

Scheme For
**Direct Admission to Ph.D. Programme for Graduating
B.Tech. Students of NITs**

with

Brief Summary of
Doctoral Programs



Indian Institute of Technology Jodhpur

1. Objective and Highlights of the Scheme

In pursuit of excellence, direct admission to Ph.D. Programmes are offered by IIT Jodhpur for meritorious B.Tech. students of various National Institutes of Technology (NITs). The students having CGPA of 8.0 or above and in top 10 ranks in their class **after 7th semester will be offered direct admission to Ph.D. programme** without any need to appear and qualify GATE or a written examination. The selection could be done by a quick online/in-person interview, or direct admission offers can be made.

Eligibility Criteria for Direct Admission to Ph.D. at IIT Jodhpur

- Top 10 rank in their respective batch of the program at NIT
- CGPA of 8.0

One-Time Application Fee (Non-Refundable):

- Rs. 5000/- (It will be adjusted as part of academic fee after admission)

Other Aspects:

- To enable this scheme, a memorandum of understanding (MoU) between respective NIT and IIT Jodhpur may be signed for various collaborative academic and research activities in the areas of mutual interest.
- The Direct Ph.D offers will have **option for both M.Tech. and Ph.D. degrees** at the end of their graduation, apart from Ph.D. alone.
- Collaboration will be encouraged in the domains/disciplines of mutual interest between faculty from NIT and IIT Jodhpur such as writing joint project proposals.
- For early Ph.D. program, students (after 5th semester) will be provided hostel accommodation in IIT Jodhpur Campus. These students will participate in research/project/internship activities.

Online Application Link: https://erponline.iitj.ac.in/Admission/index?admiss_ch=62

(for technical assistance, applicants can contact us at erp@iitj.ac.in)

In addition, interested and eligible NIT students can also be considered for early admission to the Ph.D. programme after their 5th semester and may be offered internship opportunities, if they meet the above-mentioned eligibility criteria after their 5th semester. For the same, NIT students can apply for early admission to Ph.D. with possibility of a project/internship during their last two semesters at IIT Jodhpur.

Details of Departments, Schools, Centres, Research Activities can be found at our webpage (<https://www.iitj.ac.in/>). Overview of the Ph.D. programs at IIT Jodhpur relevant for this scheme and other crucial aspects are briefly summarized in the following sections.

2. Overview

In continuation of its mission of conducting high-quality research, IIT Jodhpur has designed its doctoral programs systematically and comprehensively with a clear vision towards developing the research eco-system including all UG, PG, and Ph.D. students, to produce highly trained research manpower, and to be known as an institute for impactful and translation research. Based on the philosophy of outcome-driven education, to build a strong foundation of knowledge, and to meet the technological challenges, the institute has introduced these programs with a nice blend of a strong foundation of knowledge and the development of a targeted skill set relevant to the industry using the state-of-the-art infrastructural facilities and cutting-edge research platform. In this direction, the institute has repositioned its doctoral programs introducing a new interdisciplinary approach and platforms, new programs, enhancing the rigor of the training process for the doctoral candidates, and also put forward a deliberate effort towards translation of the research output. Ph.D. programs have been conceived and designed in a way so that they will have the desired emphasis on translational R&D, innovation, technology management, and entrepreneurship aspects to work upon for realizing the deployable techniques, technologies, devices, and systems, for sustainable future.

Towards enhancing the rigor of training of the doctoral candidates the institute has developed appropriate regulations to be followed during the Ph.D. tenure of the candidate at IIT Jodhpur. Carefully designed separate academic credit requirements have been set for regular and interdisciplinary doctoral programs to gain the required knowledge in the area. To maintain the quality of students throughout the program, the continuation criteria and eligibility for assistantship after each semester as well as at the end of the course work has been established. In addition to these requirements, students are also required to successfully present and defend their work in an annual progress monitoring meeting through a poster presentation open to all, and successfully complete a qualifier requirement including four different components- coursework, comprehensive examination, state-of-the-art seminar, research proposal- with rigorous assessment. These regulations have significantly promoted the high standards of doctoral research.

To meet the technological challenges and to address the translational research in campus, the institute has created an interdisciplinary platform to offer doctoral degrees. Innovative in nature, the platform is aimed to support the vision of creating eco-system for competitive and cutting-edge research. Currently, IIT Jodhpur is one of the pioneering institutes in the country to offer interdisciplinary doctoral degrees in Digital Humanities, Space Science and Technology,

Quantum Information and Computation, Robotics and Mobility Systems, Smart Healthcare, and Internet of Things and Applications. These inter-disciplinary doctoral programs have emerged as multi-disciplinary initiatives to solve problems that require an integrated approach through fusion of knowledge as well as expertise from multiple fields. The doctoral programs offer unique opportunities to redraw conventional disciplinary boundaries among science, technology, and humanities and social sciences. Doctoral students opting for these programs are contributing towards integrating disciplinary approaches of the respective domains with cross-disciplinary theorizing and research. Students are inducted in the translational doctoral research to establish an efficient research ecosystem. In a nutshell, these interdisciplinary programs have repositioned the doctoral programs of the institute and provided a different dimension to the nature of doctoral research.

