

सूचना विवरणिका
INFORMATION BROCHURE

Ph.D. Programme (Full Time & Part Time)
Autumn Semester

2025-26



भारतीय प्रौद्योगिकी संस्थान रुड़की
Indian Institute of Technology Roorkee

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Indian Institute of Technology Roorkee (IIT Roorkee) has a rich legacy spanning **177 years**, and it is among the oldest engineering institutions in India. On September 21, 2001, it was formally designated as an Indian Institute of Technology through a Government of India ordinance, becoming the seventh IIT and earning the status of an Institution of National Importance.

Since its inception, IIT Roorkee has played a pivotal role in shaping the future of technology, engineering, and research in the country. Over the years, the Institute has expanded its reach beyond science and technology, making significant contributions to Architecture, Management, and the Humanities & Social Sciences.

Today, IIT Roorkee continues to set higher benchmarks in education and it offers undergraduate programs in 14 disciplines of Engineering and Architecture, along with six integrated Master's programs in engineering and science. Additionally, the **Institute offers 59 postgraduate programs** across fields such as Engineering, Applied Science, Architecture & Planning, Management, Humanities & Social Sciences, Design, and Innovation. Further, fostering research and discoveries, it also offers doctoral programs across all its Departments/Centres/ Schools.

With a strong foundation in academic excellence and a forward-looking vision, IIT Roorkee continues to inspire generations of scholars, engineers, and leaders, driving progress and innovation in India and beyond.

1.1 *Location*

IIT Roorkee is situated at the **foothill of Himalayas**, in Hardwar district, within the state of Uttarakhand. It is the gateway to the pilgrim centres of **Haridwar, Rishikesh, and Char Dham (Gangotri, Yamnotri, Badrinath and Kedarnath)**, and tourist attraction cities like, Dehradun and Mussoorie. Roorkee is well connected to Delhi by rail and road. It is situated on National Highways 58 and 73 and is on Amritsar-Howrah main rail route. Nearest airport to Roorkee is Dehradun's Jolly Grant airport but most preferable airport nearest from Roorkee is the New Delhi International Airport which is about 180 kilometers away.

1.2 Campus



The Institute has three campuses. The main campus is at Roorkee in Uttarakhand and the second one is 50 km away at Saharanpur and third is the Greater Noida Campus Centre in Uttar Pradesh. The campus at Roorkee is spread over **356 acres** of landscaped lush greenery. Nestled within this are several heritage buildings, modern academic departments, nineteen hostels, messes, hospital, school, banks, community centres, indoor and outdoor sports facilities which include three sports stadiums, a modern swimming pool, yoga bhawan, students' clubs and several activity centres and other buildings. The Department of Paper Technology is located in a **25-acre campus at Saharanpur**. A 10-acre campus is being developed as an extension centre at Greater Noida.

About Doctoral Research

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Keeping in view the long tradition of academic excellence, the following institutional goals have been laid for doctoral research:

- To develop deep and broad understanding of fundamentals and state of the art of knowledge in the chosen field through courses and self-study,
- To develop synergy between creativity, innovation and the frontiers of knowledge in the chosen field of study,
- To develop ability and skills to carry out independent research and development to face the challenges posed to mankind on specific problems, and
- To develop abilities to identify new possibilities in the given Indian social context and to undertake research and development through one's own initiatives.

The Degree of Doctor of Philosophy is granted for research work in areas recognized by the Academic Departments / Centres / School of the Institute. The research work shall be an original work characterized either by the discovery of facts, or by a fresh approach towards the interpretation and application of facts, or development of equipment making a distinct advancement in instrument technology. It shall evince the candidate's capacity for critical examination and sound judgment and shall represent original contribution to the existing knowledge. The Institute is also recognized as one of the centres in the country for Ph.D. programmes under QIP. Facilities for enrolling for the Ph.D. programme as a part time candidate are also available.

Important Dates

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March 28, 2025

Start of online Application Process

April 21, 2025

Last date for filling up of application form

July 15, 2025

Date of Academic Registration by the candidate in person

July 17, 2025

Commencement of Classes

Note:

Schedule for Interview and/or Written Test will be intimated by the concerned Department/Centre/School.

Ph.D. Admission Requirements

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4.1 Common Minimum Eligibility Criteria (CMEC) for Ph.D. Admission:



An applicant should possess one of the following minimum qualifications in appropriate area(s) and she/he is required to fulfil the Department/ Centre/ School wise minimum educational qualification to be eligible to apply for admission for the Ph.D. programmes of the Institute.

1. Applicants with Master's degree should satisfy the following:
 - (i) General, GEN-EWS and OBC category: Minimum Cumulative Grade Point Average (CGPA) of 6.0 on a 10-point scale, or 60% marks.

SC / ST / PWD category: Minimum Cumulative Grade Point Average (CGPA) of 5.50 on a 10-point scale or 55% marks.
 - (ii) Qualified in a national level test, such as- GATE / CEED / JEST / UGC-NET / CSIR-NET including lectureship (Assistant Professorship) / Ph.D. only or equivalent or holding a national level fellowship.
2. Applicants of all categories (GEN/GEN-EWS/OBC/SC/ST/PWD) having B.Tech. degree or M.Sc. with a CGPA of 8.0 and above obtained from the Ministry of Education funded Technical Institutions (erstwhile CFTIs of MoE), the requirement of the national level tests such as GATE/NET is exempted.

