

INDIAN INSTITUTE OF TECHNOLOGY ROPAR

ADMISSIONS-2024



Information Brochure

Ph.D. Admissions 2024-25

About the Institute:

The Indian Institute of Technology Ropar started functioning from the academic year 2008--2009 from the campus of IIT Delhi, the mentor institute. The foundation stone laying ceremony was held on 24 February 2009. The Indian Institute of Technology Ropar was initially registered under the Societies' Registration Act 1860 on 29 July 2009. Subsequently, the Institute has been established by the Act of Parliament namely, the Institutes of Technology Act (Amendment) Act 2012 (No. 34 of 2012). The Institute has shifted to its permanent campus in 2018 and currently operates from its permanent campus. The permanent campus of IIT Ropar is spread across 501 acres of land located at Birla Seed Farms, Rupnagar in the lap of nature at the banks of river Satluj. The Institute has been awarded the 5 Star GRIHA (Green Rating for Integrated Habitat Assessment) rating, one of the highest national ratings for Green Buildings.

While the master plan is supposed to accommodate 10,000 students, the academic block is already set up for 2,500 students in the first phase. A total of 2,15,739 square meters of area is dedicated for academic and administration blocks along with accommodation for staff and faculty along with sports and hostel facilities for the students

All hostels are well furnished along with common rooms for recreational activities for each hostel. The campus also has airy common dining area. Naturally, there is no compromise with facilities regarding academics and laboratories for undertaking practical or doing some research. New state-of-the-art equipment is available for the students to use in labs. Apart from these academic facilities, other perks of being at IIT ROPAR include excellent sports facilities (different play fields for each sport, such as cricket, football, tennis, badminton, basketball, volleyball, etc.), utility block, student activity center (equipment and rooms for the various club activities and other student interest group activities), gymkhana, air-conditioned libraries with plethora of books, cafeterias, gymnasium, medical center with top notch 24 x 7 medical facilities.

The Indian Institute of Technology Ropar is ranked 22nd in the engineering category in NIRF 2022 (National Institutional Ranking Framework). IIT Ropar is committed to provide state-of-the-art technical education in a variety of fields. The Institute is facilitating transmission of knowledge in keeping with the latest developments in pedagogy. At present, the Institute offers the degree of Bachelor of Technology in Computer Science & Engineering, Electrical Engineering, Mechanical Engineering, Civil Engineering, Chemical Engineering, Metallurgical & Materials Engineering, and Mathematics & Computing. It offers the MSc degree in Physics, Chemistry, and Mathematics. It offers the degree of Master of Technology in Computer Science and Engineering, Electrical Engineering, Mechanical Engineering, Chemical Engineering, Civil Engineering, Artificial Intelligence, and Biomedical Engineering. All the departments of the Institute offer a doctoral degree. The Institute has held 11 convocations so far. Presently the Institute has 1517 UG students, 526 PG students and 921 PhD students.

The overall academic system of IIT Ropar is designed to provide science-based engineering education that will produce quality engineers and scientists. IIT Ropar has implemented a new curriculum from 2017. The curriculum provides broad based knowledge and simultaneously builds a temper for lifelong learning and exploration. A set of science and general engineering courses forms part of the syllabus of the first-year undergraduate students. These courses provide a foundation for further discipline specific topics. In addition to overhauling its UG programs, IIT Ropar has introduced new PG streams.

Career Development and Placement Cell, is actively involved in organizing practical training for the undergraduate students and has been playing a catalytic role in finding placements for its final year students. IIT Ropar has undertaken the task of redefining its vision and mission, and of putting a strategic plan to achieve them into action.

IIT Ropar aims to promote research in interdisciplinary areas. The Institute also undertakes a number of research and consultancy projects that are sponsored by various funding agencies, including the

Government and Industry. The Institute has taken major research activities in the fields of national importance, such as non-conventional energy, sensors, drug delivery, materials synthesis and their modification, image processing, cloud networks, robotics, pattern recognition, renewable energy systems, microelectronics and nano-devices, mathematical biology, fluid dynamics, pure mathematics, quantum optics and quantum matter physics, ion beam physics, renewable energy, nanophotonics and metamaterials, surface patterning, sustainable energy, biomechanics, nanofluids, complex fluids, nanocomposites, neuro-cognition, financial mathematics and markets, phonetics, etc. The Institute provides ample funds to the departments and faculty members for the upgradation of laboratories and creation of research facilities. This has enabled our faculty members to take up research projects in frontier and emerging areas of science and technology.

Institute has a counselling cell to monitor the mental well-being of the students. Its mission is to promote well-being, aiding to develop better understanding of the self, to grow both intellectually and emotionally, to be more satisfied and productive and to improve the depth and quality of your life. To ensure sound mental health, we provide help in dealing with emotional and behavioural problems, such as guilt, anxiety, stress, lack of confidence, low self-esteem, depression and internet addiction of any sort, dependency, personal problems in relationships, such as codependency, rejection, separation, homesickness etc. Counselling Cell does fostering and inculcating life skills to make better adjustments and enrich healthy relationships.

The campus of IIT Ropar is well equipped with all required facilities. Classrooms fitted with multimedia, faculty offices and administrative wings are all in place. There are separate hostels for boys and girls. These hostels are equipped with modern mess units. Faculty recruitment, setting up of laboratories and other support facilities are done on a continuous basis to keep up with the progress.

The IIT Ropar community has undertaken an important exercise of developing the Mission, Vision and Strategic Plan for the coming years. The exercise was carried out in active consultation with Indian Institute of Management Calcutta. A participative bottom up approach was followed in formulating the Mission, Vision and Strategic Plan. The Motto, Mission and Vision statements for IIT Ropar are as follows.

Motto: Deploy our intellect on the right path.

Mission: To foster a transformative learning environment and a culture of excellence enabling creation of knowledge and development of socially responsible, enterprising leaders contributing significantly to national progress and humanity.

Vision: To be a trendsetter among the technology universities born in this millennium.

Faculty:

The Faculty members of the Institute are selected through a rigorous selection process. The approximate mean age of a faculty member at IIT Ropar is 35 years. The faculty members who have been selected from the best institutes from India and abroad embody the spirit of enthusiasm that comes with youth. The Faculty members lay as much emphasis on the development of their technical know-how as on ethical and moral development; so when the student graduates she/he makes not just a good engineer but also a good human being. IIT Ropar takes the best raw material and the faculty carves them out into engineers and entrepreneurs of tomorrow.

July 2024 ADMISSIONS (ACADEMIC YEAR 2024-25)

Applications are called from the candidates for July 2024 admissions (Academic Year 2024-25) for admission to PhD program.

