

सीनेट की एकसौपाँचवीं बैठक का कार्यवृत्त

**MINUTES OF THE 105TH
MEETING OF THE SENATE**

**09 जुलाई 2025
09TH JULY 2025**



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

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**INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
MEETING SECTION**



**Minutes of the 105th Meeting of the Senate held on 09.07.2025 at
03:30 P.M. in the Senate Hall.**

The list of participants who attended the meeting and those who have conveyed their inability to attend are appended at **Annexure-I & Annexure-II**, respectively.

The Senate meeting was adjourned for want of quorum, and notification was released on the ruling of the Chairman, Senate to reconvene the meeting at 04:00 p.m. The meeting was reconvened at the revised notified time. Quorum was however, already met otherwise before the rescheduled time.

The Chairman, in his opening remarks, emphasised for the usages of the AI in teaching, at least with 20% of the AI component as pedagogy. It was appreciated that major revisions in curriculum have been recently undertaken by the Senate to address the changes and requirement of the Industry in terms of NEP-2020. The Chairman re-emphasised that the duration of the Ph.D. completion should be limited to 7 years. A concern on cyber security and increasing incidents of personal attacks were brought into the notice to members. It was opined to trap the persons who are involved on using the various email ids by tracking the IP addresses and other methodology.

The Dean of Academic Affairs informed that an email was sent to the faculty members from the Academic Affairs Office for usage of AI/ML tools, and responses from 56 faculty members were also received in this regard. He further informed that they are planning to hold a brainstorming session in the last week of July, where some experts for short lectures on AI tools and ML will be there to present that as how these can be incorporated in pedagogy. It was also informed that a lot of information is available for the students on the internet and NPTEL courses with flexibility to UG students to opt the online elective courses.

The chairman welcomed the following new members to Senate and wished for their active participation in the proceedings of the Senate.

1. Prof. Amit Agarwal, Associate Dean, Corporate Interaction (ADCI)
2. Prof. Sai Ramudu Meka, Associate Dean, Innovation and Incubation (Earlier ADCI)

Thanks was also placed on record for the valuable contributions of the following outgoing members:

1. Prof. Pradeep Kumar, Department of Mechanical & Industrial Engg.
2. Prof. Sukh Pal Singh, Department of Humanities & Social Sciences
3. Prof. Anjan Sil, Department of Metallurgical & Materials Engg.
4. Prof. S.C. Sharma, Department of Paper Technology

The agenda was taken up.

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

No comment was received. The Senate confirmed the minutes of its 104th meeting as circulated on 28.04.2025.

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.

The Senate noted the actions taken on the minutes.

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

The Senate considered the proposal to rename the department and recommended the same to the Board of Governors, as detailed below:

Existing Name	Proposed Name
Department of Paper Technology	Department of Paper and Packaging Technology


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

The Senate considered and recommended to the Board of Governors for the establishment of Centre for Regulatory Affairs (CRA). The Centre will function as an entity in the Hydro and Renewable Energy Department. The proposed governing body mentioned in the MoU will act as an advisory body for the Centre. Short Term courses / certificate programmes will be held at the GNEC campus and M.Tech programmes at the IIT Roorkee campus.

Further, the Senate advised that any PG/Ph.D. degree program in Energy Planning and Regulations should be under the aegis of the Hydro and Renewable Energy Department and to follow the extant process.

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.

Withdrawn with the information that item will be sent to the Dean of Faculty Affairs.

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

Item was dropped.

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

The Senate considered the recommendations of IRC and approved the proposal for early submission of the thesis, in case of Mr. Sandeep Rana (En.No. 22915024), Department of Electronics & Communication Engineering, and Mr. Japjeet Singh (En.No. 21910070), Department of Civil Engineering.

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

The item was deferred to the next Senate for detailed deliberations.

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.**

The Senate considered and approved the recommendations of IAPC for the Implementation of Community Outreach and Professional Development programmes as at **Appendix 'A' & Appendix 'B'**.

The Senate also suggested that emphasis should be given to identify the issues concerning to the Community or Industry. The respective places will be visited to get the real-time experience, and undertake the case study to submit the report. Some of the suggested area for the case-study may like the impact of the Government schemes, hygiene, opportunities for education and employment or real-world challenges faced by the Industry to get real-site insights on its operations, impact of change due to market/policy conditions, sustainability pressures, and the need of skilled labor etc.