3. Applicants of all categories (GEN/GEN-EWS/OBC/SC/ST/PWD) with 4-Year Bachelor's degree from institutions other than the Ministry of Education funded Technical Institutions (erstwhile CFTIs of MoE) having a minimum CGPA of 7.50 on a 10-point scale or 75% marks and Qualified a national level test, such as GATE / CEED / JEST / UGC-NET / CSIR-NET including lectureship (Assistant Professorship)/ Ph.D. Only or equivalent or holding a national level fellowship
4. Applicants of all categories (GEN/GEN-EWS/OBC/SC/ST/PWD) with Bachelor's or Master's degree from IITs with a CGPA of 8.0 and above on a 10-point scale. Such candidates are exempted from the requirement of qualifying in a national level test, such as- GATE / CEED / JEST / UGC-NET / CSIR-NET including lectureship (Assistant Professorship)/ Ph.D. Only or equivalent or holding a national level fellowship.
5. Applicants of all categories (GEN/GEN-EWS/OBC/SC/ST/PWD) with MBBS / BAMS / BHMS / BDS degree from Indian Universities / Institution shall have minimum CGPA of 6.0 on a 10-point scale, or 60% in the qualifying degree. Such candidates are exempted from the requirement of qualifying in a national level test, such as- GATE / CEED / JEST / UGC-NET / CSIR-NET including lectureship (Assistant Professorship)/ Ph.D. Only or equivalent or holding a national level fellowship.
6. Applicants with Master of Surgery (MS) / Doctor of Medicine (MD) degree from Indian Universities / Institutions are exempted from the minimum CGPA as well as the requirement of qualifying in a national level test, such as- GATE / CEED / JEST / UGC-NET / CSIR-NET including lectureship (Assistant Professorship)/ Ph.D. Only or equivalent or holding a national level fellowship.
7. Candidates pursuing master's programs in Engineering / Architecture / Planning / M.Sc. / M. Des. in IIT Roorkee shall have a choice of lateral entry / switch-over to the Ph.D. program after completing the following:
 - (i) First three semesters of the Master's program with CGPA 8.0 or above for the candidates of M.Sc. program.
 - (ii) First two semesters of the master's program with CGPA 8.0 or above for candidates of other master programs.

Note:

- CGPA or percentage of marks in aggregate (in case marks are awarded) of all years / semesters will be considered. If the CGPA is awarded on a scale other than a 10-point scale, proportionate conversion to a 10-point scale will be considered.
- The requirement of qualifying in a national level test, such as- GATE / CEED / JEST / UGC-NET / CSIR-NET including lectureship (Assistant Professorship)/ Ph.D. Only or equivalent or holding a national level fellowship is not applicable to candidates in ISERS or P-ISIRS or P-ISERS category.

- Candidates with a medicine degree from an overseas university / institute should have qualified the Foreign Medical Graduate Examination, or equivalent conducted by the National Board of Examination.
- Candidates with Overseas Citizen of India (OCI) / Person of Indian Origin (PIO) status will be treated at par with Indian Nationals in the General Category.
- Candidates selected under DST-INSPIRE scheme may be considered for provisional admission through departmental/centre/school Ph.D. selection procedure. Such candidates shall be required to submit their INSPIRE Fellowship “Final Offer” from the funding agency to the Institute within 18 months from the date of initial joining, failing which their provisional admission shall stand cancelled automatically, without any further consideration.
- Candidates under OBC-NCL and Economically Weaker Sections (EWS) category are required to submit a copy of valid certificate, issued after 31st March, 2024, while submitting the application, as per GOI issued by a competent authority. Reservation shall be applicable as per the GOI Norms.
- For details regarding EWS please go through the link: <https://dopt.gov.in/sites/default/files/ewsf28fT.PDF>

4.2 *Minimum Educational Qualification (MEQ) for Admission to Ph.D. Programme in Different Departments / Centres/School*

A. *ROORKEE CAMPUS*

1. **Department of Architecture & Planning**
 - (i) Bachelor’s Degree in Architecture or Planning followed by Master’s Degree in any specialization. **(OR)**
 - (ii) Bachelor’s Degree in Civil Engineering followed by Master’s Degree in any specialization of Planning. **(OR)**
 - (iii) B.Arch./ B. Planning.

2. Department of Biosciences & Bioengineering

A. Structural and computational Biology

- (i) Master's degree in any disciplines of Science.
- (ii) Four year Bachelor's (In any related areas of biological sciences (Biology, Biotechnology, Bioscience or related areas with biology as a subject))/ MBBS.
- (iii) Bachelor's/Master's Degree in engineering, Pharmacy and related disciplines.

B. Cell and Molecular Biology

- (i) Master's Degree/ Four year Bachelor's (In any related areas of biological sciences (Biology, Biotechnology, Bioscience or related areas with biology as a subject))/ MBBS.
- (ii) Bachelor's/Master's Degree in engineering.
- (iii) MD/ MS in Ayurveda, M.Pharm., M.V. Sc.

B. Biological Engineering

- (i) B.Tech. (4 years after XII)/ M.Tech. with the condition that applicant should have Mathematics at 12th level.

3. Department of Civil Engineering

- (i) Bachelor's degree in Civil Engineering. **(OR)**
- (ii) Bachelor's degree in Civil Engineering and Master's degree in research areas relevant to the different groups of the Department (Environmental, Geomatics, Geotechnical, Hydraulics, Structural and Transportation). **(OR)**
- (iii) Bachelor's degree in any branch of engineering with Master's degree in relevant research areas of the above groups of Civil Engineering, having mathematics at the Bachelor's level. **(OR)**
- (iv) Bachelor's / Master's degree in any branch of engineering but having 8 years of work experience in the research areas relevant to the above groups of the department. **(OR)**

- (v) For Geomatics Engineering group, MCA (with mathematics as one of the subjects in Bachelor's level) shall also be eligible for applying.

4. Department of Chemical Engineering

- (i) B.Tech./M.Tech./M.Sc. or equivalent in Chemical Engineering/Chemical Technology/ Allied Disciplines in Engineering and Sciences.

5. Department of Chemistry

- (i) M.Sc. or equivalent degree in Chemistry / Physics / Applied Chemistry / Industrial Chemistry / Pharmaceutical Chemistry / Biochemistry or B.Tech. in Polymer Technology / Chemical Science and Technology/Chemical Engineering. **(OR)**
- (ii) BS Degree (4-year) in Chemistry/ Chemical Sciences/ Physics/ Physical Sciences.

