



राष्ट्रीय प्रौद्योगिकी संस्थान जमशेदपुर  
जमशेदपुर -831014 , झारखण्ड , भारत

**National Institute of Technology Jamshedpur**  
**Jamshedpur- 831014, Jharkhand, India**



# INFORMATION BROCHURE

**FOR SPOT ROUND ADMISSION TO**

**Ph.D PROGRAMME**

**ACADEMIC SESSION 2025-26**

**(AUTUMN SEMESTER)**



राष्ट्रीय प्रौद्योगिकी संस्थान जमशेदपुर  
जमशेदपुर -831014 , झारखण्ड , भारत  
**National Institute of Technology Jamshedpur**  
**Jamshedpur- 831014, Jharkhand, India**

Ref. No. NITJSR/ACD/2025/208

Dated: 28/08/2025

NOTICE – S – 37/2025

**Spot Round Admission to Ph.D. Programme for Autumn Semester AY 2025-26**

Link for online application: <https://online.nitjsr.ac.in/phd2025spot>

## INFORMATION BROCHURE

### 1. About the Institute

National Institute of Technology (NIT) Jamshedpur is an Institution of National Importance set up by an Act of Parliament (Act 29 of 2007) namely, the National Institutes of Technology Act, 2007. As per the provisions of the said Act, NIT Jamshedpur offers academic programmes: B. Tech., M. Tech., MCA, M. Sc., M.Des and Ph.D. in various disciplines. NIT Jamshedpur has well qualified and experienced faculty and dedicated supporting staff.

### 2. Admission to Spot Round Ph.D. Programme for Autumn Semester AY 2025-26.

#### 2.1 Name of the Departments offering the Ph.D. Programme and Research Areas

Sl. No.	Name of the Department	Broad Research Areas offered for all PhD Programmes in the Department
1	Civil Engineering (CE)	Structural Engineering, Concrete Technology, Earthquake Engineering, Offshore Structure, Soil Structure Interaction, Geotechnical Engineering, Vibration and Stability, Stability Analysis, Foundation Engineering, Ground Improvement, Reinforced Earth, Geo-Environmental Engineering., Geo-synthetics Engineering, Transportation Engineering, Pavement Design, Traffic Engineering, Water Resources Engineering, Open Channel Hydraulics, Hydrology, Water Structure Interaction, Water Resource Managements, Computational Fluid Dynamics. Development of alternative road materials and charging of electric vehicles during running on roads.
2	Computer Science and Engineering (CS)	Supply Chain Management, Data Mining, Computational Complexity, Software Engineering, Soft Computing, system reliability modeling and analysis, software reliability, machine learning, pattern recognition, data analytics, IOT, Network Security, Image Processing, Comp Networks, Database Analysis, Machine learning, Pattern Recognition
3	Electrical Engineering (EE)	Control Systems, Power Systems, Power Electronics, Power System Protection, Renewable Energy Systems, Electrical Machines and Drives, Control of Robotic manipulators and drones, Electric Vehicles, FACTS, artificial intelligence and machine learning and HVDC, smart grid and micro grid.
4	Electronics and Communication Engineering (EC)	Communication Systems, Computer Networking, MEMS Microelectronics & VLSI Design, Circuit & Devices, Signals & System, Image Processing, Microwave, Antenna and R/F Engineering, Embedded System & IoT, Soft Computing, Industrial Electronics & Drives, Artificial Intelligence, Nanotechnology, Micro/Nano Sensor, Underwater Communication, Wireless Sensor Network.
5	Mechanical Engineering (ME)	Machine Design: Composite Materials, Vibrations and Dynamics, Failure and Fracture Mechanics, Biomechanics, Design and Dynamic analysis of Mechanical Systems, Structural Mechanics, Robotics and automation, Noise control, CAD /CAM, FEM, Value Engineering, TPM, TQM and SCM Thermal Engineering: Heat & Mass Transfer, Solar Energy and other

