering	उत्पादन एवं औद्योगिक प्रणालियाँ
Department of Mechanical and Industrial Engineering	यांत्रिक एवं औद्योगिक अभियांत्रिकी विभाग	Thermal Engineering	ऊष्मगतिकी अभियांत्रिकी
Department of Metallurgical and Materials Engineering	धातुकर्म एवं पदार्थ अभियांत्रिकी विभाग	Industrial Metallurgy	औद्योगिक धातुकर्म
Department of Metallurgical and Materials Engineering	धातुकर्म एवं पदार्थ अभियांत्रिकी विभाग	Materials Engineering	पदार्थ अभियांत्रिकी

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15/04/2025

Department/Centre/School Name in English	विभाग/केंद्र/स्कूल का नाम हिंदी में	Program Name in English (Master of Technology)	प्रोग्राम का नाम हिंदी में (प्रौद्योगिकी निष्णात)
Department of Civil Engineering	सिविल अभियान्त्रिकी विभाग	Environmental Engineering	पर्यावरण अभियान्त्रिकी
Department of Civil Engineering	सिविल अभियान्त्रिकी विभाग	Geospatial Engineering	भूस्थानिक अभियान्त्रिकी
Department of Civil Engineering	सिविल अभियान्त्रिकी विभाग	Geotechnical Engineering	भूतकनीकी अभियान्त्रिकी
Department of Civil Engineering	सिविल अभियान्त्रिकी विभाग	Hydraulics Engineering	जलीय अभियान्त्रिकी
Department of Civil Engineering	सिविल अभियान्त्रिकी विभाग	Structural Engineering	संरचनात्मक अभियान्त्रिकी
Department of Civil Engineering	सिविल अभियान्त्रिकी विभाग	Transportation Engineering	परिवहन अभियान्त्रिकी
Department of Earthquake Engineering	भूकम्प अभियान्त्रिकी विभाग	Seismic Vulnerability and Risk Assessment	भूकम्पीय भेद्यता एवं जोखिम आकलन
Department of Earthquake Engineering	भूकम्प अभियान्त्रिकी विभाग	Soil Dynamics	मृदा गतिकी
Department of Earthquake Engineering	भूकम्प अभियान्त्रिकी विभाग	Structural Dynamics	संरचनात्मक गतिकी
Department of Electrical Engineering	विद्युत अभियान्त्रिकी विभाग	Electric Drives and Power Electronics	विद्युत परिचालन एवं विद्युत इलेक्ट्रॉनिक्स
Department of Electrical Engineering	विद्युत अभियान्त्रिकी विभाग	Electric Vehicle Technology	विद्युत वाहन प्रौद्योगिकी
Department of Electrical Engineering	विद्युत अभियान्त्रिकी विभाग	Instrumentation and Signal Processing	उपकरण एवं संकेतक प्रौद्योगिकी
Department of Electrical Engineering	विद्युत अभियान्त्रिकी विभाग	Power System Engineering	विद्युत प्रणाली अभियान्त्रिकी
Department of Electrical Engineering	विद्युत अभियान्त्रिकी विभाग	System and Control	प्रणाली एवं नियंत्रण
Department of Electronics and Communication Engineering	इलेक्ट्रॉनिक्स एवं संचार अभियान्त्रिकी विभाग	Communication Systems	संचार प्रणालियाँ
Department of Electronics and Communication Engineering	इलेक्ट्रॉनिक्स एवं संचार अभियान्त्रिकी विभाग	Microelectronic and V.L.S.I.	माइक्रोइलेक्ट्रॉनिक एवं वी.एल.एस.आई.
Department of Electronics and Communication Engineering	इलेक्ट्रॉनिक्स एवं संचार अभियान्त्रिकी विभाग	R.F. and Microwave Engineering	आर.एफ. एवं माइक्रोवेव अभियान्त्रिकी
Department of Electronics and Communication Engineering	इलेक्ट्रॉनिक्स एवं संचार अभियान्त्रिकी विभाग	V.L.S.I.	वी.एल.एस.आई.
Department of Hydrology	जलविज्ञान विभाग	Ground Water Hydrology	भूजल जलविज्ञान
Department of Hydrology	जलविज्ञान विभाग	Surface Water Hydrology	सतही जल जलविज्ञान
Department of Hydrology	जलविज्ञान विभाग	Watershed Management	जलविभाजन प्रबंधन
Department of Mechanical and Industrial Engineering	यांत्रिक एवं औद्योगिक अभियान्त्रिकी विभाग	Additive and Joining Technologies	वाज्य एवं संयाजन प्रौद्योगिकियाँ
Department of Mechanical and Industrial Engineering	यांत्रिक एवं औद्योगिक अभियान्त्रिकी विभाग	CAD,CAM and Robotics	कैड, कैम एवं रोबोटिक्स
Department of Mechanical and Industrial Engineering	यांत्रिक एवं औद्योगिक अभियान्त्रिकी विभाग	Machine Design Engineering	यंत्र अभिकल्पना अभियान्त्रिकी
Department of Mechanical and Industrial Engineering	यांत्रिक एवं औद्योगिक अभियान्त्रिकी विभाग	Production and Industrial Systems Engineering	उत्पादन एवं औद्योगिक प्रणालियाँ अभियान्त्रिकी
Department of Mechanical and Industrial Engineering	यांत्रिक एवं औद्योगिक अभियान्त्रिकी विभाग	Thermal Engineering	ऊष्मागतिक अभियान्त्रिकी
Department of Metallurgical and Materials Engineering	धातुकर्म एवं पदार्थ अभियान्त्रिकी विभाग	Industrial Metallurgy	औद्योगिक धातुकर्म
Department of Metallurgical and Materials Engineering	धातुकर्म एवं पदार्थ अभियान्त्रिकी विभाग	Materials Engineering	पदार्थ अभियान्त्रिकी

Department/Centre/School Name in English	विभाग/केंद्र/स्कूल का नाम हिंदी में	Programme Name in English	प्रोग्राम का नाम हिंदी में
Department of Applied Mathematics and Scientific Computing	अनुप्रयुक्त गणित एवं वैज्ञानिक संगणना विभाग	Master of Technology in Applied Mathematics and Scientific Computing	अनुप्रयुक्त गणित एवं वैज्ञानिक संगणना में प्रौद्योगिकी निष्णात
Department of Electronics and Communication Engineering	इलेक्ट्रानिक्स एवं संचार अभियांत्रिकी विभाग	Master of Technology in Terahertz Communication and Sensing	टेराहर्ट्ज़ संचार एवं संवेदन में प्रौद्योगिकी निष्णात
Department of Electronics and Communication Engineering	इलेक्ट्रानिक्स एवं संचार अभियांत्रिकी विभाग	Master of Technology in Semiconductor Technology	अर्धचालक प्रौद्योगिकी में प्रौद्योगिकी निष्णात
Department of Management Studies	प्रबंधन अध्ययन विभाग	Executive Master of Business Administration	व्यवसाय प्रशासन में कार्यकारी निष्णात

Department/Centre/School Name in English	विभाग/केंद्र/स्कूल का नाम हिंदी में
Department of Architecture and Planning	वास्तुकला एवं नियोजन विभाग
Department of Biosciences and Bioengineering	जीवविज्ञान एवं जीवअभियांत्रिकी विभाग *(जैव विज्ञान एवं जैवअभियांत्रिकी)*
Department of Chemical Engineering	रासायनिक अभियांत्रिकी विभाग
Department of Chemistry	रसायन विभाग
Department of Computer Science and Engineering	कम्प्यूटर विज्ञान एवं अभियांत्रिकी विभाग
Department of Design	अभिकल्प विभाग
Department of Earth Sciences	भूविज्ञान विभाग
Department of Humanities and Social Sciences	मानविकी एवं सामाजिक विज्ञान विभाग
Department of Hydro and Renewable Energy	जल एवं नवीकरणीय ऊर्जा विभाग
Department of Management Studies	प्रबन्धन अध्ययन विभाग
Department of Mathematics	गणित विभाग
Department of Paper Technology	कागज प्रौद्योगिकी विभाग
Department of Physics	भौतिकी विभाग
Department of Polymer and Process Engineering	पॉलिमर एवं प्रक्रम विभाग *(बहुलक एवं प्रक्रम अभियांत्रिकी विभाग)*
Department of Water Resources Development and Management	जल संसाधन विकास एवं प्रबंधन विभाग
International Centre of Excellence for Dams	अंतर्राष्ट्रीय बाँध उत्कृष्टता केन्द्र
Centre of Excellence in Disaster Mitigation & Management	आपदा न्यूनीकरण तथा प्रबंधन उत्कृष्टता केन्द्र
Centre for Nanotechnology	नैनोप्रौद्योगिकी केन्द्र
Centre for Transportation Systems	परिवहन संरचना केन्द्र *(परिवहन प्रणाली केंद्र)*
Mehta Family School of Data Science and Artificial Intelligence	मेहता फैमली स्कूल ऑफ डेटा विज्ञान एवं कृत्रिम बुद्धिमत्ता

प्रो० अविनाश पाराशर / Prof. Avinash Parashar
अध्यक्ष/Chairman
राजभाषा प्रकोष्ठ/Official Language Cell
भा०प्रौ०सं०/IIT Roorkee
रूड़की/Roorkee-247667

Department/Centre/School Name in English	विभाग/केंद्र/स्कूल का नाम हिंदी में
Department of Architecture and Planning	वास्तुकला एवं नियोजन विभाग
Department of Biosciences and Bioengineering	जैवविज्ञान एवं जैवअभियांत्रिकी विभाग
Department of Chemical Engineering	रासायनिक अभियांत्रिकी विभाग
Department of Chemistry	रसायन विज्ञान विभाग
Department of Computer Science and Engineering	कम्प्यूटर विज्ञान एवं अभियांत्रिकी विभाग
Department of Design	अभिकल्प विभाग
Department of Earth Sciences	भूविज्ञान विभाग
Department of Humanities and Social Sciences	मानविकी एवं सामाजिक विज्ञान विभाग
Department of Hydro and Renewable Energy	जल एवं नवीकरणीय ऊर्जा विभाग
Department of Management Studies	प्रबन्धन अध्ययन विभाग
Department of Mathematics	गणित विभाग
Department of Paper Technology	कागज प्रौद्योगिकी विभाग
Department of Physics	भौतिकी विभाग
Department of Polymer and Process Engineering	बहुलक एवं प्रक्रम अभियांत्रिकी विभाग
Department of Water Resources Development and Management	जल संसाधन विकास एवं प्रबंधन विभाग
International Centre of Excellence for Dams	अंतर्राष्ट्रीय बाँध उत्कृष्टता केन्द्र
Centre of Excellence in Disaster Mitigation & Management	आपदा न्यूनीकरण तथा प्रबंधन उत्कृष्टता केन्द्र
Centre for Nanotechnology	नैनोप्रौद्योगिकी केन्द्र
Centre for Transportation Systems	परिवहन प्रणाली केन्द्र
Mehta Family School of Data Science and Artificial Intelligence	मेहता फेमली स्कूल ऑफ डेटा विज्ञान एवं कृत्रिम बुद्धि