6. Department of Computer Science and Engineering

- (i) M.E. / M.Tech. in Information Technology/ Computer Science & Engg. / Software Engg./ AI and Data Science or equivalent. **(OR)**
- (ii) M.Tech. / ME in Electrical Engineering/ Electronics and Communications Engineering or equivalent. **(OR)**
- (iii) B.E. / B.Tech. in Computer Sc. & Engg. / Information Technology/ Mathematics and Computing or equivalent. **(OR)**
- (iv) Five years integrated BS-MS in mathematics and computing or equivalent. GATE paper qualification is in CS/EC.

7. Department of Design

- (i) M.Des. / M.Tech. / M.Arch. **(OR)**
- (ii) Bachelor's degree in Design followed by Master's Degree in any specialization. **(OR)**
- (iii) MIM / Master's in Management / MBA or equivalent **(OR)**

- (iv) Master's degree in Science / Bachelor Degree in Engineering / Technology / Architecture may be considered for research areas consistent with the academic background and special interests.
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8. Department of Electronics and Communication Engineering

- (i) M.E./M.Tech. in Microelectronics / VLSI /Microwaves/Communication Systems / Control Systems / Instrumentation / Circuits & Systems/ Computer Science or equivalent. **(OR)**
 - (ii) B.E. /B.Tech. in Electronics & Communication / Electrical Engg./ Computer Science & Engg. or equivalent. **(OR)**
 - (iii) M.Sc. in Physics / Instrumentation / Electronics/Computer Science & Engg. or Equivalent.
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9. Department of Earthquake Engineering

- (i) B.Tech. / M.Tech. or equivalent degree in Civil Engineering/ Earthquake Engineering. **(OR)**
 - (ii) M.Sc. / M.Tech. in Geophysics/ Physics / Mathematics / Geology for research areas in Engineering Seismology and Seismotectonics.
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10. Department of Earth Sciences

- (i) M.Sc. / M.Sc.Tech / M.Tech. / MS/ Integrated M.Tech./ Integrated M.Sc. degree in Geology / Geophysics / Applied Geology / Applied Geophysics / Geological Technology / Geophysical Technology / Geosciences / Applied Geosciences / Petroleum Geology / Petroleum Geophysics/ Earth Sciences.
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11. Department of Electrical Engineering

- (i) B.Tech. / M.Tech. or equivalent degree in Electrical Engineering. **(OR)**
 - (ii) B.Tech. / M.Tech. or equivalent degree in Electronics and Communication/ Electronics/ Instrumentation/ Electronics and Instrumentation / Instrumentation and Control Engineering. **(OR)**
 - (iii) AI related specializations including B.Tech. / M.Tech. or equivalent degree in Computer Science/ M.Sc. (Maths)/ M.Sc. (Physics).
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12. Department of Humanities and Social Sciences

- (i) M.A. or equivalent degree. **(OR)**
 - (ii) Master's degree in Science/Graduate Degree in Engineering / Technology with 60% marks (or equivalent grade) may be considered for research areas consistent with the academic background and special interests.
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13. Department of Hydrology

- (i) Master's degree in any of the following or equivalent research areas relevant to the department
 - a. Civil Engg. / Agricultural Engg. / Hydrology / Environmental Engg. / Water Resources / Chemical Engg. **(OR)**
 - b. Geology/Geophysics /Soil Science / Forestry or Natural Resources/ Atmospheric Sciences/ Environmental Sciences/ Disaster Mitigation & Management; with Mathematics at Bachelor's level. **(OR)**
 - (ii) In-service candidates having Master's degree in any branch of engineering with 4 years of work experience in the research areas relevant to the department.
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14. Department of Hydro and Renewable Energy

- (i) B.Tech. / M. Tech. or equivalent in Civil / Electrical / Mechanical / Industrial / Chemical / Electronics / Computer / Agricultural / /Biotechnology/Engineering or Equivalent and related disciplines. **(OR)**
 - (ii) M.Sc. in disciplines consistent with research areas of the department.
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15. Department of Management Studies

- (i) B.E. / B.Tech. or equivalent, M.E. / M.Tech. or equivalent qualifications. **(OR)**
 - (ii) M.Sc. / M.A. / M.Com. **(OR)**
 - (iii) Master's in Management/M.B.A. or equivalent.
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16. Department of Mathematics

- (i) M.A. / M.Sc. / M.Tech. / Int. M.Sc. (5 years) in Mathematics / Applied Mathematics / Industrial Mathematics / Statistics / Operations Research/Applied Operations Research / Mathematics and Computing or equivalent. **(OR)**
 - (ii) M. Stat. / M. Math. **(OR)**
 - (iii) B.Tech. in Maths and Computing / B.S. Maths (4 years) from IITs / IISc.
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17. Department of Mechanical & Industrial Engineering

- (i) B.Tech. / M.Tech. degree or equivalent degree in Mechanical / Industrial / Production Engg. **(OR)**
 - (ii) B.Tech. / M.Tech. degree in Aerospace / Chemical / Civil /Computer/Electrical/ Electronics/ Materials/ Metallurgical Engg./ Biotechnology/ Nanotechnology and other research areas consistent with the academic background and special interests.
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18. Department of Metallurgical and Materials Engineering

- (i) B.Tech./ M.Tech. degree in Metallurgy / Materials Science and Engineering / Ceramic Engineering/ Polymer Engineering or equivalent. **(OR)**
- (ii) B.Tech./ M.Tech. degree in Mechanical Engineering/ Production Engineering/ and allied disciplines. **(OR)**
- (iii) B.Tech. / M.Tech. in Biotechnology/ Bio engineering with Mathematics at the undergraduate level. **(OR)**
- (iv) M.Sc. in Materials Science/ Physics/ Chemistry and allied streams with Mathematics at the Undergraduate level.

19. Department of Physics

- (i) M.Sc. in Physics / Applied Physics or equivalent. **(OR)**
- (ii) M.Sc. in Chemistry / Mathematics / Biophysics / Geophysics / Computer Science / Electronics or equivalent, provided Physics was a subject at B.Sc. level. **(OR)**
- (iii) B.Tech. in Electrical / Electronics / Chemical / Metallurgical / Nanotechnology / Engineering Physics or equivalent. **(OR)**
- (iv) M.Tech. (Solid State Electronics Material), M.Tech. (Photonics), M.Tech. (Nanotechnology), M.Tech. (Applied Optics), M.Tech. (Optoelectronics and Optical Communication) or equivalent. **(OR)**
- (v) Integrated M.Sc. in Photonics or equivalent.