Last Date of Receipt of Online Applications: 5th April 2024

Guidelines

1. Please visit the link : <https://www.iitrpr.ac.in/phd-admissions>
2. Submit the application ONLINE. After filling the form, take a print of your application and keep the same for your record. Print copy of the application is not required to be submitted.
3. Application Fee:
 - Women candidates & SC/ST/PwD category candidates : Rs. 100/-
 - All other candidates : Rs. 200/-
4. The fee is to be paid by SB Collect (Online Payment System). Applications without online payment details will not be considered. Fees payment method is as follows:
 - i) Go to onlinesbi.com
 - ii) Select SB Collect
 - iii) Tick the terms and conditions and continue
 - iv) Select state- Punjab
 - v) Select educational institute- IIT Ropar (Type I I T Ropar after giving space in each letter of IIT).
 - vi) Select the option for payment category
 - vii) Select the option- Application Fees for PhD admission
 - viii) Pay the requisite fee.
5. Application fee is NON-REFUNDABLE.
6. The dates of the written test/interview will be informed to the shortlisted candidates through email.
7. The candidates who wish to apply to multiple departments or research programmes are required to register for each application and pay the application fee separately subject to fulfilling the eligibility criteria for applying to the concerned department/research programme as mentioned in the admission brochure & website. Candidates can apply in multiple departments subject to fulfilling the minimum eligibility requirement of respective departments.
8. The OBC (Non-Creamy Layer) certificate and Income & Assets certificate [for EWS category] issued after 31.03.2023 (for financial year 2022-2023) in the prescribed format must be uploaded in the ONLINE application and submitted at the time of interview/admission
9. Please check the admission website regularly for important announcements and department website for shortlisting updates and results
10. The candidates called for a written test/interview should bring with them a printed copy of the application submitted online along with original and photocopies of relevant certificates/documents.
11. Incomplete applications will be rejected.
12. Applicants must submit a legible copy of the documents.

Selection Procedure:

Eligible candidates possessing the minimum educational qualifications & eligible degree and satisfying additional and stiffer criteria set by the departments from time to time, will be called for an “test and interview” or “interview” by the Selection Committees of the respective departments.

Admission Procedure

Admission is offered on the basis of an interview held usually a month before the commencement of the semester for which admission is sought. The interview may be supplemented by a written test, if necessary.

Merely satisfying the general eligibility criterion as well as criterion set for each admission category is no guarantee for being called for test/interview. Depending on the number of applications received and considering the constraints of time and other resources for conducting Written Test and Interview, the Academic Units may put additional academic performance based shortlisting criteria.

Reservation of Seats:

Reservations are applicable to SC/ST/OBC-NCL/EWS/Persons with Disability (PwD) candidates as per Govt. of India rules.

CATEGORIES OF ADMISSION

Candidates will be admitted to the Ph.D. program of the Institute through an institute selection process under any one of the following categories:

REGULAR FULL-TIME Ph.D.

1. ***Institute fellowship:*** Candidates under this category are entitled for Institute Research Assistantship/Fellowship as per Ministry of Education, Govt. of India norms.

2. ***Govt./ Semi Govt. Fellowship Awardees, such as PMRF, CSIR-JRF, UGC-JRF, DST-INSPIRE, DBT, NBHM, PMRF, QIP, DST- WISE PhD, etc. or any other full time fellowship:*** These candidates are financially supported under various Govt./Semi Govt. schemes. The admission procedure and other requirements are the same as applicable to research scholars/institute fellowship.

3. ***Fellowship through Project (FTP):*** The admission procedure and other requirements for research Fellows (JRFs/SRFs) in various projects/schemes in the institute who wish to enroll for the PhD programme are the same as applicable to Institute Research Scholars. They will be paid assistantship/fellowships as per the norms of the project and sanctioned amount. The candidate has to fulfill all the eligibility requirements of the funding agency and the institute criteria.

4. ***Self -financed Indian Nationals, including those on Study Leave (SF):*** The candidates admitted under this category are not eligible for any financial support from the Institute (IIT Ropar). Candidates with the provisional DST -INSPIRE fellowship award letter may apply under Self-Finance (SF) category. After successful admission, if the candidate subsequently clears the final round of selection of DST-INSPIRE, s/he would be allowed to convert from the Self-Finance (SF) to Fellowship Award (FA) category. Candidates who are released from the Government or educational Institutions on study leave for a period not less than three years for doing research work at IIT Ropar, can seek admission under this category. Employer’s Letter for Study Leave should be produced at the time of joining, if selected.

5. **Sponsored Candidate (SW):** *The candidates admitted under this category are not eligible for any financial support from the Institute (IIT Ropar) and are sponsored by their employers. They are expected to be relieved for full time course work and research at the Institute for a minimum period of three years. An appropriate sponsorship letter should be submitted at the time of written test and/or interview.*

PART-TIME Ph.D.

1. External Registration Program (ERP):

This category refers to a candidate employed in an R&D organization/academic institution/industry having adequate research facilities. The research work leading to the Ph.D. degree may be carried out largely in the parent organization of the candidate under a Local Supervisor from the organization but with the overall guidance provided by a faculty member (Institute Supervisor) of the department in which the candidate is registered.

A candidate in this category is a professionally employed person having regular employment in Government Organizations, like MEITY, DRDO, MHA, CSIR, Central Universities (including IIT Ropar regular staff), the employees of National and International reputed private organizations/industries, viz. Reliance, TATA, Birla, Samsung, Nokia, Infosys, GE, similar MNC companies, etc., who would like to pursue the Ph.D. program while continuing the employment at their parent organization. The institute does not provide any financial assistance/fellowship to such a candidate.

Temporary employees, outsourced employees, employees from private universities, start-ups, small enterprises etc are not eligible.

2. **Part-time:** *A research scholar under the Part time PhD Programme will carry out major part or all of his/her research work at IIT Ropar under the supervision of supervisor(s) at IIT Ropar. The feasibility of doing this with sufficient intensity will be an important consideration in admitting the scholar in this category.*

A candidate in this category is a professionally employed person having regular employment in Government Organizations, like MEITY, DRDO, MHA, CSIR, Central Universities (including IIT Ropar regular staff), the employees of National and International reputed private organizations/industries viz. Reliance, TATA, Birla, Samsung, Nokia, Infosys, GE, similar MNC companies, etc., who would like to pursue the Ph.D. program while continuing the employment at their parent organization. The institute does not provide any financial assistance/fellowship to such a candidate.

Temporary employees, outsourced employees, employees from private universities, start-ups, small enterprises etc are not eligible.

3. IIT Ropar regular Staff:

Members of non-teaching staff (working in permanent capacity, including technical and non-technical) may be permitted to join the Ph.D. program under this category. All common rules laid down in the Ph.D. Regulations relating to course work, prosecution of research work under the supervision of a member of faculty, etc. shall be applicable.

Regulations pertaining to all kinds of PhD programs will be common, unless stated otherwise.

Minimum Eligibility Requirement for Admission to PhD program.

The following are Institute Minimum Eligibility Requirements and any Department/Center can specify higher short-listing criteria than what is specified here.