Degree Name	Name in English	हिन्दी नाम
BS-MS Dual Degree	Bachelor of Science (B.S.) in Chemical Science	रासायनिक विज्ञान में विज्ञान स्नातक (बी.एस.)
BS-MS Dual Degree	Bachelor of Science (B.S.) in Chemical Science under the 5 Year BS-MS Dual Degree Programme upon	रासायनिक विज्ञान में विज्ञान स्नातक (बी.एस.) की उपाधि 5 वर्षीय बीएस-एमएस द्वि उपाधि कार्यक्रम के अन्तर्गत
	Master of Science (M.S.) in Chemical Science under the 5 Year BS-MS Dual Degree Programme upon	रासायनिक विज्ञान में विज्ञान निष्णात (एम.एस.) की उपाधि 5 वर्षीय बीएस-एमएस द्वि उपाधि कार्यक्रम के अन्तर्गत
BS-MS Dual Degree	Bachelor of Science (B.S.) in Physics	भौतिकी में विज्ञान स्नातक (बी.एस.)
BS-MS Dual Degree	Bachelor of Science (B.S.) in Physics under the 5 Year BS-MS Dual Degree Programme upon	भौतिकी में विज्ञान स्नातक (बी.एस.) की उपाधि 5 वर्षीय बीएस-एमएस द्वि उपाधि कार्यक्रम के अन्तर्गत
	Master of Science (M.S.) in Physics under the 5 Year BS-MS Dual Degree Programme upon	भौतिकी में विज्ञान निष्णात (एम.एस.) की उपाधि 5 वर्षीय बीएस-एमएस द्वि उपाधि कार्यक्रम के अन्तर्गत
BS-MS Dual Degree	Bachelor of Science (B.S.) in Mathematics & Computing	गणित एवं संगणना में विज्ञान स्नातक (बी.एस.)

सपना गुप्ता/Sapna Gupta
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प्रो० अविनाश पाराशर/Prof. Avinash Parashar
अध्यक्ष/Chairman
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भा०प्रौ०सं०/IIT Roorkee
रूड़की/Roorkee-247667

Degree Name	Name in English	हिन्दी नाम
BS-MS Dual Degree	Bachelor of Science (B.S.) in Mathematics & Computing under the 5 Year BS-MS Dual Degree Programme upon --- Master of Science (M.S.) in Mathematics & Computing under the 5 Year BS-MS Dual Degree Programme upon	गणित एवं संगणना में विज्ञान स्नातक (बी.एस.) की उपाधि 5 वर्षीय बीएस-एमएस द्वि उपाधि कार्यक्रम के अन्तर्गत --- गणित एवं संगणना में विज्ञान निष्णात (एम.एस.) की उपाधि 5 वर्षीय बीएस-एमएस द्वि उपाधि कार्यक्रम के अन्तर्गत
BS-MS Dual Degree	Bachelor of Science (B.S.) in Economics	अर्थशास्त्र में विज्ञान स्नातक (बी.एस.)
BS-MS Dual Degree	Bachelor of Science (B.S.) in Economics under the 5 Year BS-MS Dual Degree Programme upon --- Master of Science (M.S.) in Economics under the 5 Year BS-MS Dual Degree Programme upon	अर्थशास्त्र में विज्ञान स्नातक (बी.एस.) की उपाधि 5 वर्षीय बीएस-एमएस द्वि उपाधि कार्यक्रम के अन्तर्गत --- अर्थशास्त्र में विज्ञान निष्णात (एम.एस.) की उपाधि 5 वर्षीय बीएस-एमएस द्वि उपाधि कार्यक्रम के अन्तर्गत
Bachelor of Technology (with Minor Specialization)	Minor Specialization in Architecture	वास्तुकला में लघु विशेषज्ञता
Bachelor of Technology (with Minor Specialization)	Minor Specialization in Data Science and Artificial Intelligence	डेटा विज्ञान एवं कृत्रिम बुद्धि में लघु विशेषज्ञता

Degree Name	Name in English	हिन्दी नाम
BS-MS Dual Degree	Bachelor of Science (B.S.) in Chemical Sciences	रासायनिक विज्ञान में विज्ञान स्नातक (बी.एस.)
BS-MS Dual Degree	Bachelor of Science (B.S.) in Chemical Sciences under the 5 Year BS-MS Dual Degree Programme upon --- Master of Science (M.S.) in Chemical Sciences under the 5 Year BS-MS Dual Degree Programme upon	रासायनिक विज्ञान में विज्ञान स्नातक (बी.एस.) की उपाधि 5 वर्षीय बीएस-एमएस द्वि उपाधि कार्यक्रम के अन्तर्गत --- रासायनिक विज्ञान में विज्ञान निष्णात (एम.एस.) की उपाधि 5 वर्षीय बीएस-एमएस द्वि उपाधि कार्यक्रम के अन्तर्गत
BS-MS Dual Degree	Bachelor of Science (B.S.) in Physics	भौतिकी में विज्ञान स्नातक (बी.एस.)
BS-MS Dual Degree	Bachelor of Science (B.S.) in Physics under the 5 Year BS-MS Dual Degree Programme upon --- Master of Science (M.S. in Physics under the 5 Year BS-MS Dual Degree Programme upon	भौतिकी में विज्ञान स्नातक (बी.एस.) की उपाधि 5 वर्षीय बीएस-एमएस द्वि उपाधि कार्यक्रम के अन्तर्गत --- भौतिकी में विज्ञान निष्णात (एम.एस.) की उपाधि 5 वर्षीय बीएस-एमएस द्वि उपाधि कार्यक्रम के अन्तर्गत
BS-MS Dual Degree	Bachelor of Science (B.S.) in Mathematics & Computing	गणित एवं संगणना में विज्ञान स्नातक (बी.एस.)
BS-MS Dual Degree	Bachelor of Science (B.S.) in Mathematics & Computing under the 5 Year BS-MS Dual Degree Programme upon --- Master of Science (M.S.) in Mathematics & Computing under the 5 Year BS-MS Dual Degree Programme upon	गणित एवं संगणना में विज्ञान स्नातक (बी.एस.) की उपाधि 5 वर्षीय बीएस-एमएस द्वि उपाधि कार्यक्रम के अन्तर्गत --- गणित एवं संगणना में विज्ञान निष्णात (एम.एस.) की उपाधि 5 वर्षीय बीएस-एमएस द्वि उपाधि कार्यक्रम के अन्तर्गत
BS-MS Dual Degree	Bachelor of Science (B.S.) in Economics	अर्थशास्त्र में विज्ञान स्नातक (बी.एस.)
BS-MS Dual Degree	Bachelor of Science (B.S.) in Economics under the 5 Year BS-MS Dual Degree Programme upon --- Master of Science (M.S.) in Economics under the 5 Year BS-MS Dual Degree Programme upon	अर्थशास्त्र में विज्ञान स्नातक (बी.एस.) की उपाधि 5 वर्षीय बीएस-एमएस द्वि उपाधि कार्यक्रम के अन्तर्गत --- अर्थशास्त्र में विज्ञान निष्णात (एम.एस.) की उपाधि 5 वर्षीय बीएस-एमएस द्वि उपाधि कार्यक्रम के अन्तर्गत
Bachelor of Technology (with Minor Specialization)	Minor Specialization in Architecture	वास्तुकला में लघु विशेषज्ञता
Bachelor of Technology (with Minor Specialization)	Minor Specialization in Data Science and Artificial Intelligence	डेटा विज्ञान एवं कृत्रिम बुद्धि में लघु विशेषज्ञता

Item No.105.20: To report the date and schedule of Convocation-2025 /Proposal for organizing the forthcoming Convocation.

The Convocation date has been changed, to September 05, 2025 from the previously notified September 06, 2025.

Item No.105.21: To report the institution of new awards/scholarships:

S. No.	Name of Awards/ MCM Scholarship	Criteria	Implemented & Recommended by
A. Awards/Scholarships:			
1.	Ashupriya Jha Award for Cultural Excellence	Mr. Kunal Kaushal, Alumni of IITR (B. Tech. 2003), has established a corpus to create one (01) cash prize of Rs. 50,000/- every year to a graduating female B. Tech. student. The criterion shall demonstrate excellence in cultural activities throughout the candidate's four-year tenure on the campus. Recommendation for this award will be received from the Cultural Society of IIT Roorkee. This award will be awarded from the academic year 2024-25 (Convocation 2025).	Cultural Society
2.	AI.tech Scholarship	Media.Net Software Services (India) Private Limited, Mumbai has created a corpus to support up to a maximum of Rs. 2.0 lakh per annum per student up to a maximum of 14 students each year. **Eligibility:** This scholarship shall be awarded to the students (in order of higher CGPA) who were shortlisted for this scholarship in 2022. In case there are fewer eligible 4th year students, the IIT Roorkee will invite applications from 4th year students of B.Tech. (Computer Science and Engineering, Electrical Engineering, Electronics and Communication Engineering); BS-MS (Mathematics and Computing), or Integrated M.Sc. (Applied Mathematics)	SCSP Office

S. No.	Name of Awards/ MCM Scholarship	Criteria	Implemented & Recommended by
		programmes having annual parental income below Rs. 8.0 lakh. If IIT Roorkee does not receive the required number of eligible applicants from the 4th year students, applications may be invited from 3rd year students. The student who has already availed of the benefit of tuition fee from any other source will not be eligible for this scholarship. Implementation & Recommendation of this scholarship will be done by the SCSP office. This scholarship by way of a one-time grant will be given for the academic year 2024-25.	
3.	Viva Gaur Memorial Internship	Prof. Rashmi Gaur, IIT Roorkee, has established a corpus to create an annual internship of Rs. 20,000/- per year. This annual internship will focus on supporting bright students in carrying out research/academic work on topics related to Indian Knowledge Systems. The awardee will be decided by a committee appointed by Head, Centre for Indian Knowledge System. Recommendation for this award will be received from the Centre- Indian Knowledge System. This award will be awarded from the academic year 2025-26.	Centre- Indian Knowledge System
4.		Ms. Nerupama Yadav Modwel (sister of Late Shri Ajit Singh Yadav, alum of UOR-1979 batch), Gurgaon, has revised the MoU as per the following details:	SCSP Office, Department of Mechanical & Industrial Engineering