Further, the Senate modified the geographical limit as radius of maximum 100 kms from IIT Roorkee.

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

The Senate deferred the item. Revised proposal with additional information to be submitted to the Senate through IAPC.

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

The Senate considered the recommendations of the IAPC and approved the proposal of Open Elective Courses with the following:

- (i) That each Department/ Centre/ School must offer at least two OECs in the Autumn semester, and at least one OEC in the Spring semester.
- (ii) The minimum class size should be of 80 students per course in case of the Institute electives, and 10 for department electives.
- (iii) In case student strength per course falls below the minimum required for elective, these should be merged, and students be motivated to opt for other electives.
- (iv) Departments are requested to propose additional electives.

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

The Senate considered and approved the proposal as in **Appendices C, D, E, F, G & H.**

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 Senate considered and advised that a representative from the International Research Scholars, whenever required, be invited as a special invitee to the IAPC.

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 Senate considered and advised that a representative from the International Research Scholars, whenever required, be invited as a special invitee to the IRC.

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

The Senate considered the recommendations of the IRC on the report of the committee and suggested the following:

- (i) The Citation for “Excellence in Doctoral Research Thesis” will be bestowed.
- (ii) The DRC/CRC/SRC will propose maximum of 02 thesis for consideration to select for citation for Excellence in Doctoral Research Award from the respective Department/Centre/School in a year.

The IRC will propose detailed guidelines consonance with these recommendations for this award, and the same will be re-submitted to the Senate.

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).

The Senate considered and approved the proposal for updating the Seminar Codes for the Ph.D. program.

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.

Decided that the earlier Senate-recommended and board-approved proposal of Joint Faculty/ Joint Professors in cognate departments, as it was in practice for faculty members who are working in academic service centres, be followed, corresponding to the allotted Ph.D. seat matrix with MHRD fellowship at IIC.


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

सीनेट ने हिंदी में पीएचडी थीसिस का एक पृष्ठ का सारांश प्रस्तुत करने के लिए आईआरसी की सिफारिशों पर विचार किया और उसे मंजूरी दे दी।

इसके अलावा, सीनेट ने मंजूरी दी कि राजभाषा प्रकोष्ठ संबंधित छात्र के अनुरोध पर सारांश को अंग्रेजी से हिंदी में अनुवाद करने में सहायता करेगा।

हिंदी संस्करण में एक अस्वीकरण पंक्ति जोड़ी जा सकती है, जिसमें कहा जाएगा कि "यह एक अनुवाद है और प्रामाणिकता के मामले में, अंग्रेजी पाठ का पालन किया जाएगा।"

The Senate considered and approved the recommendations of the IRC for submitting a One-Page Abstract of Ph.D. Thesis in Hindi.

Further, the Senate approved that the Hindi Cell will facilitate in translating the abstract from English to Hindi upon the request by the concerned student.

A Disclaimer line can be added in the Hindi version, stating that "it is a translation and in case of authenticity, the English text will be followed."

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

The Senate decided to simplify the Hindi words to be used in the Degree format. Accordingly, a committee may be constituted by the DoAA. The Chairperson be authorized to approve the recommendations submitted by the Committee.

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

The Senate noted the schedule of Convocation-2025, and suggested that the DoAA, DoFA, and DoRA can together work out the modality and Chief Guest for the Excellence Awards ceremony, considering the coinciding date of Teachers' Day and the award function.

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

The Senate noted the item.

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.

The Senate noted the item.

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

The Senate noted the item.

Under Any other items

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

The Senate considered the recommendations of the IAPC and approved the degree template for Joint/Dual PG programmes, as given in **Appendix 'I'**.

Further, the Senate suggested that the use of font size for IIT Roorkee and other International University/Institute in Joint/Dual Degree should be the same.

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 Senate considered and recommended to the Board of Governors to award 101 Ph.D. Degrees to the students who have duly qualified for the award of Ph.D. degrees as given in **Appendix 'J'**.

The meeting ended with a vote of thanks to the Chair.


