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Autumn Semester of Academic Year 2022-23

Admission to Ph.D. Programme
(REGULAR or FULL TIME)

Indian Institute of Technology Goa
at Goa Engineering College Campus
Farmagudi, Ponda Goa 403401

Applications are invited online for the admission to the Ph.D. Program for the Academic Year 2022-2023 starting from August 2022.

Candidates from reserved categories, residents of J&K and women are encouraged to apply.

1. Minimum Eligibility Criteria

1.1. General Eligibility Criteria for Engineering Streams¹

1.1.1. For General/OBC(NCL)/EWS Categories

1. Master's Degree in Engineering/Technology or equivalent degree with a minimum of 60% marks in aggregate or a minimum CGPA/CPI of 6.0 on a scale of 10 or an equivalent to 6.0 on other corresponding proportional requirements when the scales are other than 10.
OR
2. (i) B. Tech/M. Sc in Engineering/Technology or equivalent degree with a minimum of 70% marks in aggregate or a minimum CGPA/CPI of 7.0 on a scale of 10 or an equivalent to 7.0 on other corresponding proportional requirements when the scales are other than 10.
AND
(ii) Additional requirements as listed in Annexure 1 below.

1.1.2. For SC/ST/PwD

1. Master's Degree in Engineering/Technology or equivalent degree with a minimum of 55% marks in aggregate or a minimum CGPA/CPI of 5.5 on a scale of 10 or an equivalent to 5.5 on other corresponding proportional requirements when the scales are other than 10.
OR
2. (i) B. Tech/M.Sc in Engineering/Technology or equivalent degree with a minimum of 65% marks in aggregate or a minimum CGPA/CPI of 6.5 on a scale of 10 or an equivalent to 6.5 on other corresponding proportional requirements when the scales are other than 10.
AND
(ii) Additional requirements as listed in Annexure 1 below.

1.1.3. For IIT B.Tech. and M.Tech. degree holders

Candidates having a last qualifying degree (i.e. B.Tech. or M.Tech. degree) from IITs with a CGPA/CPI score of 8 on a scale of 10 and above may be admitted to the Ph.D. program under TA or TAP positions through written test and/or interview.

¹ Electrical Engineering, Mechanical Engineering, Computer Sciences and Engineering, Chemical and Material Engineering

1.2. General Eligibility Criteria for Science Streams²

1.2.1. For GEN/OBC(NCL)/EWS

Master's Degree in Science or equivalent degree with a minimum of 60% marks in aggregate.

OR

A minimum CGPA/CPI of 6.0 on a scale of 10 or an equivalent to 6.0 on other corresponding proportional requirements when the scales are other than 10.

1.2.2. For SC/ST/PwD

Master's Degree in Science or equivalent degree with a minimum of 55% marks in aggregate

OR

A minimum CGPA/CPI of 5.5 on a scale of 10 or an equivalent to 5.5 on other corresponding proportional requirements when the scales are other than 10.

1.3. Annexure 1

Candidates eligible in sections 1.1.1(2), 1.1.2(2), and 1.2 must fulfil ONE of the following additional requirements

1. The candidates must have cleared GATE in relevant streams. Gate Certificate must be valid at the time of admission
2. Valid Junior Research Fellowship (JRF) offer letter of CSIR/ UGC/ NBHM/ DBT/ ICAR/ ICMR/ ICPR Fellowship in the relevant streams.
3. Minimum of 2 years of professional experience (acquired after obtaining the qualifying degree and completed before the starting of the semester in which admission is sought) in the relevant areas. This criterion is only applicable for 1.1.1(2) and 1.1.2(2) given above.

2. Areas of Specializations:

2.1. School of Chemical & Materials Sciences

2.1.1. Chemistry:

2.1.1.1. Ultrafast spectroscopy, Physical Chemistry.

2.1.1.2. Synthetic Organic Chemistry.

2.1.1.3. Organometallic Chemistry and Catalysis. (NET/LS and minimum 1 year of academic research experience required for TAP category)

(Please Note TA category is available for EWS/ST category and only open for Organometallic chemistry and catalysis. However, Chemistry discipline has opening under JRF category in all above mentioned research area and is open to all category.)

² Chemistry, Mathematics, Physics

2.1.2. Chemical and Materials Engineering:

- 2.1.2.1. Soft Matter, Interfacial Science and Colloids (applicable for General and EWS category only)

Please note applicants with qualifying degree in Chemical Engineering or Materials Science and /or engineering are eligible to apply for the Ph.D. programme in Chemical and Materials Engineering.

2.2. School of Electrical Sciences

2.2.1. Communication and Signal Processing:

- 2.2.1.1. Image Processing, Computational Imaging, Image Restoration, and Inverse Problem (i. Candidate must possess a valid GATE score, ii. Must possess a Programming Aptitude to implement and develop algorithms using MATLAB and Python, iii. Must work experience in Signal/Image Processing with an excellent grasp of Signal Processing concepts, iv. The student may need to go for a research visit to NTU Singapore for two months.)