20. Department of Water Resources Development & Management

- (i) B.E. /B. Tech. /M.E. /M.Tech. in Civil / Agricultural / Environment / Electrical/ Mechanical /Chemical / Computer/ Electronics Engineering /Architecture and Planning or equivalent degree consistent with research areas of the Department. **(OR)**
- (ii) M.Sc. Degree in Agricultural Science / Natural (Land and Water) Science/Environmental Science or equivalent consistent with research areas of the Department along with mathematics at bachelor's level.

21. Centre for Transportation Systems (CTRANS)

- (i) M.Tech. / M.Arch. / M.Planning / M.Des. / MBA or equivalent degree in Civil Engg. / Mechanical Engg / Industrial Engg. / Production Engg. / Computer Science & Engg. / Chemical Engg. / Infrastructure Systems/ Biotechnology / Architecture / Planning / Urban Engg. / Business Administration /Automobile Engg. / Mechatronics Engg.
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22. Institute Instrumentation Centre

- (i) M.Sc. in Physics, Applied Physics, Material Science, Chemistry, Electronics & Nano technology with NET/GATE. M.Sc. in Biological Sciences, Life Sciences or related with NET/GATE. (OR)
 - (ii) M.Tech. (CS) / (Biotechnology) / (Nano technology) / (Material Science or equivalent) with NET/GATE. (OR)
 - (iii) B.Tech (Engineering Physics), (EC) / (CS)/ (Biotechnology) with NET/GATE.
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23. Centre of Excellence in Disaster Mitigation & Management

- (i) M. Tech. in Disaster Mitigation and Management, Civil Engineering, Geomatics Engineering, Mechanical and Industrial Engineering, Chemical Engineering, Computer Science and Engineering, M. Arch. & M. Planning, or equivalent. (OR)
- (ii) M. Tech. in Geological Technology, Geophysical Technology, Earth System Science and Engineering, Atmospheric Oceanic Science and Technology, Bio sciences and Bioengineering, or equivalent (with Bachelors in Engineering, or Technology, or Sciences with Mathematics as a subject at least in one semester.) (OR)
- (iii) M. Sc. in Disaster Management, Geology, Geophysics, Atmospheric and Ocean Sciences, Physics, Mathematics, Environmental Sciences, Biosciences, Biotechnology or equivalent (with Bachelors in Sciences with Mathematics as a subject at least in one semester).

(OR)

- (iv) M.B.A. or M.C.A. (with Bachelors in Engineering, or Technology, or Sciences with Mathematics as a subject at least in one semester.)
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24. Centre for Nanotechnology

- (i) B.E. / B.Tech. or M.E. / M.Tech. in Nanotechnology/Metallurgy/ Chemical / Polymer/ Mechanical / Biotechnology / Engineering Physics / Engineering Chemistry / Electronics / Electrical/ Computer Science and Engineering / Civil / Energy / Environmental / Agriculture or equivalent. (OR)
 - (ii) M.Sc. / Int. M.Sc. / M.S. in Science / Engineering, B. Pharm. / M. Pharm. (OR)
 - (iii) MBBS/MD/BDS/MDS or equivalent.
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25. Centre for Photonics and Quantum Communication Technology (CPQCT)

- (i) M.Tech. in Electronics/Electronics and Communication / Computer Science /Electrical/Photonics/ Optoelectronics and Optical Communication/ Applied Optics, or equivalent. (OR)
 - (ii) M.Sc. in Physics / Applied Physics/ Electronics/Photonics/Computer Science or equivalent. (OR)
 - (iii) BS-MS in Physics/B.S. (4 years) / Applied Physics or equivalent. (OR)
 - (iv) Integrated M.Sc. in Physics/Photonics or equivalent. (OR)
 - (v) B.Tech. in Electronics/Electronics and Communication/Computer Science, Electrical/ Engineering Physics or equivalent.
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26. International Centre of Excellence for DAMS

- (i) Master's degree in Dam Safety and Rehabilitation/ Hydrology/ Water Resources Engineering/ Hydraulics/ Geotechnical Engineering/ Earthquake Engineering/Geomatics Engineering/ Geology/ Geophysics / Master's in Architecture/ Master's in Planning or Equivalent. **(OR)**
- (ii) B. Tech./M. Tech. in Civil/Mechanical/ Industrial / Production Engineering or equivalent.

27. Centre for Space Science and Technology

- (i) Bachelor's degree (4-year)/Master's degree in Engineering. **(OR)**
- (ii) Master's degree in Physics / Mathematics/ Atmospheric Science/ Space Science/ Economics/ Geology/ Applied Geology/ (or equivalent in Earth Sciences)/ Chemistry or equivalent.

28. Centre for Sustainable Energy

- (i) B.Arch. / M.Arch. / B.Plan. / M.Plan. / MURP / B.E. / B.Tech. / M.E. / M.Tech. / M.Sc. in any branch of engineering & science.

29. Centre for Indian Knowledge System

A Bachelor's degree (4 years) / Master's degree in any discipline consistent with the research areas of the Centre.

Research Areas:

- (i) Wellness from Indian perspective (Indic mind and sciences, Psychology and Cognitive Sciences, Indian medicine and health).
- (ii) Physical mathematical and engineering sciences from Indic perspective (Indian Chemistry/ Earth Sciences/ Geography/ Metallurgical and material Science, Indian Physics and Astronomy, Indic traditions of water conservation and environment, Indian philosophy and practices in Agriculture and industry, Indic traditions of Architecture, Design and Planning).

- (iii) Humanities, Arts, management and social sciences from Indic perspective (Indian philosophy /Darshana, Indian arts, music and crafts, Indian lexicography and Manuscriptology, Indian social sciences, management and governance, Indian linguistics, Indian archaeology).