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Annexure-I

Following were present

1.	Prof. K.K. Pant	Director & Chairman
2.	Prof. U.P. Singh	Dy. Director
3.	Prof. Rajan Arora	Applied Math. & Scientific Computing
4.	Prof. Jaydev	Applied Math. & Scientific Computing
5.	Prof. Arindam Biswas	Architecture & Planning
6.	Prof. Mahua Mukherjee	Architecture & Planning
7.	Prof. Uttam Kumar Roy	Architecture & Planning
8.	Prof. Srinivas Kiran Ambatipudi	Biosciences & Bioengineering
9.	Prof. Sanjay Ghosh	Biosciences & Bioengineering
10.	Prof. Gopinath Packirisamy	Biosciences & Bioengineering
11.	Prof. Ranjana Pathania	Biosciences & Bioengineering
12.	Prof. M.K. Mohan Poluri	Biosciences & Bioengineering
13.	Prof. Partha Roy	Biosciences & Bioengineering
14.	Prof. Pranita Pragnyadipta Sarangi	Biosciences & Bioengineering
15.	Prof. Ashwani Kumar Sharma	Biosciences & Bioengineering
16.	Prof. Shri Ram Yadav	Biosciences & Bioengineering
17.	Prof. Prakash Biswas	Chemical Engineering
18.	Prof. Amit Kumar Dhiman	Chemical Engineering
19.	Prof. Prateek Kumar Jha	Chemical Engineering
20.	Prof. Vimal Kumar	Chemical Engineering
21.	Prof. P.P. Kundu	Chemical Engineering
22.	Prof. Ram Prakash	Chemical Engineering
23.	Prof. Vimal Chandra Srivastava	Chemical Engineering
24.	Prof. Naseem Ahmad	Chemistry
25.	Prof. R.K. Dutta	Chemistry
26.	Prof. Kaushik Ghosh	Chemistry
27.	Prof. Prasenjit Kar	Chemistry
28.	Prof. Paritosh Mohanty	Chemistry
29.	Prof. Jeevanandam P.	Chemistry
30.	Prof. R.K. Peddinti	Chemistry
31.	Prof. Muniappan Sankar	Chemistry
32.	Prof. Anuj Sharma	Chemistry
33.	Prof. Rahul Dev Garg	Civil Engineering
34.	Prof. Priti Maheshwari	Civil Engineering
35.	Prof. C.S.P. Ojha	Civil Engineering
36.	Prof. K.S. Hari Prasad	Civil Engineering
37.	Prof. Rajat Rastogi	Civil Engineering
38.	Prof. Sonalisa Ray	Civil Engineering
39.	Prof. N.K. Samadhiya	Civil Engineering

40.	Prof. Vishwas Sawant	Civil Engineering
41.	Prof. Akhil Upadhyay	Civil Engineering
42.	Prof. R. Balasubramanian	Computer Science & Engineering
43.	Prof. Sandeep Kumar	Computer Science & Engineering
44.	Prof. Rajdeep Niyogi	Computer Science & Engineering
45.	Prof. Josodhir Das	Earthquake Engineering
46.	Prof. Bal Krishna Maheshwari	Earthquake Engineering
47.	Prof. Daya Shankar	Earthquake Engineering
48.	Prof. Manish Shrikhande	Earthquake Engineering
49.	Prof. Yogendra Singh	Earthquake Engineering
50.	Prof. R. Krishnamurthi	Earth Sciences
51.	Prof. Pramod Agarwal	Electrical Engineering
52.	Prof. B.R. Bhalja	Electrical Engineering
53.	Prof. Yogesh Vijay Hote	Electrical Engineering
54.	Prof. Premalata Jana	Electrical Engineering
55.	Prof. Dheeraj Kumar Khatod	Electrical Engineering
56.	Prof. P. Sumathi	Electrical Engineering
57.	Prof. Manoj Tripathy	Electrical Engineering
58.	Prof. Anand Bulusu	Electronics & Communication Engg.
59.	Prof. Bishnu Prasad Das	Electronics & Communication Engg.
60.	Prof. Sanjeev Manhas	Electronics & Communication Engg.
61.	Prof. Akhilesh Mohan	Electronics & Communication Engg.
62.	Prof. Karun Rawat	Electronics & Communication Engg.
63.	Prof. Meenakshi Rawat	Electronics & Communication Engg.
64.	Prof. Nagendra Kumar	Humanities & Social Sciences
65.	Prof. Sanjit Kumar Mishra	Humanities & Social Sciences
66.	Prof. Subir Sen	Humanities & Social Sciences
67.	Prof. Sumit Sen	Hydrology
68.	Prof. Ramesh Chandra	Institute Instrumentation Centre
69.	Prof. Ramesh A.	Management Studies
70.	Prof. Rajat Agarwal	Management Studies
71.	Prof. Vinay Sharma	Management Studies
72.	Prof. Ankik Kumar Giri	Mathematics
73.	Prof. Shiv Kumar Gupta	Mathematics
74.	Prof. Sanjeev Kumar	Mathematics
75.	Prof. Maheshanand	Mathematics
76.	Prof. Ammeya Kumar Nayak	Mathematics
77.	Prof. Uday Singh	Mathematics
78.	Prof. Tanuja Srivastava	Mathematics
79.	Prof. Arup Kumar Das	Mechanical & Industrial Engg.
80.	Prof. Akshay Dvivedi	Mechanical & Industrial Engg.
81.	Prof. P.K. Jha	Mechanical & Industrial Engg.
82.	Prof. Ravi Kumar	Mechanical & Industrial Engg.