S. No.	Name of Awards/ MCM Scholarship	Criteria	Implemented & Recommended by
	i. Ajit Singh Yadav Memorial Gold Medal	**i. Ajit Singh Yadav Memorial Gold Medal:** The Gold Medal will be given to the topper of the PG course in Mechanical and Industrial Engineering from **Convocation-2026** onwards.	and Cultural Society
	ii. Ajit Singh Yadav Memorial Cash Prize	**ii. Ajit Singh Yadav Memorial Cash Prize:** Cash prize of Rs. 20,000/- to be given to a student on the basis of below mentioned criteria: a. Weightage up to 75% to a student having the highest CGPA up to the 2nd year in the Mechanical & Industrial Engineering Department. b. 25% of the following: • Introduction to Environmental Studies (CE) and • Ethics & Self Awareness (HSS) • Engineering Analysis & Design (ME)	
	iii. Ajit Singh Yadav Memorial Essay Prize	**iii. Ajit Singh Yadav Memorial Essay Prize:** Essay Prize of Rs. 20,000/- to be given to a student of any discipline for writing the best Essay on a general topic in terms of content and writing style that encourages independent thinking and originality, to be organized by the Cultural Society. Recommendation for Ajit Singh Yadav Memorial Gold Medal will be done by the SCSP office, recommendation for Ajit Singh Yadav Memorial Cash Prize will be received	

S. No.	Name of Awards/ MCM Scholarship	Criteria	Implemented & Recommended by
		from the Department of Mechanical & Industrial Engineering, and recommendation for Ajit Singh Yadav Memorial Essay Prize will be received from the Cultural Society of IIT Roorkee. These awards will be awarded from the academic year 2025-26.	
5.	Dr. Reeta Gupta WiSTEM Full Fee Waiver	Mr. Praveen Gupta, an alum of M.Sc. (Physics)- 1980 batch, has established a corpus to create a scholarship of approx. Rs. 3 Lakhs annually for next **four-five (04 years if student opts for BS only & 05 years if opts for BS-MS)** years for one financially constrained student (gross income < Rs. 5 lakhs). The donation amount may be increased by 10-15%, considering the increase in the fee (due to inflation). The criteria are as follows: i. The full fee waiver (Institute Fees, Semester charges, Hostel charges and Mess charges etc.) will be given to a female student of BS-MS (Chemical Sciences)- 1st year. ii. The same student will get the Full Fee Waiver for the entire tenure of the program if she maintains a minimum CGPA- 7.5. iii. Female student of BS-MS (Chemical Sciences)- 1st year will be shortlisted based on the JEE Adv. Rank out of the applications invited for tuition fee waiver. The Gross annual parental income should be less than Rs. 5 Lakhs.	SCSP Office

S. No.	Name of Awards/ MCM Scholarship	Criteria	Implemented & Recommended by
		iv. If the student fails to maintain a minimum CGPA of 7.5 in the previous Academic Year or the gross annual parental income exceeds Rs. 5 lakhs, the decision to grant a fee waiver for the following year will be at the discretion of the donor. Implementation & Recommendation of this scholarship will be done by the SCSP office. This scholarship will be awarded from the academic year 2025-26.	
6.	Prof. (Mrs.) Poonam Sagar Award in Humanities and Social Sciences	Sri Shailendra Sagar, IPS (Retd.) Lucknow, has established a corpus to create an annual award of Rs. 20,000/- to a graduating female student of BS-MS program, who achieves the highest CGPA. This award may be given to a graduating student of 4th/5th year as per recommendation by the department concerned. Recommendation for this award will be received from the Department of Humanities and Social Sciences. This award will be awarded from the academic year 2025-26 (Convocation 2026).	Department of Humanities and Social Sciences
7.	Kathpalia Award for Environment	Mr. G.N. Kathpalia, an alum of 1949 batch, has revised his MoU to award only one award of Rs. 20,000/- will be given for the best dissertation in the area of environmental aspects amongst the graduating students of M.Tech. programme of the Department of Water Resources Development and Management.	Department of Water Resources Development and Management

S. No.	Name of Awards/ MCM Scholarship	Criteria	Implemented & Recommended by
		Recommendation for this award will be received from the Department of Water Resources Development and Management. This award will be awarded from the academic year 2024-25 (Convocation 2025).	
8.	HORIBA Talent Hunt Scholarship	Dr. Rajeev Gautam, President, HORIBA India Pvt. Ltd., New Delhi, signed an MoU titled, "HORIBA Talent Hunt Scholarship" for fee waiver of UG students with IITR on March 12, 2025 to create a corpus to provide a one-time fee waiver of Rs. 66,000/- each to support thirty (30) financially weaker students whose parental annual income is less than Rs. 5 Lakhs under Corporate Social Responsibility (CSR). Among 30 students, 07 students from the first year and 23 students from the non-first year should be selected. **Eligibility:** All UG students who have been shortlisted for 2/3 Tuition Fee Waiver, but did not qualify for the Merit Cum Means (MCM) scholarship will be considered for the HORIBA India partial fee waiver based on merit (higher CGPA/JEE Adv. Rank). **Selection Process:** Since the eligibility criteria for the HORIBA scholarship resembles with the Institute's Tuition Fee Waiver, it has been decided to shortlist the list of awardees for **"HORIBA Talent Hunt Scholarship"** from the students who have already applied for the Institute's Tuition Fee Waiver for the academic year 2024-25.	SCSP Office

S. No.	Name of Awards/ MCM Scholarship	Criteria	Implemented & Recommended by
9.		Mr. Mohinder L. Nayyar, 1966 batch, B.E. (Mechanical Engineering), initially contributed funds in 2017 and 2018 to create a corpus named Suri Travel Grant. In 2023, the donor wished to rename the corpus, titled Suri Awards for Excellence in Sports and Extracurricular Activities. Under this initiative, he has instituted the following awards:	For awards (i) & (ii) Institute Sports Council. For award (iii), Cultural Society
	i. Sardar Karnail Singh Lion Trophy Award	**i. Sardar Karnail Singh Lion Trophy Award** of Rs. 50,000/-	
	ii. Suri Awards for Excellence in Indoor and Outdoor Sports - Sardar Karnail Singh Sports Awards	**ii. Suri Awards for Excellence in Indoor and Outdoor Sports - Sardar Karnail Singh Sports Awards** of Rs. 25,000/- each, for three eligible students annually.	
	iii. Saraswati Award for Excellence in Extracurricular Activities	**iii. Saraswati Award for Excellence in Extracurricular Activities** of Rs. 25,000/- each, for three eligible students annually.	

S. No.	Name of Awards/ MCM Scholarship	Criteria	Implemented & Recommended by
B. MCM Scholarships:			
1.	Ramkali (Lala Daaee) MCM Scholarship	Mr Ganga Prasad Dixit, alumni of the 1977 batch (Mechanical Engineering), Ghaziabad, has established a corpus to create one (01) MCM scholarship of Rs. 20,000/- per year to a deserving, financially constrained student of any year of any department. Implementation & Recommendation of this scholarship will be done by the SCSP office. This scholarship will be awarded from the academic year 2025-26.	SCSP Office
2.	Sarojinites for Sarojinites- MCM Scholarship	Prof. Ambalika Sharma, (B.E. (E&C) 1983), has revised the existing MoU to support one (01) MCM scholarship of Rs. 26,000/- every year. Rest of the criteria of the previous MoU remain the same. Implementation & Recommendation of this scholarship will be done by the SCSP office. The revised criteria will be applicable from the academic year 2025-26.	SCSP Office

The awardees of MCM scholarships will be selected as per the prevailing procedure adopted by SCSP to award MCM scholarships of the Institute

Item No.105.22: To report the Awardees for Excellence Awards (Non-Convocation Awards) based on the recommendations received from the Institute Sports Council for the Academic Year 2024-25:

S. No.	Award/Prize	Details of Recipient			
		Enroll. No.	Name	Programme	Year
1	KCPL Award for Best Player in Football for the year of Rs. 20,000/-	20908010	Rishabh Didel	Ph.D. Chemical Engineering	5
2	KCPL Award for Best Player in Cricket for the year of Rs. 20,000/-	24529006	Karan Sharma	M.Tech. Power System Engineering	1
3	Anoop Singh Khurana Squash Championship of Rs. 30,000/-	21411014	Digvijay Singh	B.Tech. (Mechanical Engineering)	4
4	Anoop Singh Khurana Squash Championship of Rs. 20,000/-	23551001	Nitish Iranna Burukule	M.Tech. Nanotechnology	2
5	Jaikamal Award for Best Athlete of the Year of Rs. 20,000/-	23116011	Amgoth Ganesh	B.Tech. (Electronics and Communication Engineering)	2
6	Jaikamal Award for Best Athlete of the Year of Rs. 20,000/-	21116025	Baddi Lavanya	B.Tech. (Electronics and Communication Engineering)	4
7	1968 Batch Donation for Overall Best Athlete (Female) Award of Rs. 20,000/-	21116025	Baddi Lavanya	B.Tech. (Electronics and Communication Engineering)	4
8	Dr. K.V. Mital Memorial Award of Rs. 20,000/-	24323020	Kushal Rakesh Shah	BS-MS (Mathematics and Computing)	1
9	Mrs. Sushila Mital Memorial Award of Rs. 20,000/-	22113017	Anjali Choudhary	B.Tech. (Civil Engineering)	3

S.	Award/Prize	Details of Recipient			
10	1959 Batch Award for Excellence in Badminton (Winner)	21112124	Yash Kumar	B.Tech. (Chemical Engineering)	4
11	1959 Batch Award for Excellence in Badminton (Runner-up)	22114029	Dhruv	B.Tech. (Computer Science and Engineering)	3
12	1959 Batch Award for Excellence in Badminton (Winner)	22323008	Archi	BS-MS (Mathematics and Computing)	3
13	1959 Batch Award for Excellence in Badminton (Runner-up)	24566029	Imane Elouaghzani	M.Tech. Data Science	1
14	Sesquicentennial (1997) Batch Silver Jubilee Award for Excellence in Sports of Rs. 25,000/-	21110003	Abhishek Kumar	B.Arch.	4
15	Sesquicentennial (1997) Batch Silver Jubilee Award for Excellence in Sports of Rs. 25,000/-	21116025	Baddi Lavanya	B.Tech. (Electronics and Communication Engineering)	4

Item No.105.23: To report the approvals accorded by the Chairman, Senate.