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30. **Mehta Family School of Data Science and Artificial Intelligence**
- (i) M.Tech. / M.E. or equivalent **(OR)**
 - (ii) Bachelor's Degree in Science/Mathematics/ Statistics / Operations Research/ Actuarial Science followed by Master's Degree in any specialization. **(OR)**
 - (iii) MIM/ Masters in Management / M.B.A. /M.Arch. or equivalent with Mathematics/ Statistics at graduation level. **(OR)**
 - (iv) MBBS followed by M.D./M.S. or equivalent.

B. SAHARANPUR CAMPUS

31. **Department of Applied Mathematics and Scientific Computing**
- (i) M.A. / M.Sc. / Int. M.Sc. (5Years) in Mathematics/ Applied Mathematics/ Industrial Mathematics / Statistics / Operations Research/ Mathematics and Computing or equivalent. **(OR)**
 - (ii) B.E. / B.Tech./ M.E. / M.Tech. in any branch of Engineering / B.S. Maths and Computing (4 years) or equivalent.

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32. **Department of Paper Technology**
- (i) M.Sc. /M.S. (Science/Engineering). **(OR)**
 - (ii) BE / B.Tech. / B.Pharm. / M.E. / M.Tech. / M.Pharm. in any branch of engineering or equivalent.

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33. **Department of Polymer and Process Engineering**
- (i) **B.E./B.Tech./M.E./M.Tech./M.Sc./MS/B.Pharm./M.Pharm./BS (4-year) in any branch of Engineering & Science.**

4.3 Ph.D. Admission categories and related Information



Candidates seeking admission to Ph.D. program under following categories must fulfill the common minimum eligibility criteria(CMEC) and minimum educational qualification (MEQ) as mentioned in the 4.1 & 4.2.

4.3.1. Full-time Research Scholar (FTRS)

(i) Institute Assistantship Research Scholars (IARS)

The Institute may provide financial assistance in the form of teaching or research assistantships, referred to as Institute Assistantships. Assistantships are awarded for a period of up to five years.

A student is expected to devote upto 10 hours per week towards job(s) assigned by the Department/Centre/School. The renewal of assistantships is contingent on the student's satisfactory performance in the academic program and in the discharge of assistantships duties.

(ii) Externally Funded Research Scholar (EFRS)

Fellowship

Financial assistance from the Institute will not be available to the candidates who are recipients of fellowships from UGC/CSIR/DST/ICMR/DBT, etc.

Foreign Nationals

Candidates who are NOT citizens of India (by birth or naturalized) and/ or are OCI/ PIO card holders will be eligible to apply under this category. The applications from these candidates are invited through several channels like ICCR, SII, ASEAN, etc.

Foreign nationals will be considered at par with general category candidates for minimum CGPA requirements.

For more details please visit: <https://ir.iitr.ac.in/>

Project Funded:

Admission under this category can be through any of the following procedures:

- A Department/Centre/School can select a candidate under project category during regular selection for Ph.D. programme.
- A project staff appointed on a research position in IIT Roorkee, selected through the prescribed selection committee in an externally funded research project may apply separately under project category. The application process is different for this category.

The total duration of project should be at least 2 years and at least 01 year is left in the project at the time of (academic) registration.

At the expiry of project funding, project fellow may be offered Institute Assistantship. The duration of support shall be for a maximum period of 5 years which will include the duration of project funding.

(iii) In-service External Research Scholar (ISERS)

At the time of academic registration, the candidates should have experience of at least two years in a Government / Semi-Government organization/Public Sector Undertaking, AICTE / UGC recognized educational institute, or in a registered company with an annual turnover of more than rupees twenty crores. They should have permission from the employer for pursuing the Ph.D. program with adequate leave of absence to complete the course work requirements.

4.3.2. Part-time Research Scholar (PTRS)

A. In-Service Internal Research Scholar (P-ISIRS)

In addition to the 4.3.1(iii), the candidates should be regular employees of the IIT Roorkee.

B. In-Service External Research Scholar (P-ISERS)

In addition to the 4.3.1(iii), the requirement of leave of absence from the employer is waived off for candidates working within 100 km of the IIT Roorkee.

4.4 Other Ph.D. Admission categories

4.4.1. Golden Girl Scheme for Female Applicants

Direct admission for female candidates in PhD. programs under “Golden Girl Scheme”

- **Eligibility :** *First Rank Holder* (Gold Medallist) female candidates in qualifying degree from an IIT and/or Institute/University within the *Top 50* ranks (*overall* category) in the NIRF in the most recent year.
- **Relaxation :** The requirement of qualifying an All India Level Exam shall be *exempted*. However, all other *MEQs* will be applicable as per the institute policy.
- **Fellowship :** At par with the Institute’s Assistantship.
- **Intake :** Intake shall be supernumerary.
- **Selection Process :** Interview by the Department/Centre/ School.

Note:

- Appearing candidates in the qualifying degree will not be considered under this scheme.
- The First Rank Holder (Gold Medallist) certificate must be of the qualifying degree i.e. bachelor’s/ Master’s degree (as filled by the candidate in application form) subject to fulfilment of MEQ mentioned in 4.2.

4.4.2. SAKUNTALA (Scheme for Aspirants of Knowledge Under TALEnt Advancement) Fellowship

Any female candidate having B.Tech./B.E./B.Arch./B.Des. degree from the Ministry of Education funded Technical Institutions (erstwhile CFTIs of MoE) with CGPA \geq 8.5 in the 10-point scale will be eligible for admission to the Ph.D. programme in the relevant disciplines under SAKUNTALA Fellowship scheme. The requirement of GATE/CEED/National Level examination will be waived-off for such candidates.

Fellowship: At par with the Institute Assistantship.

Note:

The eligibility conditions given above are the absolute minimum. Departments / Centres/School may prescribe any requirements over and above these. Reservation is applicable as per extant policies of the Government of India and prescribed by the Board of Governors.