Regular Full-time Ph.D.

For the Minimum Eligibility Qualification (MEQ) for admission to Regular Full-time Ph.D programmes refer table:1 below:

Table:1: Minimum Eligibility Qualification for admission to Regular Full-time Ph.D programmes

Sr. No.	Qualifying Degree	Minimum Performance in Qualifying Degree for General/OBC (Non-Creamy Layer)/EWS Category Candidates	Minimum Performance in Qualifying Degree for SC/ST/PwD category Candidates	Qualification Through National Level Examination Requirements
1.	M.Tech./M.E/M.D. or equivalent	60% marks or 6.00 CGPA on a 10-point scale	55% marks or 5.5 CGPA on a 10-point scale	Nil
2.	M.Sc/MBA/M.A/M.B. B.S. or equivalent	60% marks or 6.00 CGPA on a 10-point scale	55% marks or 5.5 CGPA on a 10-point scale	Qualified GATE/CSIR/UGC-NET/DST-INSPIRE/JEST/NBHM or other national fellowship
3.	B.E./B.Tech. or equivalent four years program	60% marks or 6.00 CGPA on a 10-point scale	55% marks or 5.5 CGPA on a 10-point scale	Qualified GATE/CSIR/UGC-NET/DST-INSPIRE/JEST/NBHM or other national fellowship

Exemptions:

Requirement of qualification in GATE / National level Exam is waived off for the following categories of applicants.

Currently registered candidates in Centrally Funded Technical Institutes (CFTIs) pursuing B.Tech./B.E./ Integrated M.Tech./ Integrated M.Sc. programmes (or any other programme of minimum four year duration, admission to which is on the basis of JEE), who have completed 6 semesters or more, and have CGPA of 8.0 or above (on a 10 point scale). Such candidates must obtain a CGPA of 8.0 or above at the time of graduation, and before they formally register for the Ph.D. programme (80% aggregate marks, if marks is the primary mode of evaluation).

Eligibility Requirement for ERP candidates

(i) *Minimum Eligibility Requirements: In addition to possessing the academic qualifications mentioned in the table 1 under regular full-time Ph.D program, an applicant should fulfill the following additional requirements also:*

(ii) *GATE or equivalent qualification: GATE or Equivalent Qualification is not required for admission.*

(iii) *Professional Experience: Should have completed full time employment of 2 years of service as on the deadline of application.*

(iv) *Organization/Institution: Organization/Institution must have at least 5 years of its existence for sponsoring candidates to the ERP programme. Only persons engaged in R & D work in Technical / Scientific Institutions/ Industries or R & D Establishments are eligible. The organization should have adequate facilities for carrying out research. All CFTIs/GFTIs will be considered irrespective of their years of existence.*

(v) *Sponsorship/NOC*

Unconditional sponsorship or NOC by the employer is essential and a must at the time of joining. IIT Ropar will not have any financial liability for the candidate throughout the tenure of PhD. The sponsorship certificate must be provided in the format specified at FORMAT-A.

Eligibility Requirement for Part-Time candidates

(i) *Minimum eligibility requirements: In addition to possessing the academic qualifications mentioned in the table 1 under regular full-time Ph.D program, an applicant should fulfill the following additional requirements also:*

(ii) *Professional Experience: The minimum full-time experience required after obtaining the qualifying degree and as on date of application deadline, is given in table 2 below:*

(Table 2)

Sr. No.	Qualifications	Work Experience (Post Qualification)
1	M.E./M.Tech./M.S.(R)/M.D. or Equivalent	Nil
2	B.Tech./BE with valid GATE	Nil
3	B.E./B.Tech./M.Sc./M.A./M.B.A./MBBS or equivalent, from CFTIs/Central Universities	1 Year
4	B.E./B.Tech./M.Sc./M.A./MBA/MBBS or equivalent, from institutions other than CFTIs/Central Universities	2 Years

(iii) *Minimum Eligibility Qualification for these candidates is the same as for full-time candidates, except that the requirement of qualifying in a national examination is waived for serial No. 1, 3 and 4 of above table.*

(iv) *No Objection Certificate: Part-time candidates are required to submit a “No Objection Certificate” on a proper letterhead from the Head of the Institute/Competent authority in the organization on the specified format given at FORMAT-B.*

If the candidate after joining the PhD program changes the organization, he should inform the Institute immediately and get NoC from the new organization as well.

Eligibility Requirement for IIT Ropar Staff:

(i) Minimum eligibility requirements: In addition to possessing the academic qualifications mentioned in the table 1 under regular full-time Ph.D program, an applicant should fulfill the following additional requirements also:

(ii) GATE or equivalent qualification:

Minimum qualification for these candidates is the same as for regular PhD candidates except that the requirement of qualifying in a national examination (e.g., GATE or equivalent) is waived off.

(iii) No Objection Certificate:

Prior permission/No Objection Certificate (NOC) has to be obtained from competent authority before applying for admission to the program. NOC has to be submitted at the time of submission of application. Institute work should not suffer due to joining the PhD programme by the candidate.

(iv) Selection Procedure:

Short-listed eligible staff will be called for a written exam or interview or both. Final selection is based on the performance of the staff in the written exam or interview or both.

(v) Fellowship:

Members of staff permitted and enrolled for the PhD degree shall not be entitled to institute fellowship.

(vi) Duration:

The minimum period to be spent in the research work registered under the Part-Time Ph.D. degree for staff shall be 4 years. The maximum period admissible for completion of the course work, research work and submission of the thesis, shall, however, remain to be the same as in the case of regular candidates.

International Candidates– Admission to Ph.D

Foreign Nationals are those with foreign passports including those who are Person of Indian Origin (PIO) / Overseas Citizen of India (OCI) card holders.

Foreign nationals can only register as full-time scholars. Foreign nationals with eligible degrees from Indian Universities will be treated on par with Indian nationals for admission purposes with prescribed fee for foreign nationals. Foreign nationals with foreign degrees must meet the minimum educational requirements as specified on the website/admission brochure.