    A. Recommendations of 150th, 151st and 152nd meetings of IAPC.

        1. Requests of following students regarding name restoration: (Item No.: 150.2.1, 150th IAPC dt: 11.03.2025)

           a) Mr. Navjeet Bharti (Enr. No. 22124027), B.Tech. (BSBE), III Yr
           b) Mr. Mohit Birda (Enr. No. 22112067), B.Tech. (CH), III Yr
           c) Mr. Lokesh Lamba (Enr. No. 22123023), B.Tech. (EPH), III Yr

        2. Request of Mr. Rohit Raj (Enr. No. 17114065), B.Tech. (CS), IV Yr regarding name restoration: (Item No.: 151.2.1, 151st IAPC dt: 23.04.2025)

        3. Request of Mr. Soumyaditya Adak (Enr. No. 23554007), M.Tech. (Infrastructure Systems), II Yr regarding registration of CTN-701B: Thesis Stage-II in Spring Semester 2024-25. (Item No.: 152.2.1, 152nd IAPC dt: 11.06.2025)

    B. Recommendations of 73rd and 74th meetings of IRC.

        1. Agreement between Vrije Universiteit Amsterdam, Netherlands (VUA) and the Indian Institute of Technology Roorkee (IITR), India, for the Double Doctoral Degree Program (DDDP). (Item No.: 73.2.1, 73rd IRC dt: 02.05.2025)

        2. Agreement between Western Sydney University (WSU), Australia, and the Indian Institute of Technology Roorkee (IITR), India, for Dual Degree Awards and Joint Higher Degrees. (Item No.: 73.2.2, 73rd IRC dt: 02.05.2025)

3. Agreement between Universitas Diponegoro, Indonesia (UNDIP), and the Indian Institute of Technology Roorkee (IITR), India, for the Joint Doctor of Philosophy Program (JDPP). (Item No.: 73.2.3, 73rd IRC dt: 02.05.2025)

4. Proposal of the Dean of International Relations regarding an amendment to the agreement for joint supervision of the doctoral thesis of the following Research Scholars: (Item No.: 73.2.5, 73rd IRC dt: 02.05.2025)

    (a) Ms. Akshita Singh (En. No. 21906002), Research Scholar, Centre for Nanotechnology.
    (b) Mr. Praveen Kumar Vidyarthi (En. No. 20901015), Department of Hydro and Renewable Energy.

5. Requests of the following research scholars for acceptance of candidacy reports beyond the permissible period: (Item No.: 73.2.7, 73rd IRC dt: 02.05.2025)

    (a) Ms. Shriya E (En. No. 22921019), Research Scholar, Department of Metallurgical and Materials Engineering.
    (b) Ms. Anmol (En. No. 22925007), Research Scholar, Department of Physics.
    (c) Ms. Ansul (En. No. 22916031), Research Scholar, Department of Humanities and Social Sciences.
    (d) Mr. Arun Kumar (En. No. 22915040), Research Scholar, Department of Electronics and Communication Engineering.

6. Requests of the following Research Scholars for an extension of time to complete the candidacy requirements: (Item No.: 73.2.8, 73rd IRC dt: 02.05.2025)

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(a) Ms. Ahalya V.S. (En. No. 22927008), Research Scholar, Department of Design.
(b) Ms. Harshitha Ijari (En. No. 23910011), Research Scholar, Department of Civil Engineering.

7. Requests of the following ex-Ph.D. Scholars for reinstatement of their academic registration: (Item No.: 73.2.9, 73rd IRC dt: 02.05.2025)

   a) Mr. Manvir (En. No. 18912012), ex-Ph.D. Research Scholar, Department of Earth Sciences.
   b) Ms. Urvashi Yadav (Enrolment No. 23903049), ex-Ph.D. Research Scholar, Department of Biosciences and Bioengineering.

8. Request of Ms. Manvi Goel (En. No. 19918005), Research Scholar, Department of Management Studies, for conversion from full-time to part-time status. (Item No.: 73.2.10, 73rd IRC dt: 02.05.2025)

9. Clarification on the applicability of fellowship/ assistantship provision during visits to other Institutions (Notification No. Acd./Misc-2022/1106, dated June 11, 2022). (Item No.: 73.2.12, 73rd IRC dt: 02.05.2025)

10. Requests of the following research scholars for acceptance of candidacy reports beyond the permissible period: (Item No.: 74.2.1, 74th IRC dt: 13.06.2025)

   (a) Mr. Kshitij Kumar Sharma (En. No. 22921021), Research Scholar, Department of Metallurgical and Materials Engineering.
   (b) Ms. Gaikwad Snehal Sandip (En. No. 21904005), Research Scholar, Centre of Excellence in Disaster Mitigation & Management.

(c) Mr. Anil Kumar (En. No. 22921001), Research Scholar, Department of Metallurgical and Materials Engineering.

11. Request for an extension of the thesis submission deadline for Mr. Lomash Chandra Acharya (En. No. 19915020), Department of Electronics and Communication Engineering. (Item No.: 74.2.5, 74th IRC dt: 13.06.2025)

C. The revised version of the Standing Orders for Students and Procedure for Enquiries & Punishment.

D. The following degree formats:

i. Bachelor of Science (BS) degree with exit option
ii. Executive Master of Business Administration (EMBA)

The degree for the above will be awarded to the first batch of graduands in Convocation 2025.

The above are reported to the Senate.

Item No.105.24: **To consider and approve the degree template for Joint/Dual PG programmes.**

IIT Roorkee has signed MoUs with several International and Indian Universities /Institutes to offer Joint and Dual PG degree programmes.

Students of the M.Tech. Semiconductor Technology from the 2023 batch have pursued their studies as Joint/Dual PG Programs with three partner universities/institutes in Taiwan. Those who have studied with National Tsing Hua University (NTHU) and National Yang Ming Chiao Tung University (NYCU) have completed their degree requirements and will be eligible for their degrees during the Convocation in 2025.

The IAPC, in its 152nd meeting held on 11.06.2025, considered the proposed degree templates for the Joint/ Dual degree PG Programmes and recommended sharing the proposed templates with the Dean, International Relations to obtain the concurrence of the partner university.

The Dean of International Relations has shared the templates with the partner institutes/universities, and both institutes have conveyed their consent.

The proposed templates are attached as **Appendix-A**.

Further, it is also proposed that, the same format will be used for all Joint/Dual PG programmes with the consent of the partner university/institute, in future.

The above is submitted for the consideration and approval of the Senate.

Serial No. XXXXXX

Enrolment No. XXXXXXXX

भारतीय प्रौद्योगिकी संस्थान रुड़की

अभिषद् की अनुशंसा पर

‹विशेषज्ञता› में विशेषज्ञता के साथ

‹विभाग का नाम› विभाग एवं ‹बाहरी संस्थान/विश्वविद्यालय का नाम› से ‹कार्यक्रम› संयुक्त निष्णात की उपाधि

‹छात्र/छात्रा का नाम›

को, जिन्होंने इस उपाधि की अपेक्षित अवधि हेतु विनियम विहित अपेक्षाओं को सन् 2025 में सफलतापूर्वक पूरा कर लिया है, एतद्द्वारा प्रदान करता है।

भारतीय गणराज्य के अन्तर्गत रुड़की में आज, दिनांक ‹माह दिनांक, वर्ष›, संस्थान की मुद्रा अंकित यह उपाधि दी गई।

Indian Institute of Technology Roorkee

on the recommendation of the Senate hereby confers the degree of

Joint Master of ‹Program› in ‹Specialization›

from the Department of **‹Department Name›** with **‹External Institute/University Name›**

upon

‹Student Name›

who has successfully completed in the year 2025 the requirements prescribed under the regulations for the award of this degree.

Given this day, ‹MMM DD, YYYY›,

under the seal of the Institute at Roorkee in the Republic of India.

कुलसचिव
Registrar

अध्यक्ष, अभिषद् एवं निदेशक
Chairman, Senate & Director

भारतीय प्रौद्योगिकी संस्थान रुड़की

अभिषद् की अनुशंसा पर

==हि उपाधि कार्यक्रम के अन्तर्गत==

‹विशेषज्ञता› में विशेषज्ञता के साथ

‹विभाग का नाम› विभाग एवं ‹बाहरी संस्थान/विश्वविद्यालय का नाम› से ‹कार्यक्रम› निष्णात की उपाधि

‹छात्र/छात्रा का नाम›

को, जिन्होंने इस उपाधि की अवधि हेतु विनिमय विहित अपेक्षाओं को सन् 2025 में सफलतापूर्वक पूरा कर लिया है, एतद्द्वारा प्रदान करता है।

भारतीय गणराज्य के अन्तर्गत रुड़की में आज, दिनांक ‹माह दिनांक, वर्ष›, संस्थान की मुद्रा अंकित यह उपाधि दी गई।

Indian Institute of Technology Roorkee

on the recommendation of the Senate hereby confers the degree of

Master of ‹Program› in ‹Specialization›

under the ==Dual Degree== Programme

from the Department of ‹Department Name› with ‹External Institute/University Name›

upon

‹Student Name›

who has successfully completed in the year 2025 the requirements prescribed under the regulations for the award of this degree.

Given this day, ‹MMM DD, YYYY›,

under the seal of the Institute at Roorkee in the Republic of India.

कुलसचिव
Registrar

अध्यक्ष, अभिषद् एवं निदेशक
Chairman, Senate & Director

Item No.105.25: To consider the award of 101 Ph.D. Degrees to the students, who have duly qualified during Academic Year 2024-25.

The Board of Governors, in its 72nd meeting held on 15.04.2025, approved the award of 243 Ph.D. Degrees to the students who have duly qualified for the award of Ph.D. degrees based on the recommendation of the Senate in its 104th meeting held on 26.03.2025.

Currently, 101 students have duly qualified for the award of Ph.D. degrees from 104th Senate i.e., 26.03.2025 to 03.07.2025. The list of students is attached as **Appendix-A.**

Further, as approved by the BoG in its 72nd meeting held on 15.04.2025, PhD degree certificates have been issued to six students.