4.4.3. Memorandum of Understanding (MoU) with IIT Roorkee

IIT Roorkee has MoUs with various organizations/institutes, such as ARIES, IIRS, SSS-NIBE, IOCL, etc., The working professionals / research scholars (JRF/SRF/RA) of these Organizations/ Institutes are eligible to apply for the PhD programme at IIT Roorkee subject to fulfilment of the Common Minimum Eligibility Criteria (CMEC) & Minimum Educational Qualification (MEQ) as mentioned in the 4.1 & 4.2. The IIT Roorkee will not provide any financial assistance to the candidate(s) admitted under this category. All the conditions shall be as per the MOU signed between the Organizations/ Institutes and IIT Roorkee

Note:

- The working professionals will be considered at par with In-Service Research Scholars.
- Research scholars (JRF/SRF/RA) will be considered at par with Externally Funded Research Scholar (EFRS).

5.1 Prize/ Awards/ Medals

S. No.	Name of Prize/ Award/ Medal	Amount (Rs.)	Criteria
1	Excellence in Doctoral Research Award	2,50,000/-	For outstanding research work in Engineering; Management, Architecture and Humanities; and Science streams. A maximum of 5 awards, each of Rs. 50,000, are to be given every year.
2	Prof. V.K. Gupta Memorial Impactful Young Researcher Award	20,000/-	For getting a published/accepted research paper in an international journal of the highest impact factor amongst the research scholars from the Department of Chemistry. The period of consideration will be from 1st April to 31st March every year starting from year 2021. In case of more than one eligible candidate, the award will be given to the younger candidate. If the age of candidates is same, then the award will be shared. The recommendation for this award will be obtained from the concerned department. This award will be announced on 6th May every year.
3	A.K. Goel Green Energy Prize and Gold Medal	1,00,000/-	For significant contribution towards green/renewable energy sector amongst the graduating UG/PG (including Ph.D.) students.
4	Prabha Nayyar Award for Excellence in Time Management	1,50,000/-	For carrying out multiple activities simultaneously and showing significant improvement in some of them without compromising on the others amongst the students completing minimum 2 years at IIT Roorkee. The activities may be as diverse as possible including academic, sports, cultural, hobbies, technical, leadership, social service, etc. A maximum of 3 awards, each of Rs. 50,000, are to be given every year.
5	Hari Krishna Mittal Leadership Award	30,000/-	For significant contribution towards enhancing the entrepreneurship culture at IIT Roorkee amongst the graduating UG/PG (including Ph.D.) students.
6	Ajit Singh Yadav Memorial Essay Prize	20,000/-	For the best and second best essay on a general topic in terms of content and writing style that encourages independent thinking and originality to be organized by the cultural society. Open to all students/all departments. There are total 2 awards, Rs. 13,000/- for the best essay; and Rs. 7,000/- for the second best essay.
7	Hari Vaish Gomti Devi Award for Research in Environment	25,000/-	For significant contribution towards research in Waste Management and Environment Protection amongst the graduating PG (including Ph.D.) students.
8	Hari Vaish Gomti Devi Award for Research in Water Management	25,000/-	For significant contribution towards research in Water Management and its Conservation amongst the graduating PG (including Ph.D.) students.

5.2 *Joint Doctoral Degree Programme with Universities outside India*

PhD students, in consultation with their supervisors, have options to enroll in Joint Doctoral Degree Programme. We have agreements with the following universities:

- *University of Alberta, Canada*
- *University of Saskatchewan, Canada*
(*Department of Electrical and Computer Engineering,*
Department of Chemical and Biological Engineering)
- *Queen's University, Canada*
- *University of Strasbourg, France*
- *Niigata University, Japan*
- *Asian Institute of Technology, Thailand*
- *Institute of Engineering, Tribhuvan University (IOETU)*
- *National Tsing Hua University, Taiwan*
- *Loughborough University, U.K*

For more details please visit: <https://ir.iitr.ac.in/JointDegree>

5.3 *Continuation of Fellowship during Research Visit*

Ph.D. students can continue to avail their fellowship for a maximum period of six months during their Ph.D. program while on a research visit to other Research Universities/ Institution/ Research Labs etc., in addition to other funding support, if any.

5.4 *Prime Minister's Research Fellowship (PMRF)*

Ph.D. students get opportunity to apply for the prestigious Prime Minister's Research Fellowship program, through two channels, viz. Direct entry and Lateral entry. Students are strongly encouraged and supported to develop their research proposals for the purpose.

For more details, please follow the link <https://iitr.ac.in/Academics/PMRF.html>

5.5 TCS Research Scholar Program



This fellowship aims to call for quality multidisciplinary research activities in areas ranging from *computer engineering and science, information systems and technology, software engineering, and other disciplines which utilize computing.*

Scholarship Details:

Period: A scholar who is selected for the scholarship will be given a stipend for a maximum of four years, or submission of thesis for PhD, whichever is earlier.

Stipend: A stipend of Rs. 70,000 per month for the first and second year, Rs. 75,000 per month for the third year and fourth year.

Other Incentives:

- Assignment of TCS Mentor from TCS Research and innovation team (R&I) soon after selection to TCS Research Scholar Program.
- Support for the scholar with Rs. 2,00,000 per annum for Contingency / National Conference for Scholar/International Conference for Scholar/ 1-time International Conference for Guide / Outbound sabbatical to foreign university to scholar.
- Visit(s) & Interaction(s) of TCS Research Scholar to TCS Research and Innovation teams / Labs.

Eligibility Conditions:

- Upper Age Limit – 28 years as on admission into fellowship
- The scholar should have first class education career right from SSC.
- The scheme is open for scholars who have been found to be eligible for admission to PhD in an institute. The scheme is open only for fresh PhD scholar admissions (completed 2 semesters).
- Scholars must be registered as full-time scholars in the institute/college where the PhD registration is sought.
- The scholarship can be terminated by TCS, with one month notice, based on performance review report and for any violation of any operational rules applicable to all the research scholars at the institute.
- The institute will intimate TCS on the date of filling of any patent related to any invention by the TCS Research Scholar under this program. TCS would be given a license on reasonable and non-discriminatory terms for any such patent which has been granted, on mutually agreed terms. The institute is free to publish any work developed by TCS Research Scholar provided it sends TCS a written intimation along with the work that will be published 30 days prior to such publication.
- TCS Innovation Laboratory could look for opportunities of collaborations with the TCS Research scholar / institute, even beyond the period of internship.