RESEARCH AREAS OF DEPARTMENTS:

1. Biomedical Engineering

- a. Biomaterials for drug delivery and tissue regeneration
- b. Molecular biology of cancer, diabetes and computational biology
- c. Biomaterials, tissue engineering, in-vitro organ models, nanomedicine
- d. Physics, lasers, optics and biophotonics in healthcare and agriculture
- e. Imaging, image analysis and analytics
- f. Biomedical device, biomechanics

2. Chemical Engineering

i) **Transport Phenomena and Thermodynamics**

- a) Soft Matter and microfluidics
- b) Computational Studies: Molecular simulations, CFD, Multiscale Modelling
- c) Characterization of materials
- d) Granular Materials
- e) Complex Fluids, Polymer physics
- f) Crystallization
- g) Active particle, Active gel dynamics
- h) Colloid and Interfacial Engineering
- i) Interfacial flows

ii) **Catalysis and Chemical Reaction Engineering**

- a) Heterogeneous Catalysis
- b) Energy and Environment
- c) Synthesis of novel materials, nanoparticles, nanofibers etc.
- d) Polymer synthesis
- e) Crystallization
- f) Wastewater Treatment
- g) Energy conversion and storage devices
- h) Nanoscience and Nanotechnology
- i) Computational Catalysis : Multiscale modelling

iii) **Process Systems Engineering and Data Analytics**

- a) Process Control and Optimization
- b) Machine Learning for Process Engineering
- c) Process Design, Analysis, Integration and Operation
- d) Fault Detection and Diagnosis
- e) State Estimation
- f) Process Modeling and Simulation
- h) Techno-economic and Sustainability Analysis

iv) **Biochemical and Bioprocess Engineering**

- a) Biomedical Engineering
- b) System biology
- c) Computational Biology
- d) Active particle, Active gel dynamics
- e) Wastewater Treatment

3. Chemistry

Thematic Research Areas

Energy; Healthcare; and Sensors

Major Research Areas

Aqueous batteries (Na-ion/S, Zn-S, Fe-S, Zn-air so on), electrocatalysis (hydrogen production, CO₂ to value-added products, N₂ to ammonia); Catalysis and materials synthesis, renewable synthesis of chemicals and fuels, and photocatalysis; Nuclear magnetic resonance (NMR) theory and experiments: methodology development and structural characterization of chemical, materials, pharmaceuticals, and biological systems; Theoretical and computational biophysical chemistry: statistical mechanics, molecular dynamics, and Monte Carlo simulations; and Theoretical and computational chemistry: hydrogen storage, ultracold chemistry, quantum dynamics, and machine learning.

Inorganic and organometallic chemistry, inorganic synthesis and catalysis, framework materials; Polymer chemistry; and Supramolecular synthesis, sensors, and environmental chemistry.

Biomaterials for drug delivery and tissue regeneration; General organic synthesis, peptide chemistry, boronic acid chemistry, bioconjugation, computational drug design, anticancer and antibacterial agent, and peptide engineering and chemical biology; Organic synthesis and homogeneous catalysis, transition metal and transition metal free catalysis, and organoboron chemistry; Photoredox chemistry, Lewis acid catalysis, and organocatalysis; Synthesis of π -conjugated compounds for molecular materials, aromaticity, and anti-aromaticity; Synthetic methodology development and organic fluorophores; and Electro-organic synthesis, asymmetric synthesis, and medicinal chemistry.

4. Civil Engineering

I. Geotechnical Engineering:

Soil Mechanics and Foundation Engineering, Geomaterial Stabilization, Geoenvironmental Engineering, Geosynthetics and Reinforced Soil walls, Slope stability studies, Soil Dynamics and Earthquake Geotechnics, Site specific response studies, Seismic Hazard Analysis and Microzonation, Landslides in Static and Dynamic Conditions, Rock mechanics and rock Engineering, Rock Dynamics, Microcrack detection and propagation in rocks, wave propagation in rocks, dynamic properties of geomaterials, ground improvement techniques, Stability Problems in Geomechanics, Unsaturated Retaining Structures, Footings, Anchors, Slip Line Method, Unsaturated Soil Mechanics, Theoretical and Numerical Limit Analysis, Stability of Geostructures under Seepage and Earthquakes, Application of Soft Computing Techniques

II. Environmental Engineering :

Urban air quality management; indoor air pollution; Aerosol characterization, local and regional air quality, climate change and health impact. Modeling, simulation and optimization of Environmental systems; Environmental Impact Assessment; Human Health Risk Assessment; solid waste management; incineration waste-to energy; circulating fluidized bed operations; Landfill

Management; Carbon sequestration; sustainable development (Urban cities/growth centres); Environmental Risk Analysis; water and wastewater treatment; Emerging water contaminants (Nanoparticles, Antibiotics); urban water and waste water Management; Non-point source Pollution; Membrane Biological Treatment Process; GIS and Remote Sensing Applications for Environmental Management. Water Quality Assessment Processes, Contaminant Fate and Transport, Cyber Physical System in Water and Soil Quality Assessment, Emerging Water Contaminants, Contaminant Remediation Technologies and Wastewater Treatment.

III. Structural Engineering:

Structural Dynamics; Seismic design of non-structural components; Seismic Vulnerability and Risk Evaluation of Structures; Earthquake response and recovery modelling of residential communities; Seismic Evaluation and Retrofitting of Structures; Performance-Based Design of Structures; Nonlinear Modeling and Analysis of Structures; Physics-based machine learning and its application in earthquake engineering; Seismic upgradation of existing structures; Seismic safety assessment of the Himalayan vernacular and contemporary buildings; Seismic design of building at liquefiable sites; Structural resilience; Structural fire engineering; Blast and impact load analysis; AI and ML in structural engineering; Analysis and design of structures; Tall buildings; Bridges; Wind engineering; Offshore structures; Masonry, RCC and steel structures; Structural control; Wave propagation; Constitutive modeling; Computational methods; Damage modelling; Structural health monitoring; Smart materials and structures; Energy efficient materials and structures; Meta material; Damage assessment and strengthening; Mechanics of composite materials; Multiscale modeling; Fracture and failure modeling; Developing low-carbon concrete options using carbon sequestration and waste valorization; Evaluation and upgradation of deteriorating reinforced concrete structures; Life cycle assessment and optimization of construction materials and processes; Construction Management; Construction Technology; Concrete Technology; Durability of concrete; Rebar corrosion; Modeling of cements; Supplementary cementitious materials; Composites; High performance concrete; Self-compacting concrete; Sustainable construction, Green building; Design management, Automation in construction; Building Information Modeling in construction projects, Non-destructive testing and evaluation;

IV. Transportation Engineering :

Transport planning; Transport policy; Transportation safety; Construction work zone safety; Heterogeneous traffic flow modeling; Traffic safety and capacity of hill roads; Mass transportation planning; Urban transport infrastructure planning and design; Non-motorized transport planning; Modeling of pedestrian behavior; Activity-travel behavior analysis; Network modeling; Transportation logistics and optimization; Traffic operations; Geometric design of transportation infrastructure; Characterization of pavement materials; Pavement design (flexible and rigid); Damage modeling of bitumen and bituminous mixtures; Constitutive modeling of pavement materials; Recycling of civil infrastructure materials; Rheology of asphaltic materials; Condition assessment of highway infrastructure; Pavement management systems; Highway engineering; Airport infrastructure.

