



# INDIAN INSTITUTE OF TECHNOLOGY ROORKEE ROORKEE

## Rolling Advertisement for Ph.D. Admission 2018-19

### ELIGIBILITY CRITERIA:

- Candidates should be recipient of any one fellowship namely UGC/CSIR/DBT/DST/Inspire/ICMR etc.
- Candidates need to apply within six months (i.e. 180 days) of the declaration of the fellowship result. If the date of fellowship result declaration exceeds more than six months (i.e. 180 days) on the date of submission of Ph.D application then such candidates are not eligible under Rolling Advertisement.
- Masters degree with a minimum Cumulative Grade Point Average (CGPA) of 6.00 on a 10 point scale, or or 60% marks for General (UR) 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.

OR

B.Tech. / B.Arch./B.Pharm degree or equivalent with a minimum CGPA of 7.5 on a 10 point scale or 75% marks, irrespective of the category. For graduates from Centrally Funded Technical Institutes (CFTIs), the minimum CGPA requirement is relaxed to 7.0 on a 10 point scale or 70% marks.

- 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.

### Schedule for submission of online application:

Start of Online Application (Website Open)	December 07, 2018
Last Date for submission of Online application (Website Closure)	February 20, 2019 (4:00 p.m.)

**NOTE:** *GATE/GPAT qualified candidates are required to apply through regular advertisement released during September and February of every year through online portal [www.iitr.ac.in](http://www.iitr.ac.in).*

### Important Instructions:

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

1. Candidates are requested to apply **online only**. Hard copy of the application need not be submitted. Physical application will not be considered.
2. The prescribed qualifications and experience are the minimum required and the mere fact that a candidate possesses the same will not entitle him/her for being called for an interview.
3. Departments / Centres 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 / centers. Accordingly, a candidate can submit his/her application 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 sole responsible for the correctness and authenticity of the information / documents provided in the online application.

6. Online application submitted by the candidates shall be considered final and binding. Requests for making correction in the online application shall not be entertained.
7. Online application found incomplete in any form will be summarily rejected. No correspondence / communication will be entertained in this regard.
8. Online applications will be scrutinized, relevant documents checked / verified for their authenticity.
9. Students shall be governed by ordinance/ regulations in vogue.
10. The Institute has the right to cancel, at any stage, the admission for the candidate who is found admitted to a course to which he/she is not entitled, being unqualified or ineligible in accordance with the statues and regulations in force.
11. 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.
12. 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.
13. 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 other than in which applied will be entertained.
14. 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 e-mail only. Test/Interview schedule will be emailed in due course to the candidates in their registered e-mail. No separate letter (Hard copy) will be sent for this purpose. Further, for any updates, please visit the Institute website regularly, for subsequent amendments in the advertisement and results.
15. The candidates should ensure that they fulfill 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 his/her candidature has been found eligible.
16. After joining, Hostel and Mess facilities will be provided as per the availability.

### **Application Fee:**

1. **Application Fee per department (non-refundable): Rs. 200/- for General/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. 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/centre, then application fee should be paid in accordance to the number of department/centre.**

### **Course Fee Structure:**

For details of course fee structure, please visit the following link:

[https://www.iitr.ac.in/academics/pages/Doctoral\\_Programmes.html](https://www.iitr.ac.in/academics/pages/Doctoral_Programmes.html)

The fee will be charged each semester as per Institute rules/ norms applicable from time to time.

### **Instruction for Online Application:**

For admission to Ph.D. programmes through Rolling Advertisement, candidates need to register and fill the application ONLINE only by accessing the website <http://iitr.ac.in>.

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

Sl	Particulars	Size
1	Soft copy of colour photograph(JPEG)	Upto 500 KB
2	Soft copy of signature (JPEG)	Upto 500 KB
3	Category Certificate (PDF)	Upto 3 MB
4	PD Certificate (PDF)	Upto 3 MB
5	10 <sup>th</sup> & 12 <sup>th</sup> level Marksheet (in single PDF)	Upto 3 MB
6	UG Mark sheet and Provisional UG Degree Certificate or Final UG Degree Certificate (in single PDF)	Upto 3 MB
7	PG Mark sheet and Provisional PG Degree Certificate or Final PG Degree Certificate (in single PDF)	Upto 3 MB
8	Mark sheet of previous semester(s) for candidates appearing in the qualifying degree exam (in single PDF)	Upto 3 MB
9	NET score card / Fellowship award letter (in single PDF)	Upto 3 MB

**Candidates must follow the following Steps while filling online Application Form.**

**Step 1: Apply for Ph.D. programmes through Rolling Advertisement**

- a) Register
- b) Login
- c) Fill the application form online
- d) Upload documents as mentioned above
- e) Finalize Application Form
- f) Pay fee online using option "Proceed for Payment"
- g) Submit Application
- h) Download Application form for candidate's own record.