83.	Prof. Manish Mishra	Mechanical & Industrial Engg.
84.	Prof. Kaushik Pal	Mechanical & Industrial Engg.
85.	Prof. V.H. Saran	Mechanical & Industrial Engg.
86.	Prof. Inderdeep Singh	Mechanical & Industrial Engg.
87.	Prof. K.M. Singh	Mechanical & Industrial Engg.
88.	Prof. Indra Vir Singh	Mechanical & Industrial Engg.
89.	Prof. Andallib Tariq	Mechanical & Industrial Engg.
90.	Prof. S.H. Upadhyay	Mechanical & Industrial Engg.
91.	Prof. B.V.M. Kumar	Metallurgical & Materials Engg.
92.	Prof. Suhrit Mula	Metallurgical & Materials Engg.
93.	Prof. Dharam Dutt	Paper Technology
94.	Prof. Ajay	Physics
95.	Prof. Tulika Maitra	Physics
96.	Prof. Vivek Kumar Malik	Physics
97.	Prof. Vipul Rastogi	Physics
98.	Prof. Praveen Chandra Srivastava	Physics
99.	Prof. Ghanshyam Das Verma	Physics
100.	Prof. Davinder Kaur Walia	Physics
101.	Prof. Ajay Wasan	Physics
102.	Prof. Thanga Raj Chelliah	WRD&M
103.	Prof. Ashish Pandey	WRD&M
104.	Prof. Sanjeev Kumar Prajapati, Head, Deptt. of Hydro & Renewable Energy	
105.	Prof. Kirtiraj K. Gaikwad, Head, Deptt. of Paper Technology	
106.	Prof. M.V. Sunil Krishna, Assoc. DOSW (Students' Activities)	
107.	Prof. Falguni Pattanaik, ADOAA (Curriculum)	
108.	Prof. E. Rajasekar, Associate Dean, Infra (Civil)	
109.	Mr. Prashant Garg, Registrar & Secretary, Senate	


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Annexure-II

The following members conveyed their inability to join the meeting.

1. Prof. Debasis Banerjee, Department of Chemistry
2. Prof. Kalyan Kumar Sadhu, Department of Chemistry
3. Prof. R.N. Dubey, Department of Earthquake Engineering
4. Prof. A. Swaminathan, Department of Mathematics
5. Prof. Sudhakar Subudhi, Department of Mech. and Industrial Engineering
6. Prof. Anil Kumar Gourishetty, Department of Physics
7. Prof. Deepak Khare, Department of WRD&M



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Appendix 'A'

Item No. Senate / 105.9

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:

- 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.
- The evaluation may involve report submission/ presentation/ oral viva-voce/ demonstration of working model etc.
- The Course Coordinator will submit the grades through AIS portal.
- The grading for the course shall be as per the grading criteria for practical/project/ seminar courses.
- 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:

- The departments may be sanctioned INR 3000/- per student, towards meeting the expenditures related to field visits/boot camp etc.t, if required.
- The geographical limits will be radius of 100 km. 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.


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Appendix 'B'
Item No. Senate / 105.9

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.