V. Water Resources Engineering:

Rainfall-runoff modeling, Regionalization of hydrological extremes, Regional frequency analysis of extreme rainfall and floods, Prediction in ungauged basins, Multi-fractal analysis of rainfall and flood, Climate change impacts on hydrological processes, Dam safety analysis and inundation studies, Groundwater flow and transport modeling, Machine learning application in water resources, Geothermal Energy and geothermal resources modeling, Aquifer storage and recovery, Groundwater recharge, Soil water plant interaction, soil salinity, Hillslope hydrology, Stream-Aquifer interaction, Irrigation systems, Unsaturated flow modeling, Drought mitigation, Sustainable groundwater development.

VI. Geomatics Engineering:

Remote Sensing and GIS data and models. Remote sensing applications in the area of Natural resources Mapping, Modeling and Change Predictions. Remote Sensing applications in the areas of Agricultural Science, Cryosphere, Disaster and Water Resources. Planetary Remote Sensing. GNSS and its applications. Remote sensing of urban areas and city planning.

5. Computer Science and Engineering

ML/AI, Approximation Algorithms, IoT, Systems for AI/ML, Computer Networks, Game Theory, Operating Systems, distributed computing, wireless sensor networks, blockchain technology, databases, complexity theory, architecture, memory management, multimedia systems, network security, Reinforcement learning, cloud computing, social networks, computer vision, medical image processing, software engineering, quantum computing, Intrusion Detection Systems, Malware Analysis and Cyber-Security, Natural Language processing, large language models, and education technology

6. Electrical Engineering

i. Microelectronics and VLSI Design

Analog, digital, mixed-signal, RF and broadband integrated circuit design; High-speed interconnects; Electronic packaging; Chemical and Biological Sensors; 2-D Material-based Electronics; Multigate Devices; Memristor or Resistive Random Access Memory; Gate all around MOSFET; Semiconductor devices and reliability; Ferroelectric Memory Devices; Spintronic devices for communication, energy harvesting and neuromorphic applications: Device fabrication, high-frequency measurements and simulation; Topological materials for Quantum sensing and Communication: Device fabrication, transport measurements and simulation; Neuromorphic computing: device, circuits and algorithms design

ii. Signal Processing and Communications

Image and Video Processing:

Image processing, Deep Learning, computer vision, Distributed Learning, Machine learning and Quantum Machine Learning.

Communication Networks:

Wireless Communication and Networks; Internet of Things; AI/ML driven Next generation communication systems; AI native 6G networks, UAV networks; Vehicular Communication, Intelligent Transportation Systems, Radar Systems, mmWave Communication and sensing systems, Underwater Smart Mobility, B5G/6G Communication

Antennas for Smart RF and millimeter-wave systems, Wireless Power Transmission, Drone/UAV antennas, detection and localization, RF Energy Harvesting.

iii. Power Engineering

Renewable Energy integration, High Voltage Power Systems and Equipment, Nano Dielectrics, Smart and Micro-grids; Power System Dynamics and Control, Power Electronics, Electric Machines and Drives, Electric

Vehicle Technologies, Power System Optimization.

7. Humanities and Social Sciences

i) Psychology

Applied Experimental Psychology: Emotion Regulation & Behaviour Change; Positive Psychology; Counselling Psychology; Cognitive Psychology

ii) English Literature

Trauma studies; Speculative Fiction; Ecocriticism

iii) Interdisciplinary

Indian Martial Art studies

iv) Management

Operations & Supply Chain Management; Decision Sciences; Renewable Energy; Sustainability; Business Analytics

v) Economics

Macroeconomics; Financial Economics; International Economics; Applied Econometrics; Microeconometrics; Spatial Econometrics; Economic Geography and Urban Economics

vi) Linguistics

Experimental Linguistics; Language Comprehension

8. Mathematics

i) Mathematics and Theoretical Computer Science

Further Details:

Numerical Analysis, Modelling & Simulations, Low-dimensional Topology: Knot Theory, Computational Fluid Dynamics, Scientific computing, Water Wave Mechanics, Group Theory, Ring Theory, Coding Theory, Dynamical Systems, Evolutionary Game Theory, Functional Analysis, Operator Theory, Number Theory, Cryptography, Modular forms, Algorithmic Graph Theory, Probability Theory, Time Series Analysis, Stochastic Process, Data Science, Mathematical Finance, Statistical Inference, Complex Analysis: Harmonic Mappings, Function Spaces, Homogenization and Optimal Control of Partial Differential Equations, Distributed Algorithms, Theoretical Computer Science, Inverse Problems and Partial Differential Equations.

9. Mechanical Engineering

i). Mechanics & Design (MD)

Mechanical Vibrations, Condition Monitoring, Fault Diagnosis, Biomechanics, Computational Materials Science, Hydrogen Embrittlement, Biomedical Devices Development, Polymers for Energy and Biomedical Applications, Computational Biomechanics, Computational and Experimental Mechanics, Fracture Mechanics, Damage Mechanics, Numerical Analysis, Variational Principle, Impact Mechanics, Composites, Functionally Graded Material,

Metamaterials, Nonlinear Vibration, Aero-engine Vibration, Vibration under Viscoelastic Damping, Multifunctional Composite Materials, Electric Vehicles, Additive Manufacturing & Machine Learning Based Development of Indigenous Hydrogen Fuel Cell Stack, Robotics.

ii). Manufacturing Engineering (MF)

Sustainable Manufacturing, Surface Engineering, Additive Manufacturing, Incremental Forming at Micro/Macro Scale, Product Design (Design Research, Creativity, Engineering Aesthetics), Biomimicry, Conventional and non-conventional machining at macro and micro scales, Automation in Agriculture, Indoor Farming, Sustainable Design and Sustainable Manufacturing, Constitutive Modeling of Mechanical Behavior of Materials: Fatigue, Creep-Fatigue Interaction, and Fracture, Laser Material Processing, Laser Resistant Coatings.

iii). Thermal & Fluids Engineering (TF)

Thermodynamics, Fluid Mechanics, Heat and Mass Transfer, Computational Fluid Dynamics, Energy, Thermal Systems, Condensation, Thin-Film Evaporation, Microfluidics, Microscale Heat Transfer, Surface Micro and Nano Engineering for Enhanced Phase Change Heat Transfer, Microdroplet Dynamics, Thermal Management of Electronics-Mobile Devices and Data Centers, Internal Combustion Engine, Combustion and Soot Modeling.