2.2.2. Power Engineering:

- 2.2.2.1. Modeling of Electrical Machines and Motor Drives (Desirable experience: Experience in finite element modeling of electrical machines, hardware experience in microcontroller coding for brushless motor control using inverters, design of power and sensing circuits for these inverters, and PCB design.). High voltage electrical discharge application, Solar powered high voltage pulsed power supply, Numerical studies in high voltage engineering, Marine diesel exhaust cleaning with non-thermal plasma, Waste water treatment using non thermal plasma.

- 2.2.2.2. Robotic Assistive technology (Robotics and Control). (TAP)

2.2.3. VLSI and Microengineering:

- 2.2.3.1. Digital Circuits/Systems Design, Approximate Computing, Computer Architecture, and Hardware Security.

2.3. School of Mathematics & Computer Sciences

2.3.1. Computer Science and Engineering:

- 2.3.1.1. Logic, Automata, Formal verification.
(CSE discipline has opening under JRF and Institute TA in above mentioned research area)

2.3.2. Mathematics:

- 2.3.2.1. Partial Differential Equations and Numerical Analysis
- 2.3.2.2. Operator algebras and Operator theory.

2.4. School of Mechanical Sciences

2.4.1. Solid Mechanics and Design:

- 2.4.1.1. Mechanics of biological cells, Slamming impact on composites, Mechanics of marine composites, Granular materials, particulate flows, computational modeling of geophysical flows, pedestrian dynamics. (applicable for EWS/OBC/SC/ST category only)
- 2.4.1.2. Multiscale Modeling of Failure in Composites (TAP)

2.4.2. Thermo-fluid Science:

- 2.4.2.1. Development of computational fluid dynamics models for turbulent reacting flows, thermoacoustics instability, Viscoelastic flows. (applicable for EWS/OBC/SC/ST category only)
- 2.4.2.2. Large eddy simulation of turbulent flows (applicable for SC/ST category only)
- 2.4.2.3. Computational fluid dynamics models for turbulent reacting flow (TAP)

2.4.3. Industrial Engineering: (applicable for EWS/OBC/SC/ST category only)

- 2.4.3.1. Reliability Engineering, Maintenance Engineering, Industrial Engineering, Design and Analysis of Experiments

2.5. School of Physical Sciences

- 2.5.1. Statistical Physics at the Micrometer scale (Institute TA/JRF).
- 2.5.2. Experimental condensed matter physics. (JRF)
- 2.5.3. High Energy Nuclear Physics (TAP) (minimum of six-month research experiences is required)

3. Schedule of Ph.D. Admissions

The schedule for the written exam/interview will be informed to the shortlisted candidates via e-Mail.

4. General Instructions

Candidates are required to apply ONLINE. No downloadable forms are available.

4.1. Instructions for Application Fee Payment

4.1.1. The application fee is as follows:

Female candidates	: ₹ 50/-
SC/ST/PwD/EWS Category candidates	: ₹ 50/-
All other candidates	: ₹ 100/-

The fee can be paid by NEFT/RTGS online payment system. The details of the institute bank details are:

Bank Name	: Union Bank of India
Account Name	: Student Fee Account IIT Goa
Account Number	: 520101260768219
Branch	: Farmagudi
IFSC	: UBIN0913286

Candidates are required to enter valid UTR/ITR/Transaction Number and transaction date in the online application form. The application fee is non-refundable.

4.1.2. How to Apply

Please read the instructions and proceed for [online application portal](#)

1. For New Registration Click on New User Registration.
2. Fill with your valid email ID.
3. Fill the branch applying for (Fill separate applications for different programme).
4. Please click on submit, you will be redirected to login page.
5. Please login to the portal.
6. Candidates are required to fill details as given in the form and save the form.
7. Candidates are required to upload the recent Passport Photograph (Maximum 200KB), scanned copy of Signature (Maximum 12KB), detailed CV, and Mark sheets as per eligibility (Maximum 400KB). The CV should mention the projects completed (bachelors and masters) and awards/recognition you received.
8. The system will not allow you to Submit the application without filling payment details.
9. Please fill the payment details carefully (see the corresponding section); once filled cannot be edited.
10. After filling all the details, please Preview and Submit your application form. After Final Submission, the system will not allow any further editing.

IIT Goa will provide off-campus hostel accommodation to all Ph.D. students.

Meeting the basic eligibility criteria listed in the advertisement doesn't guarantee that the candidate will be shortlisted for the test/ Interview. The decision of the admission committee in this regard will be treated as final.

For any academic query, please mail to academic_query@iitgoa.ac.in and for any technical issue, please mail to phd_tec_issue@iitgoa.ac.in