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


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DEPARTMENT OF PHYSICS
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

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

Appendix 'C'**Item No. Senate / 105.12**

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

Sl. No.		Teaching Scheme			Contact Hours/Week			Exam Duration	
		Subject Code	Course Title	Subject Area	Credits	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			

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M.Sc. (Physics)

Program Elective Courses

Teaching Scheme		Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
						L	T	P	Theory	Practical
1.	PHL-502	Physics of Nanosystems	PEC	4	3	1	0	3	0	0
2.	PHL-504	Fiber and Nonlinear Optics	PEC	4	3	1	0	3	0	0
3.	PHL-505	Quantum Optics	PEC	4	3	1	0	3	0	0
4.	PHL-508	Introduction to Superstring Theory	PEC	4	3	1	0	3	0	0
5.	PHL-510	Advanced Characterization Techniques	PEC	4	3	1	0	3	0	0
6.	PHL-511	Atomic and Molecular Collision Physics	PEC	4	3	1	0	3	0	0
7.	PHL-513	Astrophysics	PEC	4	3	1	0	3	0	0
8.	PHL-514	Solar-Terrestrial Physics	PEC	4	3	1	0	3	0	0
9.	PHL-515	General Relativity	PEC	4	3	1	0	3	0	0
10.	PHL-516	Computational Nuclear Physics	PEC	4	3	1	0	3	0	0
11.	PHL-517	Particle Physics	PEC	4	3	1	0	3	0	0
12.	PHL-521	Weather Forecasting	PEC	4	3	1	0	3	0	0
13.	PHL-522	Nuclear Instrumentation	PEC	4	3	1	0	3	0	0
14.	PHL-523	Physics and Technology of Thin Films	PEC	4	3	1	0	3	0	0
15.	PHL-524	Advanced Nuclear Reactions	PEC	4	3	1	0	3	0	0
16.	PHL-525	Semiconductor Photonics	PEC	4	3	1	0	3	0	0
17.	PHL-526	Advanced Light Sources	PEC	4	3	1	0	3	0	0
18.	PHL-527	Superconducting Radio Frequency for Particle Accelerators	PEC	4	3	1	0	3	0	0
19.	PHL-528	Advanced Condensed Matter Physics	PEC	4	3	0	3	3	0	0
20.	PHL-529	Advanced Atmospheric Physics	PEC	4	3	0	3	3	0	0
21.	PHL-530	Advanced Laser Physics	PEC	4	3	0	3	3	0	0
22.	PHL-531	Advanced Nuclear Physics	PEC	4	3	0	3	3	0	0
23.	PHL-532	Advanced Quantum Field Theory	PEC	4	3	1	0	3	0	0
24.	PHL-533	Quantum Computing for Many Body Systems	PEC	4	3	1	0	3	0	0

M.Sc. (Physics)

Program Elective Courses

		Teaching Scheme			Contact Hours/Week			Exam Duration	
		Subject Code	Course Title	Subject Area	Credits	L	T	P	
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 Electrocramics 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

		Teaching Scheme			Contact Hours/Week			Exam Duration	
		Subject Code	Course Title	Subject Area	Credits	L	T	P	
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

**Appendix 'D'
Item No. Senate / 105.12**

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.	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					

**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 : II
 Model : 2

Teaching Scheme										Contact Hours/Week			Exam Duration
S.No.	Subject Code	Course Title	Subject Area	Credits	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			

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M.Tech. (Dam Safety and Rehabilitation)

Program Elective Courses

		Teaching Scheme				Contact Hours/Week			Exam Duration	
		Subject Code	Course Title	Subject Area	Credits	L	T	P	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


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Science, Technology, and Advanced Research-tools Basket

Teaching Scheme									
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 L T P	Exam Duration
1.	DSS-502	Stakeholder Management of Dams and Large Infrastructure Projects	SSC	2	1 1 0	Theory 0 Practical 0

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**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

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.	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

		Teaching Scheme			Contact Hours/Week			Exam Duration	
		Subject Code	Course Title	Subject Area	Credits	L	T	P	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