The above is submitted for the consideration of the Senate.

Updated List of Students whose Provisional Degree Certificates (PDC) have been approved/issued as of 03.07.2025

S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
1	15902001	ANIL KUMAR K	AR	A Study of Multiple Feedback Loops to Optimize Parametric Evolution of Building Envelopes	Prof. P. S. Chani, IITR	Dr. Abraham George, IIT Kharagpur Dr. Virendra Kumar Paul,SPA DELHI	18-06-2025	20-06-2025
2	17902003	PARSHANT REHAL	AR	LIVEABILITY ENHANCEMENT IN INDIAN URBAN NEIGHBOURHOODS FOR AN AGEING POPULATION	Prof. Prabhjot Singh Chani,IITR Prof. Sonal Atreya,IITR	Prof. Reside Oya Demirbilek, University of New South Wales Dr. Ashwani Kumar, NIT Hamirpur	04-04-2025	06-05-2025
3	18902022	BUDDE SANDEEP	AR	FRAMEWORK FOR RISK-BASED VULNERABILITY ASSESSMENT OF URBAN SETTLEMENTS EXPOSED TO POLLUTING INDUSTRIES	Prof. P. S. Chani, IITR, Dr.Sandeep Kumar Agrawal, University of Alberta	Prof. ARNAB JANA,IIT Bombay	17-06-2025	20-06-2025
4	19902005	FARHAN ASIM	AR	A NEURO-SCIENTIFIC APPROACH FOR MENTALLY RESTORATIVE ACADEMIC CAMPUSES	Prof. Prabhjot Singh Chani,IITR Prof. Venu Shree,NIT Hamirpur	Prof. ABRAHAM GEORGE,IIT Kharagpur, Prof. ANIL DEWAN,SPA DELHI	07-04-2025	30-04-2025
5	16923014	SHRUTI AGGARWAL	AS	COMPARING BENEFITS OF NEW AND OLD PENSION SYSTEMS AND EVALUATING PENSION FUND INVESTORS' ENGAGEMENT AND SOCIAL RESPONSIBILITY.	Prof. Ashu Khanna,IITR	Prof. PRAKASH SINGH,IIM Lucknow Prof. MEENAKSHI RAJEEV,IIM JAMMU	02-04-2025	21-04-2025

S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
6	16556004	PRITAM SINGH	BE	BIOPROCESS DEVELOPMENT AND SCALING UP FOR EFFICIENT UTILIZATION OF LIGNOCELLULOSIC BIOMASS HYDROLYSATE FOR BIOETHANOL AND PLATFORM CHEMICALS PRODUCTION	Prof. Sanjoy Ghosh,IITR	Dr. Pradeep Srivastava,IIT BHU Dr. Debasish Das, IIT Guwahati	13-03-2025	28-03-2025
7	17903024	CHETNA GROVER	BE	STUDY OF MULTISTAGE CHEMICAL HYDROLYSIS OF WHEAT STRAW AND UTILISATION OF HYDROLYSATES BY *Lentibacillus salarius* BPIITR	Prof. Bijan Choudhury,IITR	Dr. Rajesh K. Sani, South Dakota School of Mines And Technology Prof. Kiran Babu Uppuluri, Sastra Deemed University	28-03-2025	01-04-2025
8	18903008	PANKAJ KUMAR CHAUDHARY	BE	Assessment of Essential oils Active Constituents and Polymer-Based Fabrication for Drug Delivery Against Human Pathogenic Yeast	Prof. Ramasre Prasad, IITR	Prof. Prasant Mishra, IITD Prof. Vandana B. Patravale,Pharmaceutical Sciences and Technology Prof. Brahmeshwar Mishra, IIT BHU	10-06-2025	25-06-2025
9	18903039	VISHAKHA SINGH	BE	Structure-guided affinity maturation of nanobodies targeting spike protein of SARS CoV-2	Prof. Pravindra Kumar,IITR Prof. Shailly Tomar,IITR	Prof. Mahesh Narayan,University of Texas Dr. Punit Kaur, Aiims Delhi Dr. Prasan Kumar Panda,Aiims Rishikesh	28-04-2025	21-05-2025

S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
10	18903042	PREETI	BE	Viral Capsid Protein - A Therapeutic Antiviral Target	Prof. Pravindra Kumar,IITR Prof. Shailly Tomar,IITR	Dr. Deepak T Nair, RCB Faridabad Dr. Yashpal SINGH Malik. IVRI	16-05-2025	29-05-2025
11	17910022	ASHNA KN	CE	Seismic Fragility Analysis of Concrete Gravity Dams subjected to Mainshock-Aftershock Sequences	Prof. Priti Maheshwari,IITR	Prof. Sarvesh Chandra,IIT KANPUR Prof. Jagdish Prasad Sahoo, IIT KANPUR Prof. Musharraf Zaman, University of Oklahoma	16-04-2025	30-04-2025
12	17910033	VISHWAJEET KISHORE VERMA	CE	Development of a Performance Evaluation Framework for Public Transport Systems	Prof. Rajat Rastogi, IITR	Prof. Ahmed M. El-Geneidy, McGill University Prof. P. Vedagiri,IIT Bombay Prof. Debapratim Pandit,IIT Kharagpur	13-05-2025	16-05-2025
13	18910030	PRATHIBA A.P	CE	GEOSPATIAL STUDY OF LAND DYNAMICS AND URBAN HEAT ISLAND	Prof. Kamal Jain, IITR	Dr. Aushutosh Bhardwaj, ISRO Dr. Ram Avtar, University of Japan	06-03-2025	07-04-2025
14	18910035	RAKSHIT SELOT	CE	Superposition Techniques for Analysis of Structures with Large Geometric Stiffness	Prof.. Vipul Prakash, IITR	Dr. Anjan Dutta,IIT Guwahati Dr. Krishna Kant Pathak,IIT(BHUIT) Varanasi	25-03-2025	28-03-2025

S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
15	18910059	MOHIT BISHT	CE	Study of Ultra High Performance Concrete under High Rate of Loading	Prof. Mohd. Ashraf Iqbal, IITR	Dr. Hussain Abbas,King Saud University Dr. Chengqing Wu, University of Technology Vladimir Bratov, Napier University	29-04-2025	12-06-2025
16	19910006	DYUTISREE HALDER	CE	CLIMATE CHANGE DETECTION BASED ON URBAN MORPHOLOGY USING GEOSPATIAL TECHNIQUES FOR COASTAL MEGACITIES	Prof.. R. D. Garg,IITR	Dr. Amy Fraizer, UC Santa Barbara Dr. Ram Avtar,Hokkaido University	02-06-2025	10-06-2025
17	20910018	LAGUDU S AVINASH	CE	SETTLEMENT AND SLOPE STABILITY BEHAVIOR OF MUNICIPAL SOLID WASTE LANDFILLS	Prof. Anumita Mishra,IITR	Prof. Nihar Ranjan Patra, IIT KANPUR, Prof. Kousik Deb, IIT Kharagpur	15-05-2025	10-06-2025
18	20910040	UTKARSH MISHRA	CE	Dynamic Analysis of Rail Track with and without Improvement Measures	Dr. Vishwas Abhimanyu Sawant, IITR Prof. J. P. Sahoo, IITK	Prof. G R Dodagoudar, IIT Madras Prof. Kousik Deb, IIT Kharagpur Prof. Sireesh Saride,IIT Hyderabad	06-05-2025	16-05-2025
19	17908023	YELLAM KIRANMAI	CH	MINIMAL COARSE-GRAINED MODELS FOR SIMULATING POLYMERS INTERACTING WITH SITE-DEPENDENT SHORT-RANGE POTENTIALS	Prof. Prateek Kumar Jha,IITR	Prof. Ateeque Malani,IIT BOMBAY Prof. Ashok Kumar Dasmahapatra,IIT Guwahati	28-11-2024	22-05-2025

S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
20	20908003	MANASH PROTIM MUDOI	CH	SYNTHESIS AND CHARACTERIZATION OF FIBRE-REINFORCED POLYMER COMPOSITE	Prof. Shishir Sinha, IITR Prof. Vijay Parthasarthy,IITR	Prof. Ashutosh Tiwari, University of UTAH Dr. Santanu Chattopadhyay,IIT Kharagpur Prof. Raju Kumar Gupta,IITK	24-03-2025	15-04-2025
21	19911006	KANHU CHARAN GOUDA	CSE	EFFICIENT REOURCE ALLOCATION AND PATH PLANNING FOR UAV-ASSISTED CELLULAR NETWORKS	Prof. Rahul Thakur, IITR	Dr. Vinay Chamola,BITS Pilani, Pilani Campus Dr. Omprakash Kaiwartya, Nottingham Trent University	03-06-2025	03-07-2025
22	19911007	NITIN TYAGI	CSE	DEVELOPMENT OF DEEP LEARNING FRAMEWORKS FOR SEED CATEGORIZATION VIA NIR-HYPERSPECTRAL IMAGING	Prof. Dr. R. Balasubramanian, IITR Dr. Neerja Garg, CSIR-CSIO	Prof. TAPAN KUMAR GANDHI,IITD C. KRISHNA MOHAN,IIT HYDERABAD M. K. BHUYAN,IIT Guwahati	13-05-2025	23-05-2025
23	20911004	GOURAV SIDDHAD	CSE	Towards Human Behavior Prediction using EEG: Analyzing Cognitive Workload and Emotional Responses	Prof. Partha Pratim Roy,IITR	Prof. Umapada Pal,ISI Prof. Varun Dutt,IIT Mandi	07-04-2025	21-04-2025
24	20911012	AIKTA ARYA	CSE	Addressing Challenges in Signed Networks: From Synthetic Generation to Predictive Modeling	Prof. Pradumn Kumar Pandey, IITR	Prof. Y. N. Singh, IIT KANPUR Prof. Vaneet Aggarwal, Purdue University	21-04-2025	05-06-2025