10. Metallurgical and materials Engineering

1. Physical Metallurgy
2. Extractive Metallurgy
3. Mechanics of Materials
4. Oxidation and Corrosion
5. Functional Materials
6. Nanomaterials
7. Polymers
8. Ceramics
9. Composites
10. Biomaterials

11. Physics

i). Condensed matter physics and material science

Insulating spintronics, spin-orbit torque in magnetic heterostructures, quantum materials and devices, Heusler alloys, magnetic tunnel junctions and spin hall nano oscillators, functional and renewable energy materials, TMDC and sensor, broadband photodetector, computational material science, Hydrogen storage and production, sensors, high pressure Physics, Topological materials, Two-dimensional materials, Magnetic and superconducting materials, quantum degenerate gases,

ultracold gases at finite temperatures, quantum droplet physics, ion beam nanostructuring and applications, self-assembly and applications, spatio-temporal dynamics of pattern formation in physical systems, crystal growth and design of quantum materials, Vander Waals systems, density functional theory development, materials modeling, and molecular electronics.

ii). Gravity and Strings

Quantum properties of black holes, ultra-relativistic and non-relativistic limits of string theory, strong coupling dynamics of quantum field theories, conformal field theory, statistical field theory, finite temperature quantum field theory, carrollian conformal field theory, flat holography, holographic entanglement and complexity, holographic chaos.

iii). Light-Matter Interactions and Quantum information

Quantum computation and information, quantum thermodynamics, cavity optomechanics, semiconductor and plasmonic meta-optics, nanophotonics, optical instrumentation, quantum optics, orbital angular momentum states of light, quantum entanglement, optical coherence theory, foundations of quantum theory, Nonlinear laser vibrational spectroscopy, surfaces and interfaces, bio-photonics, laser induced liquid microjet, quantum materials, devices and applications, quantum photonics and technologies, meta-materials, laser spectroscopy, photonics, quantum plasmonic, quantum biology, high-power lasers, quantum-inspired computing with lasers (analogue computing & neuromorphic computing), structured light, topological photonics, multimode fiber lasers.

iv). Nuclear Physics and Particle Physics

Nuclear fusion studies, accelerator-based-low-energy nuclear reactions, instrumentation for rare-decay studies, cyber-physical systems for quantum sensing, environmental radioactivity, nuclear instrumentation for societal applications, high-spin nuclear structure physics, lifetime measurements, and spectroscopy of isomers.

For further details, please visit the respective department website link as below:

Name of the Department	Website link
Biomedical Engineering	<u>CBME IIT Ropar (iitrpr.ac.in)</u>
Chemical Engineering	<u>Chemical Engineering IIT ROPAR (iitrpr.ac.in)</u>
Civil Engineering	<u>Department of Civil Engineering - Indian Institute of Technology Ropar (iitrpr.ac.in)</u>
Computer Science and Engineering	<u>Department of Computer Science & Engineering (iitrpr.ac.in)</u>
Electrical Engineering	<u>Department of Electrical Engineering, IIT Ropar (iitrpr.ac.in)</u>
Mechanical Engineering	<u>Home (iitrpr.ac.in)</u>
Metallurgical and Materials Engineering	<u>IIT Ropar / Materials (iitrpr.ac.in)</u>
Chemistry	<u>Department of Chemistry, IIT Ropar (iitrpr.ac.in)</u>
Physics	<u>IIT Ropar (iitrpr.ac.in)</u>
Mathematics	<u>Home Department of Mathematics (iitrpr.ac.in)</u>
Humanities and Social Sciences	<u>Humanities and Social Sciences Department IIT Ropar (iitrpr.ac.in)</u>
Center for Applied Research in Data Science (CARDS)	<u>Center for Applied Research and Data Science (CARDS), IIT Ropar</u>

DETAILS OF SEMESTER FEES FOR THE ACADEMIC YEAR 2024-25.

Sr.No.	Particulars	PhD (GEN/ OBC)	PhD (SC/ ST)	PhD (Sponsored/ ERP/ Part time)
1	SEMESTER FEES	(INR)	(INR)	(INR)
	Tuition Fee	5000	0	17500
	Academic Fees: Examination Fee, Registration/Enrolment Fee,	1100	1100	1100
	Other fees: Medical fee, Library, Laboratory & Other facilities, Gymkhana fee and Hostel Development fund,	6400	6400	6400
	Hostel fees: Hostel Seat Rent, Fan, Electricity & Water charges, Student Amenities fee	6000	6000	6000
	TOTAL(Semester Fees to be paid)	18500	13500	31000
2	ONE TIME PAYMENTS (Non-Refundable) To be paid at the time of admission.			
	Admission Fees, Grade Card, Provisional Certificate, Thesis fee, Student Welfare fund, Benevolent fund, Modernization fees, Identity card and Alumni Affairs fee	10100	10100	10100
3	Deposits (Refundable) Institute and Library security deposits	10000	10000	10000
4	OTHER PAYMENTS Insurance scheme (to be paid every year in 1st semester)	750	750	750
	TOTAL FEES	39350	34350	51850

The fees are subject to revision as per Institute Rules.

Mess charges will be notified separately.

REGISTRATION FOR THE Ph.D. DEGREE

The selected candidates who have submitted the institute fee will be provided the Entry No. and institute email ID after the verification of all their testimonials.

Candidates joining Ph.D programme are required to produce their original marks/grade sheets along with provisional certificates at the time of admission.

Original Documents to be submitted for verification at the time of interview/admission:

- (a) Printed copy of the application form obtained after online registration.
- (b) Mark sheets/Grade cards of all semesters & Course completion certificate / Provisional certificate / Degree certificate beginning from first degree towards proof of qualification.
- (c) Copy of GATE score card or UGC - JRF/NET/CSIR-JRF/ DAE-JEST or other fellowship award letter.
- (d) SC/ST/OBC-NCL community certificate for the candidates belonging to SC/ST/OBC-NCL category issued by the respective State Government. [OBC-NCL candidates should produce the latest valid OBC Non-creamy layer community certificate in the prescribed format obtained after 31/03/2023].

The candidates claiming for EWS (Economically Weaker sections) reservation should submit valid Income & Assets certificate in the prescribed format obtained after 31/03/2023.

- (e) Authorised Doctor's Certificate with disability descriptions in the case of Person with Disability (PwD) candidates.
- (g) For Part-time candidates, NOC from the present employer should be submitted as per the prescribed format.

Facility available at IIT Ropar

The institute is actively involved in collaborative programs with international organizations and universities. The institute has the following facilities other than the basic academic facilities. Virtual Classrooms (NKN) Two virtual classrooms have been set up at IIT Ropar. NKN interconnects the institutions engaged in research, higher education and scientific development in the country.

Library:

The Central Library functions as the primary information resource centre and repository of printed and electronic resources for teaching and research activities at the institute. Apart from textbooks and recommended reading materials prescribed for each course offered at the institute, the library houses a growing collection of research monographs, reports, multi-volume reference works, dictionaries, encyclopaedias, handbooks, and so on. The library facilitates access to electronic journals through its participation in consortia, such as E-Shodh Sindhu. The library also subscribes to several e-journals directly from publishers as well as through reputed subscription agencies. At present, users can consult more than 20,000 books (available on shelves) and thousands of electronic books, journals. Online access is also provided to economic and political databases, scientometric databases such as Scopus, MathSciNet, and Web of Science.