		Teaching Scheme			Credits	Subject Area	Contact Hours/Week				Exam Duration	
		Subject Code	Course Title				L	T	P		Theory	Practical
1.	TSL-502		Freight Transportation Planning and Management		3	PEC	2	1	0	3	0	0
2.	TSL-504		Management of Transportation Projects		3	PEC	2	1	0	3	0	0
3.	TSL-508		Design of Inclusive Urban Transport		3	PEC	2	1	0	3	0	0
4.	TSL-510		Ropeway Infrastructure Planning and Design		3	PEC	2	1	0	3	0	0
5.	TSL-511		Multimodal Transportation		3	PEC	2	1	0	3	0	0
6.	TSL-512		Inland Navigation and Water Transport		3	PEC	2	1	0	3	0	0
7.	TSL-514		Airport Planning and Design		3	PEC	2	1	0	3	0	0
8.	TSL-516		Transport Economics		3	PEC	2	1	0	3	0	0
9.	TSL-518		Transportation Planning and Management Studio		4	PEC	0	0	8	0	0	0
10.	TSL-519		Geographical Information System (GIS) Applications in Transportation Systems		3	PEC	2	0	2	3	0	0
11.	TSL-520		Advanced Data Analytics for Transportation Systems		3	PEC	2	1	0	3	0	0
12.	TSL-521		Planning and Management for Active Transport		3	PEC	2	1	0	3	0	0
13.	TSL-522		Optimization Techniques for Transportation Systems		3	PEC	2	1	0	3	0	0
14.	TSL-523		Intelligent Transportation System		3	PEC	2	1	0	3	0	0
15.	TSL-524		Transport Infrastructure Design		3	PEC	2	1	0	3	0	0
16.	TSL-525		Road Traffic Safety and Management		3	PEC	2	0	2	3	0	0
17.	TSL-526		Electric Mobility Planning & Design		3	PEC	2	1	0	3	0	0
18.	TSL-527		AI / ML for Transportation Systems		3	PEC	2	1	0	3	0	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)

Science, Technology, and Advanced Research-tools Basket

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

Teaching Scheme								
S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration
					L	T	P	Theory
Semester-I (Autumn)								
1.	WRC-503	Water Resources Planning and Management	PCC	4	3	1	0	3
2.	WRC-533	Design of Irrigation Structures and Drainage Works	PCC	4	3	0	2	3
3.	WRC-536	On Farm Development	PCC	3	2	0	2	3
4.	WRC-538	Principles and Practices of Irrigation	PCC	3	2	0	2	3
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			

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

Program Elective Courses for Semester-I (Autumn)

		Teaching Scheme			Contact Hours/Week			Exam Duration	
		Subject Code	Course Title	Subject Area	Credits	L	T	P	
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)

		Teaching Scheme			Contact Hours/Week			Exam Duration	
		Subject Code	Course Title	Subject Area	Credits	L	T	P	
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


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Program Elective Courses for Semester-II (Spring)

Teaching Scheme									
S.N.	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

Teaching Scheme									
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

Teaching Scheme									
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 : XXXX 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		Contact Hours/Week			Exam Duration	
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	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
2.	WRC-503	Water Resources Planning and Management	PCC	4	3	1	0	3
3.	WRC-504	Applied Hydrology	PCC	3	2	0	2	3
4.	WRC-508	Hydromechanical and Electrical Equipment	PCC	3	2	0	2	3
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		Contact Hours/Week			Exam Duration	
S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	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)

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

Program Elective Courses for Semester-II (Spring)

Teaching Scheme									
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

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.N.	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)

		Teaching Scheme			Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
S.N.	Subject Code	Course Title	Subject Area	Credits					
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

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

Social Sciences Course Basket

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

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

Program Code : XXXX 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				
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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**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

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)

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

Program Elective Courses for Semester-II (Spring)

Teaching Scheme									
S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration	
					L	T	P		
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)

		Teaching Scheme			Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
S.No.	Subject Code	Course Title	Subject Area	Credits					
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

		Teaching Scheme			Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
S.No.	Subject Code	Course Title	Subject Area	Credits					
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

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

**Appendix 'F'
Item No. Senate / 105.12**

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-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 IWMM shall be of One Year duration comprising of semesters I and II only, with a minimum credit of 36									

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									
			Contact Hours/Week		Exam Duration				
S.No.	Subject Code	Course Title	Subject Area	Credits	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. (Irrigation Water Management)/P.G. Diploma in Irrigation Water Management

Program Elective Courses for Semester-I (Autumn)

		Teaching Scheme			Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
S.No.	Subject Code	Course Title	Subject Area	Credits					
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

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Program Elective Courses for Semester-II (Spring)

		Teaching Scheme			Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
S.No.	Subject Code	Course Title	Subject Area	Credits					
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

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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-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

Science, Technology, and Advanced Research-tools Basket

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

Social Sciences Course Basket

Teaching Scheme									
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

**Appendix 'G'
Item No. Senate / 105.12**

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

Teaching Scheme									
					Contact Hours/Week			Exam Duration	
S.No.	Subject Code	Course Title	Subject Area	Credits	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. (Water Resources Development)/P.G. Diploma in Water Resources Development

Program Elective Courses for Semester-I (Autumn)

		Teaching Scheme			Contact Hours/Week			Exam Duration	
					L	T	P	Theory	Practical
S.No.	Subject Code	Course Title	Subject Area	Credits					
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)