The translational advancements are generally based on outcomes of the conventional search of the prior work reported, typically, in conference proceedings and journal articles. Many a times, there are highly important and commercially impactful contributions, and the same is patented. Before starting the research in the chosen direction, it is prudent to do patent landscaping, in addition to the convention search. Among other nuances in the IIT Jodhpur IPR Policy, every doctoral student is expected to conduct a holistic literature search covering all forms of literature including patent documents, and create and formally submit a comprehensive technology landscape on her/his chosen research work. This is an integral part of his/her research work, prior to starting the research, and this has been included as a part of a state-of-the-art seminar - formally starting the research work. It was therefore thought essential to expose all doctoral students to basics of patent searching and how to derive technology-based information from patent documents for the preparation of their respective technology landscapes. In addition to this, a course on patent landscaping is a compulsory course to be taken by all the doctoral students at IIT Jodhpur. This has enhanced the impact of the research efforts of the institute. IIT Jodhpur further extends all support to boost translational research in campus; and in the process implemented several major schemes. The office of R&D provides a one-year fellowship to those doctoral candidates whose thesis work is aligned/projected towards the translational output. This support is available even after submission of the thesis. The student needs to present his/her work and show the translational component in front of the duly constituted expert committee. This scheme has opened up a new avenue in the existing research eco-system of the institute.

In addition to the Ph.D. programs, the institute has also judiciously augmented a range of unique M.Tech.-Ph.D. dual degree programs in specialized areas and as well in some of areas

where there are recent technology disruptions. Presently the institute is offering fifteen such M.Tech.-Ph.D. dual degree programs in Bioscience and Bioengineering, Computer Science and Engineering, Artificial Intelligence, Cyber Physical Systems, Intelligent Communication Systems, Sensors and Internet of Things, Advanced Manufacturing, Thermofluids Engineering, Mechanical Design, Data and Computational Sciences, Communication and Signal Processing, Materials Engineering. Chemical Engineering, Infrastructure Engineering with specialization in Environmental Engineering, Infrastructure Engineering with specialization in Energy. These unique platforms further provide another efficient dimension to the research eco-system of the institute.

The students under this direct admission scheme for NITs can avail these opportunities.

3. List of Ph.D. Programs (2024-25)

The aim of the Ph.D. Program is to develop graduates having good knowledge and research training in classical and emerging areas. **IIT Jodhpur hosts Ph.D. program in all areas of technology, engineering, sciences, liberal arts, management and entrepreneurship**, which includes following.

Departments/Schools:

1. Artificial Intelligence and Data Science
2. Bioscience and Bioengineering
3. Chemistry
4. Chemical Engineering
5. Civil and Infrastructure Engineering
6. Computer Science and Engineering
7. Electrical Engineering
8. Liberal Arts
9. Mathematics
10. Management and Entrepreneurship
11. Mechanical Engineering
12. Metallurgical and Materials Engineering
13. Physics
14. Design

Centres:

1. Centre for Emerging Technologies for Sustainable Development
2. Centre for Education & Technology for Education
3. Centre for Mathematical and Computational Economics

4. Centre for IITJ-AIIMSJ Med.-Tech.
5. Centre for AIoT and Applications

Inter-disciplinary Areas:

1. Digital Humanities
2. Quantum Information and Computation
3. Robotics and Mobility Systems
4. Smart Healthcare
5. Space Science & Technologies
6. Rishabh Centre for Research and Innovation in Clean Energy

4. Financial Assistance and Key Guidelines

1. For the scheme of direct admission for NIT Students, the non-refundable admission **fee of Rs. 5000/- will be adjusted as part of academic fee** after admission, eventually making **it NIL as application fee**. For students taking admission and then withdrawing, this fee will be forfeited.
2. Candidates admitted to Ph.D. Program (Regular) will be eligible for MoE scholarship.
3. Further, the regular Ph.D. students will also be allowed **a partial financial support of Rs. 25,000/- as contingency grant** including travel for attending and presenting a paper in a National Conference/workshop/Symposia/Workshop/Seminar or for field work.
4. Additional financial support to present high quality research work in National and International Conferences of repute. The regular Ph.D. students will be allowed **a partial financial support up to Rs. 1.00 lakh for attending and presenting a research paper** in an International conference of repute once during the program. **In exceptional cases, the Institute may provide a partial financial support up to Rs. 2.00 Lakhs** for presenting high quality research work in an International Conferences of repute.
5. In addition to the regular assistantship through funding agencies, **Ph.D. students will also be eligible for a top-up amount of upto Rs. 40000 per month depending on the availability of projects** with Supervisors and the performance of student in course and research work.

For any general queries related to admissions, please write to admissions@iitj.ac.in. For queries related to Ph.D. programs, please write to office_academics_pg@iitj.ac.in.