5.6 Visvesvaraya Ph.D. Scheme

Visvesvaraya Ph.D. Scheme for Electronics & IT of Digital India Corporation, Ministry of Electronics & Information Technology (MeitY), Government of India was initiated in the year 2014 with an objective to enhance number of Ph.D.s in the country. Under this scheme, Ph.D. seats (Full/Part Time) are allocated, in the areas of ESDM/ IT-ITES, to few selected institutions. IIT Roorkee is one of the selected institutions in this scheme.

Note:

Eligible candidates can apply whenever specific announcement for this scheme is announced subject to availability of the fellowship. This scheme is not part of regular Ph.D. admissions. Further details of the scheme are available at <https://phd.digitalindiacorporation.in/home>

Course Fee Structure

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For details of course fee structure, please visit the following link: <https://iitr.ac.in/Academics/Institute%20Fees.html>. Revised fee structure if any, shall be uploaded accordingly. The fee will be charged each semester as per Institute rules/ norms applicable from time to time. Details can be obtained through e-mail at: aao@iitr.ac.in

Cancellation of Admission / Programme

7

The Institute reserves the right to cancel, at any stage, the admission of a candidate admitted to a programme and is later found that he/she is not entitled, being unqualified or ineligible in accordance with the Regulations in vogue, or suspension /termination of programme.

In case of cancellation/withdrawn of admission after registration from programme, refund of fee will not be permissible. In such cases only security money will be refunded at the end of the semester. However, in case of withdrawal of admission before registration, the processing fee of Rs. 1000/- will be deducted from the fee deposited by the candidate.

Registration of a student may also be cancelled if:

- (S)he is found to have falsified any document at any point of time;
- (S)he fails to register in semester;
- (S)he fails to meet the minimum required academic performance;
- (s)he is found to be involved in a major act of misconduct.

Matters of Dispute

8

Disputes, if any, arising out of or relating to any matter whatsoever shall be subject to the exclusive jurisdiction of the Roorkee Courts.

Instructions for Online Application & Others

9

For admission to Ph.D. programmes in Autumn Semester of the session 2025-26, candidates need to register and fill the application ONLINE only by accessing the website link: <https://iitr.ac.in/Academics/Admission%20To%20Doctoral%20Programmes.html> on or before 21st April, 2025 .

A. Documents

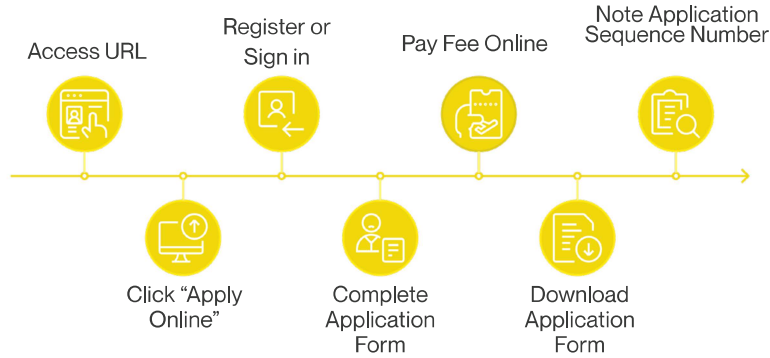
Before applying online, candidates are required to keep the following documents ready for uploading:

S. No.	Particulars	Size
1.	Colour photograph (only in JPEG)	Up to 500 KB
2.	Signature (only in JPEG)	Upto 500 KB
3.	Gen-EWS/OBC-NCL/SC/ST/PwD Certificate or UDID Card (PDF) (as applicable)	Upto 5 MB
4.	10th Certificate/Marksheet (in single PDF)	Upto 5 MB
5.	12th Certificate/Diploma and Marksheet (in single PDF)	Upto 5 MB
6.	Bachelor's Degree or Provisional/Consolidated Marksheet (in single PDF)	Upto 5 MB
7.	Master's Degree or Provisional/Consolidated Marksheet (in single PDF), if applicable	Upto 5 MB
8.	Experience certificate(s) and No Objection Certificate (Annexure-2) for In-Service candidates (in single PDF)	Upto 5 MB
9.	GATE score card / NET score card / Fellowship award letter (in single PDF) (If applicable)	Upto 5 MB
10.	Certificate of first rank/gold medal issued by the Institute/ University (applicable only for Golden Girl Scheme for Females)	Upto 5 MB
11.	In case of non-availability of any of the certificate, upload an undertaking as given in Annexure-1.	Upto 5 MB

NOTE: If any of the submitted document is password protected, then the application will not be considered for admission.

B. Steps to be followed

Candidates must follow the following steps while filling the online Application Form:



Candidates are requested to apply *online only*. Hard copy of the application need not be submitted. Physical application will not be considered.

Candidates may download their online submitted application form, completed in all respect, for their own record, if required. Application sequence number generated on downloaded application form will be used in all correspondence in future.

NOTE: The admission process will be governed by the rules and regulations of IIT Roorkee.

The candidates are advised to read each and every instruction given in this Information Brochure very carefully before applying Online.

C. Application Fee (Non-Refundable)

- Application Fee per Department/Centre/School

<i>Category</i>	<i>Fee Amount</i>
GEN/GEN-EWS/OBC-NCL	Rs. 500/-
SC/ST/PwD	Rs. 250/-

The candidates can deposit the requisite application fee by using net banking or debit/credit card facilities only. Additional charges will be applicable as per the rule of the concerned bank. **The Fee will not be accepted through any other mode.**

- If candidate opts for more than one department / centre / School, then application fee should be paid in accordance to the number of Department/ Centre/School.