### **Name of Departments / Centres:**

#### **Roorkee Campus**

- Alternate Hydro Energy Centre
- Architecture and Planning
- Biotechnology
- Civil Engineering
- Chemical Engineering
- Chemistry
- Computer Science & Engineering
- Electronics and Communication Engg.
- Earthquake Engineering
- Earth Sciences
- Electrical Engineering
- Humanities and Social Sciences
- Hydrology
- Management Studies
- Mathematics

- Mechanical and Industrial Engg.
- Metallurgical and Materials Engg.
- Physics
- Water Resources Development and Management
- Institute Instrumentation Centre
- Centre for Transportation Systems
- Centre for Disaster Mitigation & Management
- Centre for Nanotechnology

#### **Saharanpur Campus**

- Applied Science & Engineering
- Polymer & Process Engineering
- Paper Technology

## **PROVISION OF WAIVER FOR COURSE WORK:**

The candidates with following criteria may be eligible for course work waiver on recommendation of Student Research Committee (SRC):

- (i) M.Tech/M.Arch./MURP/M.Sc./MBA qualified students from IITs or IISc with CGPA 8.5 or more.
- (ii) M.Sc. from IISERs and MBA from IIMs with CGPA 8.5 or more also be considered.

Besides, the student should have started PhD within two years of the completion of M.Tech/M.Arch./MURP/ M.Sc. / MBA.

The waiver will be applicable if admission is sought within the relevant stream or discipline with respect to the post-graduate degree and is recommended by the SRC.

## **MINIMUM QUALIFICATION FOR ADMISSION TO Ph.D. PROGRAMME IN DIFFERENT DEPARTMENTS/CENTRES**

### **A. ROORKEE CAMPUS**

#### **1. Alternate Hydro Energy Centre**

- i. B.Tech. / M.Tech. or equivalent in Civil / Electrical / Mechanical/ Industrial / Chemical / Environmental / Agricultural / Computer / Electronics Engineering
- ii. M.Sc. in disciplines consistent with research areas of the centre.

#### **2. Architecture & Planning**

Master's degree in Architecture in any of the specializations offered by recognized Institutions of Architecture / Master's degree in Building Science / Technology with a Bachelor's degree in Architecture / Master's degree in Planning in any of the specializations offered by the recognized Institutions of Planning with a

Bachelor's degree in either Architecture or Planning (B.Planning) or Civil Engineering.

#### **3. Department of Biotechnology**

- i. Master's degree in any disciplines of Science
- ii. Bachelor's / Master's degree in medical sciences, engineering, pharmacy, veterinary and related disciplines.
- iii. MD / MS in Ayurveda

#### **4. Department of Civil Engineering**

- i. B.Tech / M.Tech. or equivalent degree in Civil Engineering. Candidate having an M.Tech. Degree but not having a Bachelor's degree in Engineering must have studied Mathematics at the Bachelor's level.
- ii. B.Tech. / M.Tech. degree in any branch of Engineering may be considered for research areas consistent with the academic background and experience.
- iii. M.Sc. Degree in any branch of Science or MCA (with mathematics at the Bachelor's level for both M.Sc. and MCA) may also be considered for research areas in Geomatics Engineering.

#### **5. Department of Chemical Engineering**

- i. B.Tech./M.Tech. or equivalent degree in Chemical Engineering.
- ii. B.Tech./M.Tech. or equivalent degree in any branch of Engineering/ Chemical Technology and interdisciplinary areas.
- iii. M.Sc. in disciplines consistent with the research areas of the department.

#### **6. Department of Chemistry**

- i. M.Sc. or equivalent degree in Chemistry/ Physics.
- ii. M.Sc. in Bio-technology or M.Sc. in Biochemistry

#### **7. Department of Computer Science and Engg.**

- i. M.E./M.Tech. in Information Technology/ Computer Science & Engg./ Software Engg. or equivalent.
- ii. M.Tech./ME in Electrical Engineering/ Electronics and Communications Engineering or equivalent
- iii. B.E./ B.Tech. in Computer Sc. & Engg./ Information Technology or equivalent.

#### **8. 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. Or equivalent.

- iii M.Sc. in Physics / Instrumentation / Electronics.
- iv B.Tech + M.Tech in Computer Science

### **9. Earthquake Engineering**

- i. B.Tech. / M.Tech. or equivalent degree in Civil Engineering/ Earthquake Engineering / any branch of Engineering .
- ii M.Sc. / M.Tech. in Geophysics/ Physics/ Mathematics / Geology for research areas in Engineering Seismology and Seismotectonics.

### **10. Department of Earth Sciences**

M.Sc / M.Sc.Tech / M.Tech. degree in Geology / Geophysics / Applied Geology / Applied Geophysics / Geological Technology / Geophysical Technology / Geosciences / Applied Geosciences / Petroleum Geology / Petroleum Geophysics.

### **11. Department of Electrical Engineering**

- i. B.Tech./M.Tech. or equivalent degree in Electrical Engineering.
- ii. B.Tech./M.Tech. or equivalent degree in a branch of Engineering consistent with the research areas as mentioned by the Department from time to time.
- iii. M.Sc. in a discipline consistent with the research areas as mentioned by the Department from time to time.