The library operations are automated using LIBSYS 7 (EJB Version) software. The Online Public Access Catalogue (OPAC) which is on the public domain enables users to search documents in possession of the library. The library is using the Radio Frequency Identification Technology (RFID), a state-of-the-art auto-identification technique that helps in self-servicing and enhanced security. A separate e-resources section is provided in the library to browse CDs and DVDs of books, theses, and dissertations. The library has

developed an institutional digital repository (IDR) using open source software (DSpace) to archive and provide online access to the intellectual output of the institute. IDR is available publicly. These steps will greatly enhance the library's efficiency in making the resources available to the academic community at large and also enable the institute to participate in various inter-library initiatives at national and international levels. The library has developed a web-based Subject/Research Guide using the Subject plus tool, with this tool users can explore all the library resources available based on their subject areas/areas of interest. This guide includes E-journals, books/E-books, databases, theses & dissertations.

Hostel Accommodation

The Institute campus has four boys hostels (Satluj, Beas, Chenab, Brahmaputra) and 3 girl hostel (Raavi, Brahmaputra, T6) with a total capacity of 2984 available at the main campus. All hostels are well furnished along with common rooms for recreational activities for each hostel. The campus also has an expansive and airy common dining area. All hostels are provided with excellent drinking water facilities. Each hostel has common facilities - indoor, recreation and games. The hostel complex also includes a few shops that cater to the basic needs of the residents. IIT Ropar also provides gymnasium facilities within its campus for its students. Lush green IIT campus add enormous fuel in the daily life of the students. We have lively and enchanting campus life wherein the students are provided with all the amenities for the recreational activities. Here at IIT Ropar, students rejuvenate their hidden talent and relive their hobbies. State of the art classrooms with Audio visual aids and state of the art laboratories with latest research facilities enhance the teaching- learning process while high-tech library with tremendous books, journals, periodicals etc.help them to connect with the entire world of information and knowledge. We have also introduced drastic changes to the mess menu with detailed options given to students w.r.t. the food items they would like to have in the Mess by fixing the base menu and providing extra items in the menu which they student can opt for at an extra cost. At IIT Ropar, students relish research and extracurricular activities to grow as an aspiring engineer with moral and ethical integrity.

Health Care

The Institute Medical Centre is located in a separate building adjoining the hostel complex in Transit campus and in Main Campus. Several doctors, pharmacist, and staff nurse have been appointed to attend to campus residents in case of medical emergency. We have a state-of-the-art ambulance for medical emergencies. In addition, the Institute relies on the friendly support of a few super specialty hospitals in the city of Ropar, Mohali and Chandigarh for providing state-of-the-art medical care to its members.

Student Activities

The Institute has a Society for Publication and Communication Skills Development. In addition, there are Music, Dance, Dramatics, Arturo Photography, Fine Arts clubs, Girl up Club, Electoral Club, Epicure-The Cooking Club, Literary, Music clubs and also Science & Technology, Robotic Societies, Monochrome, Computer Integrated Manufacturing, Astronomy, Quiz, Coding clubs, where the students can participate and develop a well- rounded personality. Apart from above all, an Outdoor Adventure and Social Activities Club and Fitness club are also there for the wellness of Students.

General Facilities

The Institute has a branch of SBI as well as a Post office to cater to the needs of the faculty members, staff and students.

Student Life at Institute

At present, the transit and main campuses have excellent facilities for several sports, including a cricket field, three lawn tennis courts, a football field, a hockey field, a gymnasium, a basketball court, badminton courts, an athletics track, table tennis room and also facilities for several athletic events. The institute encourages its students to participate in inter-IIT sport events and other competitions. Space for recreational and creative activities is also available.

Industry and Alumni Relations:

Industry relations

The Industrial & Corporate Relation Cell office works in the direction to strengthen the relations with industry and reputed international research institutes in order to develop strong research and academic collaborations. The institute is well connected to Industry and is a member of Confederation of Indian Industry (CII). Industry- Institute Conclaves are conducted in the Institute to develop Industrial Associates of the institute. The Conclaves are focused on bringing together industry leaders and academia together on the same platform to discuss and brainstorm topics related to industrial expectations from institutions, curriculum structure and discuss issues and opportunities related to industrial projects & consultancy. Experts from the industries are invited regularly to deliver lectures under Industrial Lecture Series. Centre for Innovation and Business Incubation (CIBI) of the institute is already hosting six start-ups, which is a part of Technology Business Incubator (TBI).

Alumni relations

Our Institute has been actively working to sustain the bonding and to ensure greater participation of its Alumni in its academic and extra activities through various initiatives in association with the IIT Ropar Alumni Association (founded in Feb. 2013). Some of the initiatives are as follows:

1. Alumni Student Mentorship Program (ASMP): It's a platform for tapping in the multitude of experience and knowledge of the Alumni for the benefit of the students and Alumni alike. As distinguished IIT Ropar graduates, Alumni hold a wealth of information and knowledge that current students can benefit from. Their expertise and advice are more valuable to students wanting to sail a similar kind of boat ranging from MBA (India, Abroad), MS, various kinds of jobs, civil services, entrepreneurship, etc.
2. Hangout with Alumni: Conducting regular Alumni-Student interaction sessions including webinars, podcasts, and in-person meets, when feasible, to bridge the gap between them and allow the experiences, learnings, exam preparation strategies, and above all, their valuable college memories, to reach the existing students. In this, we have Alumni speak about various topics based on students' responses and needs.
3. Alumni Student Relationship Cell: The ASRC has been linked with the placement and internship team of IIT Ropar, for facilitating more and better opportunities to the students through alumni in the form of internships, live projects, and placements. The vast alumni network spread over hundreds of corporate giants brings home the opportunity to call them for hiring at our campus.
4. Recreational Activities: The Alumni office and ASRC plans to regularly engage with the Alumni via recreational activities like inter-year online games and championships, organized in collaboration with various clubs of IIT Ropar. These initiatives are meant to foster healthy and vibrant relationships with these much precious jewels of the institute.
5. Alumni Awards: To recognize, appreciate and encourage our emerging young alumni members for their leadership potential and professional and/or societal impactful contributions and accomplishments, to enhance the awareness of their achievements and contributions, and to

strengthen our bonding with emerging alumni members, Emerging Young Alumni Awards are instituted.

The Alumni have shown a lot of enthusiasm in participating in these initiatives and to keep working towards building a brand for our young institute - IIT Ropar.

Recreational/Extra Curricular activities

In order to take care of various students activities, we have a Student Affairs Section with the following functional units:

1. Board of Hostel Affairs (BOHA)
2. Board of Cultural Activities (BOCA)
3. Board of Science & Technology (BOST)
4. Board of Sports Activities (BOSA)
5. Board of Literary Activities (BOLA)
6. Board of Academic Affairs (BOAA)
7. Outdoor Adventure and Social Activities Club

Under the aegis of BOCA Movie Club, IIT Ropar hosts movies every week for the entertainment of the campus community. BOCA also celebrates the annual poetic festival Rashmi at IIT Ropar with the aim to let the budding poets and connoisseurs of poetry come on stage and showcase their talent. BOCA also conducted the SPIC MACAY events under its aegis. Many other cultural activities are organized/participated by the students within the campus and in other Institutions situated all over India.