D. Other Information, Terms & Conditions

- a. Selection process is purely based on merit. Stipulated dates for a written test and/or interview shall be communicated by the concerned Departments/Centres/School to the shortlisted candidates. Simultaneously, the dates shall be uploaded in the portal of each Department/Centre/School.
- b. The prescribed qualifications and experience are the minimum required and the mere fact that a candidate possesses the same will not entitle the candidate for being called for an interview.
- c. Departments / Centres / School of the Institute reserve the right to restrict the number of candidates to be called for interview to a reasonable number, on the basis of qualifications and/or experience.
- d. Provision exists to apply in one or more Departments/Centres/School. Accordingly, a candidate can submit application(s) in one or more departments/centres/school through single online application.
- e. All entries should be carefully made while applying online. IIT Roorkee will not be responsible for wrong entries. Candidates shall be solely responsible for the correctness and authenticity of the information / documents provided in the online application.
- f. Candidates must fill/enter their CGPA or percentage of marks as issued by their institute / college/ university. Candidate must not convert their CGPA into percentage and vice-versa.
- g. Candidates should complete application in all respect in the admission portal and submit it online only. No correspondence / communication will be entertained for incomplete application.
- h. Online application submitted by the candidates shall be considered final and binding. Requests for making correction in the online application shall not be entertained.
- i. The last date for submission of online application shall not be extended. Accordingly, no request shall be entertained for accepting the application after the last date.
- j. IIT Roorkee will not be responsible for technical error while making the online application / payment of fee. Therefore, candidates are advised to submit their application well in advance without waiting until the last date.
- k. Admission will be offered subject to availability of seats, faculty in the Specialization and the Institute Assistantship.
- l. Students shall be governed by ordinance/ regulations in vogue.
- m. The Institute has the right to cancel, at any stage, the admission of the candidate who is found admitted to a course to which the candidate is not entitled, being unqualified or ineligible in accordance with the rules and regulations in force.

- n. Disputes if any, arising out of or relating to any matter whatsoever, concerning the aforesaid shall be subject to the exclusive jurisdiction of Roorkee Court.
- o. The Institute reserves the right to verify the antecedents or documents submitted by the candidate at any time during their period of study. In case it is found that the documents submitted by the candidate are not genuine, then his/her admission shall be terminated, and disciplinary / criminal proceedings will be initiated.
- p. Merely applying for / being shortlisted / appearing for the interview / written test / or subsequent processes do not imply that a candidate will necessarily be offered admission in IITR. No request for considering the candidature in department, other than in which applied, will be entertained.
- q. Candidates are advised to fill their correct and active e-mail addresses in the online application as all correspondence will be made by the Institute through online only. All information regarding Test/ Interview/ subsequent amendments/updates in the advertisement will be uploaded on the respective Department's/Centre's/School's website only. No separate communication will be made. The Institute shall not be responsible for the failure of candidates with respect to visiting the website on any ground.
- r. The candidates should ensure that they fulfil all the eligibility conditions as specified. Their admission will be purely provisional subject to confirmation that they satisfy the prescribed eligibility conditions. Mere issue of call letters to the candidates will not imply that the candidature has been found eligible.
- s. All the mandatory documents mentioned in point 9A including final results/ provisional degree should be produced in original at the time of Admission Registration or on the last date mentioned for the same in the academic calendar of the Autumn Semester 2025-26. Information to this effect will be available in the IIT Roorkee website. Failure to produce these documents will lead to cancellation of admission without any further notice.
- t. List of provisionally selected candidates for admission will be uploaded on the Institute website link: <https://iitr.ac.in/Academics/Admission%20To%20Doctoral%20Programmes.html>
- u. After admission, the student shall promptly inform, in case of Ph.D. admission at any other Institution/University or any other Department/Centre/School of IIT Roorkee during the Ph.D. tenure at IIT Roorkee.
- v. After joining, hostel and mess facilities will be provided as per the availability.
- w. All candidates are advised to visit regularly the Institute website for further information.

Ragging is banned in the Institute and anyone indulging in ragging is likely to be punished appropriately and the punishment may include expulsion from the institution, suspension from the institution or classes for a limited period, or fine with a public apology. The punishment may also take the shape of:

- (i) withholding of scholarships or other benefits,
- (ii) debarring from representation in events,
- (iii) withholding of results,
- (iv) suspension, rustication or expulsion from hostel or mess,
- (v) monetary fine etc

Contact Details

For Application Portal related queries

*Academic Affairs Office (Admission)
Indian Institute of Technology Roorkee
Roorkee-247 667, Uttarakhand, INDIA*

For queries, please go through the FAQ. For queries out of FAQ, candidates are advised to contact through email at

E-mail: pgadmission@iitr.ac.in

Website: <https://iitr.ac.in/Academics/Home.html>

WhatsApp: 6395059674

(message only during working hours)

“IIT Roorkee is committed to nurture and promote diversity and inclusion”



Annexure 1

Undertaking by the applicants for submission of the required certificates towards admission to Ph.D. Programme (Autumn Semester) 2025-26

I.....S/o/D/o
R/o (address)want to apply to
pursue my study in M.Tech./M.Arch./MURP programme at IIT Roorkee.

I hereby undertake that I will submit the following required documents:

1.
2.
3.

at the time of registration. In case, I fail to submit the required documents within the due date, or found ineligible or information/certificate found incorrect/false at any stage, the Institute reserves the right to cancel my admission offer and registration.

Signature of the Applicant:

Name of Applicant:

Email:

Annexure 2

NO OBJECTION CERTIFICATE

(Required from In-Service candidates on the letter head of the organization)

- (i) It is certified that Mr./Ms. is employed in this organization/institution since (..... years), and is currently holding the rank/position of
- (ii) This organization/institution has no objection to his/her pursuing a Ph.D. program at IIT Roorkee. If selected for admission, the organization/institution will relieve him/her to join the above course, as per the requirements of the program during the period of study.
- (iii) Please tick [] any one:

Our enterprise is registered in a stock exchange/had an annual turnover of above Rs. 20.0 crores in the past two years (for candidates working in a Firm/Company/Industry)	Yes : []
	No : []
	Not Applicable : []

Signature of Head of the Institution/

Organization with seal Date:

Name

Designation

Place: