

# INFORMATION BROCHURE

For admission to

Ph.D. (Full Time) Programme

under

VISVESVARAYA SCHEME

2023-2024



INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

ROORKEE, UTTARAKHAND– 247667



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## **01. INTRODUCTION**

Indian Institute of Technology Roorkee is one of the foremost institutes of national importance in higher technological and engineering education and basic and applied research. Since its establishment, the Institute has played a vital role in providing the technical manpower and know-how to the country and also in pursuit of cutting-edge research in Science, Technology, and subsequently in Architecture, Management and Humanities & Social Sciences. The Institute ranks amongst the best technological institutions in the world and has contributed to all sectors of technological development. It has also been considered a trend-setter in the area of education and research in the fields mentioned above.

The Institute has completed 175 years of its glorious existence. It was converted into an IIT on September 21, 2001 by an Ordinance issued by the Government of India, which declared it as the nation's seventh Indian Institute of Technology, an "Institution of National Importance".

The Institute offers Bachelor's Degree courses in 12 disciplines of Engineering and Architecture and 6 integrated Masters programmes in different disciplines of engineering and science apart from 57 Postgraduate courses in various disciplines of Engineering, Applied Science, Architecture and Planning, Management, Humanities & Social Sciences, Design and Innovation. The Institute offers doctoral degree in all Departments/Centres/School and Research Centres.

### **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.

## 02. ABOUT DOCTORAL RESEARCH:

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 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.

## 03. DETAILS OF OPPORTUNITIES FOR Ph.D. STUDENTS

### 3.1 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 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 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/- & Gold Medal	For significant contribution towards green/renewable energy sector amongst the graduating UG/PG (including Ph.D.) students.
4	PrabhaNayyar Award for Excellence in Time Management	2,50,000/-	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 grade points, sports, cultural, hobbies, technical, leadership, social service, etc. A maximum 5 awards, each of Rs. 50,000, are to be given every year.

S. No.	Name of Prize/Award/Medal	Amount (Rs.)	Criteria
5	Nayyar Award for Excellence in Communication	1,11,000/-	For the best communication skills amongst III, IV and V year students of UG/IDD programmes and all students of PG programmes. There are total 3 awards, Rs. 50,000/- for the best student; Rs. 30,000/- for the second best student; and Rs. 20,000/- for the third best student. A fourth award of Rs, 11,000/- can also be given only if a female student is not among the first three.
6	Hari Krishna Mittal Leadership Award for Enhancing Entrepreneurship Culture at IIT Roorkee	20,000/-	For significant contribution towards enhancing the entrepreneurship culture at IIT Roorkee amongst the graduating UG/PG (including Ph.D.) students.
7	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 amongst the existing students. There are total 2 awards, Rs. 13,000/- for the best essay; and Rs. 7,000/- for the second best essay.
8	Smt. Lilawati Nayyar Golden Jubilee Scholarship	5,000/-	For the communication skills and merit amongst the UG and PG students of any year and of any branch of engineering.

### 3.2 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 agreement with the following universities:

- (i) University of Alberta, Canada
- (ii) University of Strasbourg, France
- (iii) Asian Institute of Technology, Thailand
- (iv) Department Specific Joint PhD Program with National Tsing Hua University (NTHU), Taiwan:

NTHU, Taiwan	IIT-Roorkee
College of Semiconductor Research, College of Engineering, including · Department of Materials Science and Engineering, · Department of Industrial Engineering and Engineering Management	· Department of Electronics & Communications Engineering · Department of Physics

PhD students can also convert their Jointly Supervised PhD Proposal to a Joint/Dual Doctoral Degree Programme with **administrative support from willing partner universities not listed here.**

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

### 3.3 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.

### 3.4 Switchover to other Fellowship Schemes

Ph.D. students admitted in this scheme will not be permitted for switcher to any other fellowship scheme until completing the tenure of the fellowship or the completion of Ph.D. program, whichever is earlier.

### 04. IMPORTANT DATES:

S.No	Particular	Date	Day
1.	Start of online Application Process	Sept. 21, 2023	Thursday
2.	Last date for filling up of application form by the students	Oct. 05, 2023 (11:59 p.m.)	Thursday
3.	Date of Academic Registration by the Candidates in person	Oct. 27, 2023	Friday
4.	Commencement of classes for Spring Semester 2023-2024	Jan 04, 2024	Thursday

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

### 05. Ph.D. ADMISSION UNDER VISVESVARAYA 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.Ds. in the country. Under this scheme, Full Time Ph.D. seats are allocated, in the areas of ESDM/ IT-ITES, to few selected institutions. IIT Roorkee is one of the selected institutions in this scheme. The details of the scheme are available at <https://phd.digitalindiacorporation.in/home>.

Fellowship: Rs. 38,750 per month in 1<sup>st</sup> & 2<sup>nd</sup> year and Rs. 43,750 per month in 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> years of PhD. (support till PhD completion or 5 years whichever is earlier). Funding agency can provide Research contingency grant upto a maximum of 1.2 lakh per year based on the project proposal.

#### 5.1 Common Minimum Eligibility Criteria For Ph.D. Admission:

An applicant belonging to the different admission categories should possess the following minimum qualifications in appropriate areas to be eligible to apply for admission for the Ph.D. programme of the Institute.

1. Master's degree with minimum Cumulative Grade Point Average (CGPA) of 6.0 on a 10 point scale, or 60% marks for the General, GEN-EWS and OBC category.

For SC / ST or PWD candidates, the minimum CGPA requirements may be relaxed to 5.50 on a 10 point scale or to 55% marks.

Post Graduate Degree in Basic Science Or Graduate/Post Graduate Degree in Professional Course selected through a process described through any one of the following:

- a. Scholars who are selected through National Eligibility Tests-UGC NET including lectureship (Assistant Professorship) and GATE.



- b. The selection process through National Level Examinations conducted by MHRD and its Agencies and Institutes such as UGC/IIT/IISc/IISER etc.
2. For candidates other than Centrally Funded Technical Institutes (CFTIs), B.Tech / B.Arch / B.Pharm degree or equivalent with a GATE / GPAT/NET score (marks) and a minimum CGPA of 7.50 on a 10 point scale or 75% marks, irrespective of the category. For graduates from CFTIs, the minimum CGPA requirement is relaxed to 7.0 on a 10 point scale or 70% marks.
  3. 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 concession to a 10 point scale will be considered.
  4. Bachelors or Masters from IITs with a CGPA 8.0 and above on 10 scale point scale are exempted from the requirement of GATE / GPAT / JRF / NET.
  5. Candidates pursuing Master's programs in Engineering or Architecture / Planning in IIT Roorkee with CGPA 8.50 or above, shall have a choice of lateral entry to the Ph.D. program after completing first two semesters of the Master's program.
  6. Candidates with MBBS / BDS degree from an Indian Universities / Institution shall have minimum CGPA of 6.0 on a 10 point scale, or 60% in the qualifying degree, irrespective of the category. They are exempt from the GATE / GPAT / JRF / NET requirement.
  7. Candidates with Master of Surgery (MS)/ Doctor of Medicine (MD) degree from a Indian University / Institute are exempt from the minimum CGPA as well as the GATE / GPAT / JRF / NET requirement.
  8. Candidates with a medicine degree from an overseas university / institute should have qualified the Foreign Medical Graduate Examination conducted by the National Board of Examination.
  9. 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.
  10. Candidates who fulfil the minimum eligibility criteria on the date of submission of the application should only apply.

**Note:**

- (1) Candidates under OBC-NC and Economically Weaker Sections (EWS) category are required to submit a copy of valid certificate, issued after 31<sup>st</sup> March, 2023, while submitting the application, as per GOI issued by a competent authority. Reservation shall be applicable as per the GOI Norms.
- (2) For details regarding EWS please go through the link:  
<https://dopt.gov.in/sites/default/files/ewsf28ft.PDF>

## **5.2 Department wise Minimum Educational Qualification for Admission to Ph.D. Programme**

### **1. 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.

## 2. Department of Electronics and Communication Engineering

- (i) ME. / M.Tech. in Microelectronics / VLSI / Microwaves / Communication Systems / Control Systems / Instrumentation / Circuits & Systems or equivalent.
- (ii) B.E. / B.Tech. in Electronics & Communication / Electrical Engg./ Computer Science & Engg. or equivalent.
- (iii) M.Sc. in Physics / Instrumentation / Electronics.
- (iv) B.Tech + M.Tech. in Computer Science.

## 06. APPLICATION FEE

1. **Application Fee per department (non-refundable): Rs. 200/- for General/Economically Weaker Sections (EWS)/OBC category and Rs. 100/- for SC/ST/PD category candidate.** 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.**
2. **If candidate opts for more than one department, then application fee should be paid in accordance to the number of Department.**

## 07. COURSE FEE STRUCTURE

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: [arsw@iitr.ac.in](mailto:arsw@iitr.ac.in)

## 8. CANCELLATION OF ADMISSION / PROGRAMME

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.

## 9. MATTERS OF DISPUTE

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



## 10. RAGGING

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.

## 11. INSTRUCTIONS FOR ONLINE APPLICATION & OTHERS

For admission to Ph.D. programmes under Visvesvaraya Scheme of the session 2023-24, 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 Oct. 05, 2023 (11:59 p.m.).

### 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)	Upto 500 KB
2	Signature (only in JPEG)	Upto 500 KB
3	EWS/OBC/SC/ST Category Certificate (PDF) (If applicable)	Upto 5 MB
4	10 <sup>th</sup> Certificate/Marksheet (in single PDF)	Upto 5 MB
5	12 <sup>th</sup> 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	GATE score card / NET score card (in single PDF) (If applicable)	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 followings steps while filling online Application Form:

- Register
- Login
- Complete the application
- Submit

Candidates may download their online submitted application form, completed in all respect, for their own record, if required.

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

### **C. Other Information, Terms & Conditions**

1. Selection process is purely based on merit. Stipulated dates for a written test and/or interview shall be communicated by the concerned Departments to the shortlisted candidates. Simultaneously, the dates shall be uploaded in the portal of each Departments.
2. 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.
3. Departments 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.
4. Provision exists to apply in one or more Departments. Accordingly, a candidate can submit application(s) in one or more departments through **single online application.**
5. 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.
6. 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.
7. 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.
8. Online application submitted by the candidates shall be considered final and binding. Requests for making correction in the online application shall not be entertained.
9. 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.
10. 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.
11. Admission will be offered subject to availability of seats, faculty in the Specialization and the Institute Assistantship.
12. Students shall be governed by ordinance/ regulations in vogue.
13. 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.
14. 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.
15. 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.
16. 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.

17. 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 and results will be uploaded on the respective Department'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.
18. 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.
19. After joining, hostel and mess facilities will be provided as per the availability.
20. **All candidates are advised to visit regularly the Institute website for further information.**

**For further information, please contact:**

Academic Affairs Office (Admissions)  
Indian Institute of Technology Roorkee,  
ROORKEE-247 667 (Uttarakhand)  
Email: [pgadm@iitr.ac.in](mailto:pgadm@iitr.ac.in)  
Website :[www.iitr.ac.in](http://www.iitr.ac.in)

**"IIT Roorkee is committed to nurture and promote diversity and inclusion".**

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**Undertaking by the applicants for submission of the required certificates towards admission to  
Ph.D. Programme under Visvesvaraya Scheme 2023-24**

I.....S/o/D/o.....

R/o (address) ..... want to apply to  
pursue my study in Ph.D. 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:.....**

**Application No:.....**