BOARD OF SCIENCE AND TECHNOLOGY

Science and Technology Clubs are set up to kindle and nurture the love for technology, each club with its own specialization and guest lectures by prominent personalities in the world of technology and science.

A student spends his/her time constructively by engaging in the activities of these clubs. The students can thus represent IIT Ropar at various national and international competitions and events, bringing laurels to the institute and allowing students to showcase their creativity without bounds, through any of these clubs. Over the semester, fortnightly meetings of the clubs are held, apart from the time invested by members in their club projects. The institute has also started Innovation Club under the aegis of BOST wherein the students are encouraged to participate and evolve innovative ideas for implementation.

Board of Sports Activities (BOSA)

We have a Board of Sports Activities (BOSA) which encourages the students to participate in local / Inter- / Intra-college / Hostel Sports Activities to boost their performance in inter IIT Sports meet under the guidance of professional coaches.

All sports facilities including gymnasium are being upgraded to enhance the quality of facilities at the Institute. There are international level modern sports fields / grounds with floodlights facilities. Since 2016, BOSA, IIT Ropar is organizing an Annual Sports Festival “AAROHAN” in which students of various Colleges, Institutes and Universities participate in more than 13 sports events.

Location and Accessibility

The Institute is located at Ropar, the headquarters of Rupnagar district, Punjab. This institute, with its establishment, joins a string of premier educational institutions in Punjab. The town of Ropar, the district headquarters, is 42 kms from Chandigarh, the capital of Punjab. Rupnagar is well connected by both road

(National highway NH-21 / NH205) and railways (the Delhi--Ambala--Una railway line passes through Rupnagar).

By Air:

The nearest international Airport is in Chandigarh, about 50kms from Rupnagar. Any visitor wishing to come to Rupnagar/Ropar could take a flight from his/her respective place to Chandigarh, if available, or a flight from Delhi to Chandigarh and then take a taxi from the airport to reach the campus of Indian Institute of Technology Ropar (IIT Ropar) which is approximately one-and-a-half-hour journey.

By Train:

There are regular trains running between Delhi and Rupnagar. The Delhi--Ambala--Una railway line passes through Rupnagar. The duration of the journey is around six hours from Delhi.

FORMAT – A: FORMAT OF SPONSORSHIP CERTIFICATE

We understand that this sponsorship is covered by the following conditions:

- i) The candidate will be continuing in the present place of work till he / she completes the research work.
- ii) Necessary facilities will be provided for the proposed research work of the candidate.
- iii) Necessary leave will be given to the candidate to enable him/her to fulfill the course work requirements at the Institute. The course work requirement consists of a minimum one semester of continuous residence in the first year immediately after admission during course work.
- iv) The Research Supervisor(s) from the Institute will be given access to the facilities necessary for the research work of the candidate in our organization.
- v) The Joint Research Supervisor/Coordinator will be identified by the candidate at the time of registration in the External Registration PhD programme.
- vi) The Joint Research Supervisor/Coordinator from the organization will ensure that half yearly reports are submitted through the Research Supervisor at the Institute to the PG office. Failure to comply with will result in cancellation of registration.
- vii) The organization confirms that the Joint Research Supervisor has completed PhD in Govt. recognized Institution/University. The organization can nominate Coordinator for the candidate in case Joint Research Supervisor is not available in the organization.
- viii) The organization will ensure that the candidate devotes sufficient time to his/her research work so that the submission of thesis will be done within the time frame stipulated by the Institute.
- ix) The organization will ensure that the candidate will be relieved of his/her duties for attending the course-work for a period of one or two semesters of continuous residence at the Institute, which will be taken up immediately after joining.
- x) The organization will ensure that during course-work, the candidate will not be engaged with the duties of the organization.
- xi) In the event of any intellectual property generated by the student during his/her proposed research, the Organization agrees to the sharing of IP rights as determined by a Committee constituted by IIT Ropar for this purpose.
- xii) The thesis is a public document, and shall include all the work carried out by the student for the Ph.D. degree. The organization shall agree that sensitive/confidential information will not be included in the problem formulation or, subsequently, during the course of research.
- xiii) All material in the thesis can be submitted for publication in peer-reviewed journals/ conferences, the organization waives the right to deny permission for publication, for reasons of confidentiality or for any other reason, for any material contained in the thesis.
- xiv) Publications: In the case of publications arising from the thesis, only those who have directly contributed to the research work can be listed as authors. In case of any difference of opinion, the decision of the internal committee of IIT Ropar shall be final.

NAME:

DESIGNATION:

ADDRESS:

Signature of the Head of the Organization with the official seal.

Place :

Date :

FORMAT B: FORMAT FOR NO OBJECTION CERTIFICATE

Part-time candidates are required to submit a “No Objection Certificate” on a proper letterhead from the Head of the Institute/Competent authority in the organization clearly stating the following :

- I. The candidate is permitted to pursue studies on a part-time basis.
- II. That his/her official duties permit him/her to devote sufficient time for research.
- III. Facilities for research in the candidate’s field of research in the area in which admission is sought are available at the candidate’s place of work
- IV. He/she will be fully relieved from duty and permitted to reside at the Institute for the period required for course work .

Point No. (III) and (IV) stated above is not a requirement for candidates who are working within a distance of 100 km from the Institute).

NAME:

DESIGNATION:

ADDRESS:

Signature of the Head of the Organization with the official seal.

Place :

Date :

Contact us:

Email : phdadmissions@iitrpr.ac.in

Phone No.: 01881-231167, 231168, 231115 (from 9 am to 5 pm)

Website: www.iitrpr.ac.in

Contact details of Department Offices

Name of the Department	Email ID	Contact Number
Department of Biomedical Engineering	bme@iitrpr.ac.in	01881-232502
Department of Chemical Engineering	offchemengg@iitrpr.ac.in	01881-23
Department of Chemistry	offchem@iitrpr.ac.in	01881-232052
Department of Civil Engineering	office@iitrpr.ac.in	01881-242113
Department of Computer Science and Engineering	offcse@iitrpr.ac.in	01881-232152
Department of Electrical Engineering	eeoffice@iitrpr.ac.in	01881-232202
Department of Humanities & Social Sciences	offhss@iitrpr.ac.in	01881-242251
Department of Mathematics	mathoffice@iitrpr.ac.in	01881-242326
Department of Mechanical Engineering	meoffice@iitrpr.ac.in	01881-232352
Department of Metallurgical and Materials Engineering	office-mme-1@iitrpr.ac.in	01881-232402
Department of Physics	physics@iitrpr.ac.in	01881-242477
Center for Applied Research in Data Science (CARDS)	office.cards@iitrpr.ac.in	01881-235115