### **12. Department of Humanities and Social Sciences**

- i. M.A. or equivalent degree.
- 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.

### **13. Hydrology**

- i. Master's degree in Civil Engg. / Water Resources Development / Hydrology.
- ii. Master's degree in Agricultural Engg. / Environmental Engg. / Instrumentation / water use management
- iii. M.Sc. / M.Tech. in Geology / Geophysics / Soil Science / Forestry or natural

Resources/ Chemistry / Meteorology / Atmospheric Physics / Mathematics / Nuclear Physics & Environmental Sciences

- iv. M.Sc. Hydrology with Mathematics at Bachelor's level

### **14. Department of Management Studies**

- i. B.E. / B.Tech. or equivalent, M.E./ M.Tech or equivalent qualifications.
- ii. M.Sc. / M.A. / M.Com.
- iii. Master of Management/M.B.A. or equivalent.
- iv. CA with a graduate degree.

### **15. Department of Mathematics**

- i. M.A. / M.Sc. / M.Tech. in Mathematics/ Applied Mathematics/ Industrial Mathematics / Statistics / Operation Research / Applied Operation Research/ Mathematics and Computing.
- ii. M.Stat. or Equivalent

### **16. Department of Mechanical & Industrial Engg.**

- i. B.Tech. / M.Tech. degree or equivalent degree in Mechanical/ Industrial/ Production Engg.
- ii. B.Tech. / M.Tech. degree in Aerospace / Chemical / Civil / Electrical / Metallurgical Engg. may be considered for research areas consistent with the academic background and special interests.

### **17. Department of Metallurgical and Materials Engg.**

B.Tech / M.Tech or equivalent relate to the following disciplines:

Metallurgical Engg, Materials Engg, Nanotechnology, Engg Physics, Engg Chemistry, Ceramics, Polymers, Corrosion, Mechanical, Production & Industrial Engg., Chemical Engineering and Electrochemical Engg.

Or

- 1. M.Sc. degree in Physics, Chemistry, Materials Science.
- 2. Candidates with a M.Sc. degree, Mathematics as a subject at B.Sc. degree level is an essential requirement.

**Note: Candidates having a degree in Industrial Engineering only, shall not be eligible for**

**admission to the Doctor of Philosophy programme in the Department of Metallurgical and Material Engg.**

**18. Department of Physics**

- i. M.Sc. in Physics/ Applied Physics
- ii. M.Sc. in Chemistry/ Mathematics/ Biophysics/ Geophysics/ Computer Science, provided Physics was a subject at B.Sc. level.
- iii. B.Tech. or equivalent in Electrical / Electronics / Chemical/ Metallurgical / Engineering Physics.

Candidates at Category (ii) and (iii) may be considered for research area consistent with the academic background and special interests.

**19. Water Resources Development & Management**

**(i) Water Resources Development**

B.E. / B.Tech. / M.E./ M.Tech. or equivalent degree in Civil, Electrical, Mechanical & Agricultural Engineering.

**(iii) Irrigation Water Management**

Master's Degree in Agricultural Sciences / Social Sciences / Chemical Engineering / Biological Sciences / Environmental Sciences / Engineering / Natural Sciences with at least one paper of Mathematics at the graduate level.

**20. Institute Instrumentation Centre**

M.Sc. / M.Tech. in Physics, Applied Physics, Material Science, Chemistry, Electronics & Nanotechnology with NET/GATE.

**21. Centre for Transportation (CTRANS)**

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.

**22. Disaster Mitigation & Management**

M.Tech. (Civil, Mechanical & Industrial, Chemical, Computer Science), M.Arch. & M.Planning or equivalent.

Or

M.Tech. in Geological Technology, Geophysical Technology, Biotechnology or equivalent.

Or

M.B.A. or M.C.A. in Computer Science or M.Sc. in Physics, Geophysics, Geology, Mathematics, Environmental Sciences (with Maths in B.Sc.), M.Tech. Bio-technology or equivalent.

**23. Centre for Nanotechnology**

- (i) B.E. / B.Tech or M.E. / M.Tech. in Metallurgy / Chemical / Polymer / Mechanical / Biotechnology / Physics / Chemistry / Electronics / Electrical / Civil or equivalent
- (ii) M.Sc. / M.S. (Science / Engineering) B. Pharm /M. Pharm.

**B. SAHARANPUR CAMPUS**

**1. Applied Science & Engineering:**

- (i) M.Sc. /M.S./M.A. (Science/ Engineering/ Humanities)
- (ii) BE/B.Tech/M.E./M.Tech. in any branch of engineering or equivalent

**2. Pulp & Paper Engineering:**

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

**3. Polymer and Process Engineering:**

- (i) M.Sc./M.S./MBA (Science/ Engineering/ Management)
  - (ii) BE / B.Tech / B.Pharm / M.E. / M.Tech. / M. Pharm in any branch of engineering or equivalent.
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