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25	18909005	ANOOP SHARMA	CY	DECARBOXYLATIVE STRATEGIES TO FORGE C-C AND C-X (X = N, S) BONDS USING BALL MILLING AND VISIBLE LIGHT	Prof. Anuj Sharma,IITR	Dr. Debabrata Maiti, IITB Dr. Sandeep Verma,IITK Dr. Rambabu Chegondi,CSIR-IICT	18-03-2025	02-04-2025
26	19909015	YOGESH KUMAR	CY	Synthesis, Applications and Interfacial Study of Covalent Organic Framework Materials	Prof. Ravindra Pandey,IITR	Prof. Asim Bhaumik,IACR Kolkata Prof. Parameswar K. Iyer, IIT Guwahati	23-05-2025	04-06-2025
27	19909019	VISHAL SAINI	CY	Atomically Precise Thiolate Protected Copper Nanoclusters with Multifaceted Applications	Prof. Venkatesh V,IITR	Prof. Sandeep Verma, IIT KANPUR Prof. Saptarshi Mukherjee, IISER BHOPAL Prof. Siddhartha Sankar Ghosh, IIT GUWAHATI	19-05-2025	29-05-2025
28	20909011	NAVEEN KUMAR	CY	Diastereoselective Synthesis and Applications of γButenolides	Prof. Gnanamani Elumalai, IITR	Prof. M.L.N Rao, IIT Kanpur Prof. N.G Ramesh, IIT Delhi Prof. Nitin T Patil, IISER Bhopal	02-06-2025	01-07-2025
29	16904002	PRAVEEN KUMAR SINGH	DMM	Black Carbon in the Hindu Kush Himalayan Region: Concentration, Sources, and Radiative Impacts	Prof. Ajanta Goswami,IITR Dr. Siva Praveen Puppala,NSW Australia	Dr. Chaman Gul, NUIST,China Dr. Dipesh Rupakheti, NUIST,China	04-04-2025	23.04.2025

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30	17904001	Abhilasha Dixit	DMM	Snow cover dynamics, Hydrological budget and its variability in large Himalayan Basins	Prof. Ajanta Goswami, IITR Dr. Sanjay Jain,Scientist 'G' NIH, ROORKEE	Dr. Harendra Singh Negl,DRDO Dr. KC Tiwari,DTU Dr. R D Gupta,NIT Allahabad	04-04-2025	21-04-2025
31	18904003	DEEPAK RAWAT	DMM	Seismological monitoring of landslides and assessment in the North-West Himalayas	Prof. Mukat Lal Sharma, IITR Prof. Anand Joshi, IITR Dr. D. P. Kanungo,CSIR-CBRI	Dr. Shantanu Sarkar,Uttarakhand State Disaster Management Authority Prof. William Kumar Mohanty,IIT Kharagpur	08-02-2025	20-03-2025
32	17915017	SHEKHAR PRATAP SINGH	ECE	DEVELOPMENT OF SIGNAL PROCESSING TECHNIQUES FOR SPATIAL MODULATION	Prof. Pyari Mohan Pradhan,IITR	Prof. Nitin V. George, IIT Ghandhinagar Prof. Pravas Ranjan Sahu, IIT BHUBANESHWAR, Dr. A. Rajesh,IIT GUWAHATI	03-04-2025	21-04-2025

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33	18915004	DINESH KUSHWAHA	ECE	CIRCUIT DESIGN AND ARCHITECTURES FOR ROBUST SRAM COMPUTE-IN-MEMORY	Prof. Bulusu Anand, IITR Prof. Sudeb Das Gupta, IITR	Dr. Chetan Singh Thakur,IISE Dr. Santosh Kumar Vishvakarma, IIT INDORE' Dr. Jaydeep Kulkarni,University of Texas Austin	29-04-2025	23-05-2025
34	18915023	VYOMIKA SINGH	ECE	DEVELOPMENT OF CAMOUFLAGE TARGET DETECTION TECHNIQUES USING MACHINE LEARNING FOR DRONE IMAGES	Prof. Dharmendra Singh, IITR	Prof. Sumantra Dutta Roy, IIT DELHI prof. Atul K. Varma, ISRO ahmedabad	08-05-2025	29-05-2025
35	20915001	ALOK KUMAR SHUKLA	ECE	RADIATION HARDENED MEMORY AND LOGIC DESIGN USING HYBRID SPINTRONIC-CMOS DEVICES	Prof. Sanjeev Kumar Manhas,IITR Prof. Sudeb Das Gupta, IITR	Prof. S.N. Piramanayagam,Na nyang Technological University, Singapore Prof. Giovanni Finocchio, University of Messina, Italy	17-06-2025	25-06-2025
36	20915013	SANTOSH KUMAR SINGH	ECE	Design and Analysis of Distributed Cell-Free Massive MIMO Systems	Prof. Abhay Kumar Sah, IITR	Prof Ajit Kumar Chaturvedi,IIT KANPUR Prof. Saif K Mohamrnad, IIT DELHI	07-05-2025	02-06-2025

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37	20915018	MOHD YUSUF	ECE	Surrogate Models for Forward and Inverse Problems and Uncertainty Quantification of High-Speed Devices and Circuits.	Prof. Sourajeet Roy, IITR	Prof. Rohit Sharma, IIT Ropar Prof. Yogesh Chauhan, IIT Kanpur Prof. Dries Vande Ginste, Ghent Unviersity	18-06-2025	30-06-2025
38	17914010	PRIYANKA PRIYADARSINI	EE	INVESTIGATION ON INDIRECT MATRIX CONVERTER	Prof. Avik Bhattacharya, IITR	Dr. Akshay Kumar Rathore,Singapore Institute of Technology Dr.Dr. Santosh Kumar Singh, IIT BHU	24-03-2025	15-04-2025
39	18914030	RICHA GOEL	EE	Investigation on resource optimized and fault tolerant hybrid multilevel inverters	Prof. Anubrata Dey, IITR	Prof. K. Gopakumar, IISc Bangalore Prof. Sivakumar K, IIT Hyderabad Prof. Milijana Odavic, University of Sheffield	20-05-2025	09-06-2025
40	19914009	OM PRAKASH MAURYA	EE	DESIGN AND FABRICATION OF CAPACITIVE AND RESISTIVE SENSORS WITH SDFT BASED DIGITAL INTERFACE	Prof. P. Sumathi, IITR	Dr Boby George,IIT MADRAS Dr Konandur Rajanna,IIS Bangalore	09-05-2025	19-05-2025
41	19914014	ROHIT NANDI	EE	DESIGN AND ANALYSIS OF CONTROL SCHEMES FOR LOW VOLTAGE AC MICROGRID	Prof. Manoj Tripathy,IITR Prof. Chandra Prakash Gupta,IITR	Prof. Sarasij Das,IIS BENGALORE Prof. Sri Niwas Singh, IIT Kanpur	23-04-2025	16-05-2025

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42	19914031	ASHISH KUMAR MISHRA	EE	Electricity Theft Detection using Statistical and Unsupervised Learning-Based Methods	Prof. Biswarup Das, IITR	Dr. Debapriya Das, IIT KHARAGPUR, Dr. Abheejeet Mohapatra, IIT KANPUR	02-06-2025	05-06-2025
43	19914043	SAFIULLAH	EE	ADRC APPROACHES FOR LINEAR AND INTERVAL SYSTEMS AND THEIR APPLICATIONS	Prof. Yogesh Vijay Hote, IITR	Prof. Somnath Pan, IIT ISM Dhanbad Prof. N. Selvaganesan, IIST Thiruvananthpuram Prof. Krishna Busawon, Northumbria University, UK	16-06-2025	02-07-2025
44	20914017	TESFAYE DEME TOLOSSA	EE	DESIGN, MODELING AND CONTROL OF A MOBILE MANIPULATOR USING ARTIFICIAL INTELLIGENCE FOR RESCUE APPLICATIONS	Prof. Felix Maria Orlando Joseph,IITR Prof. Yogesh Vijay Hote,IITR	Dr. Shivashankar B. Nair,IIT Guwahati Dr. Elvira Popescu,University of Craiova	04-04-2025	28-05-2025
45	18913011	ZEESHAN MANZOOR BHAT	EQ	SEISMIC PERFORMANCE OF MASOSEISMIC PERFORMANCE OF MASONRY INFILLED RC FRAME BUILDINGS DESIGNED FOR MODERN CODESNRY INFILLED RC FRAME BUILDINGS DESIGNED FOR MODERN CODES	Prof. Yogendra Singh, IITR Prof. Pankaj Agarwal, IITR	Dr. Dipti Ranjan Sahoo,IITD Dr. R. S. Jangid,IITB	25-03-2025	07-04-2025

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46	19913003	JITHIN P ZACHARIAH	EQ	EFFECTIVE UTILIZATION OF BAGASSE IN GEOTECHNICAL APPLICATIONS AND DURABILITY ENHANCEMENT THROUGH MICP TREATMENT	Prof. Ravi Sankar Jakka,IITR Dr. Rodrigo Salgado,Purdue University	Dr. Krishna R. Reddy, University of Illinois at Chicago Prof. Jagdish Prasad Sahoo,IIT Kanpur	15-05-2025	19-05-2025
47	14912018	NEHA RARH	ES	IDENTIFICATION OF RECHARGE AREA OF SPRINGS IN CHAMASARI (DEHRADUN) USING STABLE ISOTOPES	Prof. A.S Maurya, IITR	Prof. Santosh Kumar Rai, WiHG Dehradun Prof. Abhijit Mukherjee, IIT Kharagpur	02-04-2025	19-06-2025
48	17912007	RAHUL DIXIT	ES	STRUCTURAL ANATOMY OF THE MUNSIARI AND VAIKRITA THRUST ZONES IN THE GARHWAL HIMALAYA AND THE PROTOLITH GEOCHRONOLOGY.	Prof. Sudheer Kumar Tiwari, IITR Prof. Deepak Chandra Srivastava, IITR Dr. Arvind K Jain,CSIR- CBRI	Prof. Neptune Srimal,Florida International University Prof. Manish A. Mamtani, IIT Kharagpur Prof. R. C. Patel, BHU	16-05-2025	05-06-2025
49	18912014	NEEHARIKA SHUKLA	ES	CRUST AND UPPER MANTLE STRUCTURE IN NORTHEAST INDIA	Prof.. Sagarika Mukhopadhyay IITR Dr. Devajit Hazarika,Wadia Institute,	Dr. Santanu Baruah,CSIR-NIEST Prof. Paresh Nath Singha Roy,IIT Kharagpur	04-04-2025	09-05-2025
50	20901007	SUNIL KUMAR SETHY	HRED	STUDY AND DEVELOPMENT OF CYLINDRICALLY STRUCTURED POLYMER ELECTROLYTE MEMBRANE FUEL CELLS	Prof. Amit Chandrakant Bhosale,IITR	Prof. Arnab Dutta,IIT BOMBAY Prof. Sylvain Franger, Université Paris-Saclay	19-04-2025	23-05-2025

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51	20901009	BHUSHAN RAVINDRA RODE	HRED	INVESTIGATIONS OF ROTOR-STATOR INTERACTION AND VORTEX ROPE IN VARIABLE SPEED REVERSIBLE PUMP-TURBINE	Prof. Arun Kumar, IITR	Dr. Dihiman Chatterjee,IIT Madras Dr. Abdus Samad, IIT Madras, Dr. Anuj Jain, MNIT Allahabad	25-03-2025	26-03-2025
52	21901009	SOMAR GHANEM	HRED	HONEYCOMB-SHAPED ARTIFICIAL ROUGHNESS IN SOLAR AIR HEATERS: EXPERIMENTAL AND COMPUTATIONAL FLUID DYNAMICS INVESTIGATIONSS	Prof. Amit Chandrakant Bhosale, IITR	Prof. Sudipta De, Jadavpur University Dr. K. Srinivasa Reddy, IIT MADRAS	15-04-2025	19-05-2025
53	19916012	SUBIN T DANIEL	HSS	Exploring the Unexplored in Jeet Thayil's Novels: A Postmodern Perspective	Prof. Binod Mishra	Prof. Jai Shankar Jha, Banaras Hindu University Prof. Nirban Manna, IIT Dhanbad	28-03-2025	02-04-2025
54	19916022	HIMANGI PRIYA	HSS	To See, or Not to See: Exploration of Fictional Psychopaths in Select Asian Narratives	Prof. Nagendra Kumar	Prof. RAJNI SINGH,IIT(ISM) Dhanbad Prof. AJIT KUMAR MISHRA,IIT BHU Prof. PRIYANKA TRIPATH,IIT PATNA	11-04-2025	17-04-2025

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55	19916025	ANKITA VERMA	HSS	MODULATING RECONSOLIDATION TO REGULATE FEAR MEMORY BY TARGETING REINFORCEMENT LEVELS AND MUSIC INTERVENTION	Prof. Manish Kumar Asthana,IITR	Dr. Ankita Sharma,IIT Jodpur Dr. Kamlesh Singh,IIT Delhi Dr. Govind Swaroop Pathak,IIT DHANBAD	06-05-2025	09-05-2025
56	19916030	JAKIR HUSSAIN MAZUMDER	HSS	THE NEXUS BETWEEN POPULATION AGING AND INFLATION: AN EMPIRICAL EVIDENCE	Prof. Bharat D, IITR	Prof. M R Narayana, Fiscal Instute of India. Klause Pettner, Vienna Institute of Economics and Business	09-05-2025	05-06-2025
57	19923002	MANJARI	HSS	GROWING DIFFERENTLY: A STUDY OF SELECT LITERARY TEXTS AND FILMS	Prof. Sanjit Kumar Mishra	Dr. Swagata Sinha Roy, Jalan Sungai Long Campus Dr. Akshay K Rath, IIT Bhubaneshwar	19-03-2025	07-04-2025
58	20916043	UTKARSH KAMAL	HSS	EDUCATIONAL (IN)EQUALITY: SCHOOLING, MERIT, AND ASPIRATIONAL MOBILITY IN UTTAR PRADESH (UP), INDIA	Prof. Roluahpuia,IITR	Prof. Arnab Roy Chowdhury, Higher School of Economics,Moscow Prof. Sambit Mallick, IIT Guwahati	09-05-2025	27-05-2025
59	18917002	MALLA MANI KANTA	HY	ANALYSIS OF EXTREME PRECIPITATION EVENTS AND CLIMATE CHANGE IMPACTS ON WATER AVAILABILITY IN THE UPPER INDUS BASIN	Prof. Dhyan Singh Arya, IITR	Prof. A.P. Dimri, JNU Prof. Rajiv Gupta, BITS Pilani	10-03-2025	26-03-2025

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60	18917008	ASHISH MISHRA	HY	IMPACT OF URBAN HEAT ISLANDS ON MICROCLIMATE OF A SUB TROPICAL CITY	Prof. Dhyan Singh Arya,IITR	Prof. RAM AVTAR,HOKKAIDO UNIVERSITY, JAPAN Prof. RANJAN KUMAR GHOSH, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD	26-03-2025	21-04-2025
61	19917008	JASWANT SINGH	HY	COMPREHENSIVE ASSESSMENT OF MICROPLASTIC POLLUTION AND ITS MOVEMENT IN INDIAN TERRESTRIAL SOIL-WATER RESOURCES	Prof.Brijesh Kumar Yadav IITR	Prof. T. I. ELDHO IIT Bombay Prof. Suresh A. Kartha IIT Guwahati Prof. Ashok Kumar Keshari IIT Delhi	07-05-2025	14-05-2025
62	18919019	VIJAY PRATAP SINGH	MA	PERFORMANCE MODELING AND MAINTAINABILITY OF FAULT TOLERANT MACHINING SYSTEM USING SOFT COMPUTING TECHNIQUES	Prof. Madhu Jain, IITR	Prof. Anurag Jayswal, IIT ISM Dhanbad Prof. Manoj Thakur,IIT Mandi	09-06-2025	30-06-2025
63	18919028	MANISH KUMAR	MA	NEW VARIANTS OF MARINE PREDATORS ALGORITHM AND THEIR APPLICATIONS	Prof. Kusum Deep,IITR	Prof. Kapil Ahuja,IITR Prof.P. C. Jha, Delhi University Prof. Seyedali Mirjalili, Torrens University Australia	09-05-2025	16-05-2025

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64	18919029	VIKASH KUMAR	MA	Quasi-Natured Spectral Polynomials: Orthogonality, Zeros and Specific Norm Type Inequalities	Prof. A Swaminathan,IITR	Prof. G. K. Srinivasan,IIT Bombay Prof. K.C. Sivakumar, IIT MADRAS Prof. D. Sukumar, IIT Hyderabad	24-03-2025	02-04-2025
65	19919001	ABHAY PRATAP SINGH	MA	APPROXIMATION BY SINGULAR INTEGRAL OPERATORS	Prof. Uaday Singh, IITR	Prof. V. Vetrivel, IIT MADRAS Prof. Akhilesh Prasad, ISM DHANBAD	01-05-2025	12-06-2025
66	19919016	ANIRBAN CHATTERJEE	MA	ELECTROHYDRODYNAMIC FLOW PHENOMENA IN MICRO DOMAIN AND MOTION OF SOFT PARTICLES NEAR CHARGED SURFACES	Prof. Ameeya Kumar Nayak,IITR	P.A. Lakshmi Narayana,IIT Hyderabad Somnath Bhattacharyya,IIT Kharagpur, S. Sundar,IIT Madras	09-04-2025	30-04-2025
67	19919017	HARIOM SHARMA	MA	ON REPRESENTATIONS OF GL(n,D) WITH A SYMPLECTIC MODEL	Prof. Mahendra Kumar Verma, IITR	Prof. U. K. Anandavardhanan, IIT Bombay Prof. Santosha Kumar Pattanayak, Prof. Broussous Paul, Universit´e de Poitiers, France	29-05-2025	05-06-2025

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68	19919021	RAKSHA DEVI	MA	Numerical Solutions of Some Parabolic Delay Differential Equations	Prof. D. N. Pandey, IITR	Prof. Mani Mehra, IIT DELHI Prof. Kailash C. Patidar, University of the Western Cape Town	29-05-2025	19-06-2025
69	20919007	VIKAS KUMAR	MA	Design and Cryptanalysis of Noncommutative NTRU-like Post-Quantum Cryptosystems	Prof. Aditi Gangopadhyay, IITR	Dr. Sourav Mukhopadhyay, IIT KHARAGPUR Dr. Subhamoy Maitra, ISI KOLKATA Dr. Pante Stanica, Naval Postgraduate School	21-05-2025	06-06-2025
70	19920040	ROMI DHAKAD	ME	MODELLING AND ANALYSIS OF ELASTOMER-BASED SHOCK ISOLATION SYSTEMS FOR A NAVAL APPLICATION.	Prof. Anil Kumar,IITR	Prof. Rajeev Kumar, IIT Mandi Prof. Raj Kumar Pandey , IIT Delhi Prof. Pavan Kumar Kankar, IIT Indore	15-04-2025	24.04.2025
71	19920041	SAHIL SHARMA	ME	Development and Investigation of Simultaneous Electrochemical and Electrodischarge Machining Process Through Experimental, Analytical, Numerical and Machine Learning Assisted Metaheuristic Approaches	Dr. Akshay Dwivedi,IITR	Prof. Ajay Mahajan,University of Akron Prof. Siamak Farhad, University of Tennessee, Knoxville	01-04-2025	30-04-2025

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72	20920021	GOLAKOTI PAVAN	ME	Study and Applications of Labyrinthine Acoustic Metamaterials for Improved Sound Absorption at Low-frequency	Prof. Sneha Singh,IITR	Prof. A.R Mohanty, IIT KHARAGPUR, Prof. Sripriya Ramamoorthy,IITB Prof. Vladimir Golubev,Embry-Riddle Aeronautical University	16-04-2025	21-04-2025
73	20920022	KARRI SANTHOSH KUMAR	ME	Environmental aging and end-of-life degradation studies of sustainable composites	Prof. Indradeep Singh, IITR	Dr. Amar Mohanty, University of Guelph, Ontario Dr. SOMASHEKHAR S. HIREMATH, IIT MADRAS Dr. J. RAMKUMAR, IIT KANPUR	28-05-2025	09-06-2025
74	21920047	RAJU KUMAR	ME	THERMO-MECHANICAL CHARACTERISATION OF h-BN REINFORCED PEGDA HYDROGEL FOR BIOMEDICAL APPLICATIONS	Prof. Avinash Parashar	Prof. Ravindra Brammajyosula, IIT Jodhpur, Prof. Shailesh I Kundalwal, IIT Indore.	19-03-2025	28-03-2025
75	17918018	SMEETASREE PATI	MS	Adopting sustainability and circular economy practices in municipal solid waste management system	Prof. Rajat Agrawal	Prof Suresh Kumar Jakhar, IIM Lucknow Prof Rameshwar Dubey, Montpellier Business School	27-03-2025	02-04-2025

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76	19918007	NAIRITEE SIL	MS	A Study of Women in Academic Leadership positions in Higher Educational Institutions in India	Prof. Usha Lenka, IITR	Prof. Kanika T. Bhal, IIT Delhi Prof. Neharika Vohra, IIM Ahemdabad Prof. Susmita Mukhopadhyay, IIT Kharagpur	20-06-2025	30-06-2025
77	20918015	SIMRAN	MS	IMPACT OF ECONOMIC POLICY UNCERTAINTY ON FINANCIAL MARKETS: AN EMPIRICAL ANALYSIS	Prof. Anil Kumar Sharma, IITR	Prof. Alok Dixit, IIM Lucknow Prof. Sankarshan Basu, IIM Bangalore Prof. Nafis Alam, Monash University, Malaysia	01-07-2025	03-07-2025
78	20918020	CHARU VADHAVA	MS	PRICE DISCOVERY AND MARKET EFFICIENCY IN THE EUROPEAN CARBON MARKET	Prof. Ashu Khanna, IITR Prof. Abhinava Tripathi, IIT KANPUR	Chandan Sharma, IIM LUCKNOW Aviral Kumar Tiwari, IIM BODHGAYA Wasim Ahmad, IIT KANPUR	02-06-2025	19-06-2025
79	20918025	MAYANK GUPTA	MS	EARNINGS MANAGEMENT AND ESG: EVIDENCE FROM BANKING SECTOR	Prof. Rakesh Padhan, IITR Prof. Abhinava Tripathi,IITK	Prof. Abhinav Anand,IIM Kozhikode Prof. Othmar Lehner, Hanken School of Economics	13-05-2025	15-05-2025

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80	21918011	Neha	MS	Concentric Innovation: A Guiding Relationship with Value Chain Marketing	Prof. Vinay Sharma,IITR	Dr omprakash Gupta, University of HoustonDowntown (UHD) USA Dr Dinesh Sharma, University of Maryland Eastern Shore	17-04-2025	07-05-2025
81	18921018	SONU YADAV	MT	DEVELOPMENT OF ULTRA HIGH STRENGTH BAINITIC STEEL WITH EXCELLENT DUCTILITY	Prof. Saurav Das,IITR	Prof. N Prabh,IIT Bombay Prof. Debalay Chakrabarti,IIT Kharagpur	29-04-2025	09-05-2025
82	18925010	REENU RANI	PH	SYNTHESIS AND CHARACTERIZATION OF SOME METAL OXIDE THIN FILMS FOR SUPERCAPACITOR APPLICATION	Prof. Vivek Kumar Malik, IITR Prof. Ramesh Chandra,IITR	Dr. Kedar Singh,JNU Dr. Mahesh Kumar, IIT Jodhpur	24-03-2025	21-04-2025
83	19925004	DAYAKRISHNA NAILWAL	PH	Machine learning and data-driven modeling for understanding space weather effects on Earth's upper atmosphere	Prof. Mallepula Venkata Sunil Krishna, IITR	Prof. S. Gurubaran, Indian Institute of Geomagnetism, Mumbai Prof. Kamlesh N Pathak, VNIT , SURAT	15-04-2025	06-06-2025
84	19925007	HEMANT ARORA	PH	Investigation of Silicon and CeO2 based Dilute Magnetic Semiconductors for Room Temperature Spintronics	Prof. Arup Samanta,IITR	Prof. Subhabrata Dhar,IIT BOMBAY Prof. Arti Kashyap,IIT Mandi Prof. Rajeev Ahuja,IIT Ropar	26-03-2025	13-05-2025

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85	19925024	SHIVAM KUMAR MIGLANI	PH	MAGNETO-TRANSPORT, MAGNETIC AND VORTEX PINNING PROPERTIES OF SINGLE CRYSTALLINE Fe(Te, Se/S) SUPERCONDUCTORS	Prof. G. D. Varma,IITR	Prof. Christian Bernhard,Universit y of Fribourg Prof. Neeraj Khare, IIT DELHI	25-06-2025	30-06-2025
86	19925028	AKASH KUMAR	PH	Mesospheric and lower thermospheric response to sudden stratospheric warming events	Prof. Mallepula Venkata Sunil Krishn,IITR	Dr. S. Sathish Kumar, Equatorial Geophysical Research Laboratory (EGRL) Dr. Marianna G Shepherd, LASSONDE School of Engineering, York University	25-04-2025	24-06-2025
87	19925033	BHUPENDRA KUMAR	PH	A THEORETICAL STUDY OF JOSEPHSON AND THERMAL TRANSPORT IN T-SHAPED DOUBLE QUANTUM DOTS HYBRID NANOJUNCTIONS	Prof. Ajay, IITR	Prof. J.P. Singh, IIT Delhi Dr. Alexander S Mel'nikov, Russian Academy of Sciences, Nizhnii Novgorod, Russia Dr. Govind Gupta,CSIR-NPL	19-03-2025	02-04-2025
88	20925002	ANKIT PUROHIT	PH	TEMPORAL AND SPECTRAL ANALYSIS OF GAIN ASSISTED DIPOLAR LOCALIZED SURFACE PLASMONS	Prof. Akhilesh Kumar Mishra,, IITR	Prof. Amarendra Kumar Sarma, IIT Guwahati Prof. Rajesh V. Nair, IIT Ropar	19-06-2025	01-07-2025

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89	20925005	DEEPAK PATEL	PH	SHELL MODEL STUDY OF NUCLEAR STRUCTURE AND 2νββ DECAY PROPERTIES IN DIFFERENT MASS REGIONS	Prof. Praveen Chandra Srivastava,IITR	Prof. Alfredo Poves,Institute of Theoretical Physics. UAM-CSIC, Madrid Spain Prof. Sunethra Ramanan,IIT MADRAS	21-05-2025	28-05-2025
90	20925017	SHWETA SHARMA	PH	SHELL MODEL STUDY OF BETA DECAYS AND ELECTRON CAPTURE RATES	Prof. Praveen Chandra Srivastava, IITR	Prof. Filip G. Kondev,Argonne National Laboratory, Prof. Andrei Andreyev,University of York Heslington, Prof. S. Umasankar,IIT BOMBAY	20-05-2025	27-05-2025
91	20925023	CHANDAN SARMA	PH	AB INITIO AND QUANTUM COMPUTATION APPROACHES TO STUDY NUCLEAR STRUCTURE	Prof. Praveen Chandra Srivastava,IITR	Prof. Dean Lee, Michigan State University, USA Prof. Ajay Kumar Singh,IIT Kharagpur	13-03-2025	02-04-2025
92	17924014	MADHUPARNA RAY	PP	MIXED-MATRIX MEMBRANE BASED ELECTROLYTES FOR HYDROGEN FUEL CELLS	Prof. Sujay Chattopadhyay Prof. Yuvraj Singh Negi,	Prof. Susanta Banerjee, IIT Kharagpur, Prof. Bijay P. Tripathi, IIT Delhi	28-02-2025	02-04-2025
93	18924005	MANJINDER SINGH	PP	A COMBINED THEORETICAL AND EXPERIMENTAL APPROACH TOWARDS THE DEVELOPMENT OF BIO-BASED PRESSURE SENSITIVE ADHESIVES	Prof. Gaurav Manik, IITR	Prof. Amit Kumar, IIT Guwahati Prof. Ateeque Malani, IIT Bombay	16-05-2025	01-07-2025

S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
94	18924011	HIMANSHU KUMAR	PP	Development of Biodegradable Material based on Chitosan and Natural Antioxidant for Food Packaging	Prof. Yuvraj Singh Negi,IITR Prof. Kirtiraj Kundlik Gaikwad, IITR	Dr. Jagdeep Kaur, Goethe University of Frankfurt Prof Sudhir G Warkar,DTU	24-03-2025	23.04.2025
95	19924001	AADITYA PANDEY	PP	APPLICATION OF FORWARD OSMOSIS MEMBRANE PROCESS FOR FRUIT JUICE CONCENTRATION AND ENHANCEMENT OF SHELF LIFE	Prof. Abhijeet Maiti, IITR	Dr. Anand V Patwardhan,ICT Mumbai, Prof. Animes Kr. Golder, IIT Guwahati	07-03-2025	21.04.2025
96	19924004	MANOJ SATHWANE	PP	NANOCELLULOSE BASED POLYMER COMPOSITES FOR THERMAL INTERFACE MATERIAL APPLICATION	Prof. Pradip K. Maji, IITR	Prof. Kheng-Lim Goh,Newcastle University Prof. Sagar Pal, IIT (ISM) Dhanbad Prof.Santanu Chattopadhyay, IIT Kharagpur	03-06-2025	24-06-2025
97	17922003	JITENDRA KUMAR	PT	EXTRACTION OF LIGNOCELLULOSIC BIOMASS FROM PINEAPPLE FRUIT WASTE AND ITS VALORIZATION	Prof. Chhaya Sharma,IITR Prof. S.P. Singh,IITR	Prof. Vivek Kumar, IITD Prof. Pradeep Kumar,IIT BHU	11-03-2025	16-05-2025
98	19922002	ANUJ KUMAR	PT	NEXT-GENERATION APPROACHES FOR FLUOROBENZOIC ACID ANALYSIS: REUSABLE SORBENTS AND FIELD-READY SENSING SOLUTIONS FOR ENHANCED OIL RECOVERY	Prof. Chhaya Sharma,IITR	Prof. Dario Battistel, Ca' Foscari University of Venice Prof. Pradeep Kumar,IIT BHU	11-03-2025	16-04-2025
99	19907002	RAVI KANT	TS	DEVELOPMENT OF PERFORMANCE MEASUREMENT MODEL FOR PEDESTRIAN FACILITIES IN URBAN AREAS	Prof. Shubhajit Sadhukhan, IITR Prof. Ramesh A, Professor,IITR	Dr. S.G Deshmukh,IIT Delhi Dr. Ashish Verma,(IISc) Bangalore	14-04-2025	23.04.2025

S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
100	20926017	POOJA SINGH	WRDM	Investigation of Dynamic Ecosystem in Lentic Small Water Bodies Using Experimental and Numerical Methods	Prof. Basant Yadav, IITR	Prof. K N. Tiwari,IIT Kharagpur Prof. Dr. agr. Nicola Fohrer,Kiel University, Germany	04-06-2025	24-06-2025
101	21926002	DEV ANAND THAKUR	WRDM	A UNIFIED FRAMEWORK OF MULTI-HAZARD FLOOD RISK MAPPING: INTEGRATING FLOOD HAZARD AND VULNERABILITY DIMENSIONS OVER A COASTAL CATCHMENT IN INDIA	Prof. MOHIT PRAKASH MOHANTY, IITR	Prof. Mukunda Dev Behera, IIT Kharagpur Prof. Manish Kumar Goyal, IIT Indore	29-04-2025	06-05-2025