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

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	
					L	T	P	Theory	Practical
No.	Subject Code	Course Title	Subject Area	Credits					
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	Ecological 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

Teaching Scheme									
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

Teaching Scheme									
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

**Appendix 'H'
Item No. Senate / 105.12**

Teaching Scheme								
Sl. No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration
					L	T	P	Theory
Semester-I (Autumn)								
1.	WRC-506	Rural and Urban Water Supply	PCC	4	3	0	2	3
2.	WRC-543	Drinking Water and Sanitation Sustainability	PCC	4	3	0	2	3
3.	WRC-546	Wastewater Engineering	PCC	3	2	0	2	3
4.	WRC-548	Water Sanitation, Hygiene, and Infrastructural Management	PCC	3	2	0	2	3
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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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

Teaching Scheme								
S.No.	Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration
					L	T	P	Theory
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.		Teaching Scheme			Contact Hours/Week			Exam Duration	
					Credits			Theory	Practical
Subject Code	Course Title	Subject Area				L	T	P	
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.		Teaching Scheme			Contact Hours/Week			Exam Duration	
					Credits			Theory	Practical
Subject Code	Course Title	Subject Area				L	T	P	
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	Ecological 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)

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

Science, Technology, and Advanced Research-tools Basket

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

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

Social Sciences Course Basket

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

भारतीय प्रौद्योगिकी संस्थान रूड़की

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 अर्वापति हेतु विनियम विहित अपेक्षाओं को सन् 2025 में सफलतापूर्वक पूरा कर लिया है, एतद्वारा प्रदान करता है।

भारतीय गणराज्य के अन्तर्गत रूड़की 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.

07 AUG 2025

कुलसचिव
Registrar

अध्यक्ष, अभिषद् एवं निदेशक
Chairman, Senate & Director

भारतीय प्रौद्योगिकी संस्थान रूड़की

अभिषद् की अनुशंसा पर

द्वि 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 अवाप्ति हेतु विनियम विहित अपेक्षाओं को सन् 2025 में सफलतापूर्वक पूरा कर लिया है, एतद्वारा प्रदान करता है।

भारतीय गणराज्य के अन्तर्गत रूड़की 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

Appendix 'J'

Item No. Senate / 105.25

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. MEEENAKSHI RAJEEV,IIM JAMMU	02-04-2025	21-04-2025

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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 <i>Lentibacillus salarius</i> 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, Pharmace utical 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, Aiiims Delhi Dr. Prasan Kumar Panda, Aiiims Rishikesh	28-04-2025	21-05-2025


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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-Genaidy, 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(BHU) Varanasi	25-03-2025	28-03-2025

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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, Nanjier 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


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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 RESOURCE 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- HYPER SPECTRAL 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 SIDDHADH	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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S. No.	Enrollment No.	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
25	18909005	ANOO P 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-IIT	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 γ -Butenolides	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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S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
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 Negi, 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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S. No.	Enrollment No.	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
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, Nanyang 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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S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
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 University	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. Bobby 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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S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
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. Abhejeet 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 Thiruvananthpura in 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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S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
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 PROTOLOTH GEOCHRONOLOGY.	Prof. Sudheer Kumar Tiwari, IITR Prof. Deepak Chandra Srivastava, IITR Dr. Arvind K Jain, CSIR- CBRI	Prof. Neptune Srima, 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. Pares 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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S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
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 TRIPATHI, IIT PATNA	11-04-2025	17-04-2025


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S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
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 Institute of India. Klauser 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 Bhubaneswar	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. Rohuapua, 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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S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
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. EL DHO 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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S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
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. Uday 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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S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
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 Electrodisharge Machining Process Through Experimental, Analytical, Numerical and Machine Learning Assisted Metaheuristic Approaches	Dr. Akshay Dvivedi, IITR	Prof. Ajay Mahajan, University of Akron Prof. Siamak Farhad, University of Tennessee, Knoxville	01-04-2025	30-04-2025

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S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
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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S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
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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S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
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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S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
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, University 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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S. No.	Enrollment No	Name	Deptt	Topic	Supervisor	Examiner	Date of Defence	Date of PDC
89	20925005	DEEPAK PATEL	PH	SHELL MODEL STUDY OF NUCLEAR STRUCTURE AND $2\nu\beta\beta$ 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


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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, IIT 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


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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


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