		Renewable Energy, Energy Systems, I.C. Engines, Gas turbines, Refrigeration and Air-Conditioning, Thermo-Fluids, Nano-fluids, Rheology, Turbo-machines, CFD, Tribology, Design- Composites Structures, Bio-implants,
6	Metallurgical and Materials Engineering (MM)	Physical Metallurgy, Phase Transformation, Extractive Metallurgy, Surface Engineering, Biomaterials, Rapid solidification, Nanotechnology, Powder Metallurgy, Mineral Beneficiation, Functional Materials and High temperature materials Ceramics, Polymers and Composites.
7	Production and Industrial Engineering (PI)	Manufacturing Processes, Product Design and Development, CAD/CAM and Robotics, Industrial Engineering and Management, Advanced Materials, Manufacturing Systems Engineering, Energy Management, Non-traditional Manufacturing, Supply Chain Management, Operation Research/Operations Management, Decision Making, Advanced Fusion Welding, Process Monitoring and Control, Friction Stir Processing, Artificial Intelligence.
8	Chemistry (CH)	Organic Chemistry, Analytical Chemistry, Computational Chemistry, Physical Chemistry: Surface Chemistry & Molecular Spectroscopy, Inorganic Chemistry: Organometallics, Homogeneous & Heterogeneous Catalysis, Environmental Chemistry: Waste Disposal Management, Aerosols, Decontamination of Water & Atmospheric Chemistry, Materials Science: Nanomaterials and Alternative Energy Materials.
9	Humanities, Social Sciences and Management (HS)	Literature, Financial Inclusion, Micro-Finance, Financial Wellbeing, Ethics, Policy Studies, Livelihood, Sustainable Finance, Entrepreneurship, Marketing Management, Strategic Management, General Management, Stress Management, Organizational Behaviour, Change Management, Organizational Development, Leadership Development, Emotional Intelligence, Human Resource Management, Strategic Human Resource Management, Mindfulness & Resilience, Conflict Management, Industrial Relations, Employee Welfare & Administration, Compensation Management, Labour Laws, Yoga and Science of Living Systems, Workplace Spirituality, Workplace Deviance & Bullying, Mental Health, Human Psychology, HR Analytics, AI in HR, Blockchain Technology in HR, Innovation, Competition Policy, Public Policy, Economics of Strategy, CSR & Corporate Governance, ICT in ELT, Bilingualism and Multilingualism, Assessment and Evaluation, Critical Pedagogy, English Language Creativity, Second Language Acquisition, Task-based Language Teaching, Folk Studies, Contemporary Dalit Literature, and Gender Studies.
10	Mathematics (MA)	Operation Research, Statistics, Complex analysis, Special functions, Linear algebra, Matrix theory, Control theory, Integral Equations. Fluid dynamics, Sediment transport, Magneto hydrodynamics, Numerical analysis, Cryptography, Network security, Commutative and Computational algebra. Differential Equations. wavelet methods
11	Physics (PH)	Laser Applications, Nuclear Physics, Experimental condensed matter physics (magnetism, strongly correlated system), Nano- materials and molecular spectroscopy, Computational Physics, Functional Materials, Cosmology and Astrophysics

## 2.2 Specific Area of Research (see Annexure-II)

**Note: Further details about department specific specializations and notifications can be found on departmental webpage from the institute website. Research area is indicative only and subject to willingness and availability of the supervisor.**

## 2.3 Categories of Ph. D. Programme

### (a) Full-Time Registration Programme (FRP)

#### i. Institute Sponsored Full-Time Registration Programme (IS-FRP)

Research scholars under this category are entitled for fellowship from the Institute as per Ministry of Education (MoE) norms. The candidate must have qualified GATE/NET or any other equivalent examination recognised by MoE for award of fellowship. Reservations for SC/ST/OBC/PWD/EWS are applicable as per GoI norms only for this category.

#### ii. Project Sponsored Full-Time Registration Programme (PS-FRP)

Research scholars under this category who receives financial support from CSIR/UGC/DST/AICTE/ QIP Scheme or any other equivalent fellowship scheme recognized by GoI or from Institutions/Organizations/Industries under study leave/sponsored project fellows (JRF) of NIT Jamshedpur.

Foreign students under this category shall be sponsored by their Government or by Govt. of India (ICCR/Ministry of External Affairs (MEA)/ Study-in-India, New Delhi or other such organizations/agencies).

#### iii. Self-Sponsored Full-Time Registration Programme (SS-FRP)

Research scholars under this category support themselves financially during entire period of PhD.

#### iv. Direct Full-Time Registration Programme (DR-FRP)

Research scholars under this category gets an opportunity to earn a doctorate just after the Four Year Bachelor's degree in Humanities/Social Sciences/Management/ Literature/ Engineering/Technology/Science/ Computer application.

Research scholars under this category are entitled for fellowship from the Institute as per Ministry of Education (MoE) norms. The candidate must have qualified GATE/NET or any other equivalent examination recognised by MoE for award of fellowship. Reservations for SC/ST/OBC/PWD/EWS are applicable as per GoI norms only for this category. Research scholars under this category have to do the additional course work as per the rules.

### (b) External Registration Programme (ERP)

#### i. Self-Sponsored External Registration Programme (SS-ERP)

Research scholars under this category are those who are regular working/non-working personnel of Institutions/Defense research/R&D/Industries/Regular faculty members. Research scholars under this category support themselves financially during entire period of PhD.

#### ii. Direct External Registration Programme (DR-ERP)

Research scholars under this category gets an opportunity to earn a doctorate just after the Four Year Bachelor's degree in Humanities/Social Sciences/Management/ Literature/ Engineering/Technology/Science/ Computer application.

Research scholars under this category are those who are regular working/non-working personnel of Institutions/Defense research/R&D/Industries/Regular faculty members. Research scholars under this category support themselves financially during entire period of PhD. Research scholars under this category have to do the additional course work as per the rules.

#### iii. Faculty/Staff/Sponsored Project Fellow of NIT Jamshedpur (FS-ERP)

Regular faculty members, regular staff members and sponsored project fellows of NIT Jamshedpur are eligible for admission to Ph. D program in concerned or other Departments.

#### Note:

All Research scholars under External Registration Programme (ERP) category may avail the provision of Joint Guidance from the parent organization. They shall be required to furnish No Objection Certificate (NOC) from their employer. Non-working personal need not to produce NOC.

## 2.4 Eligibility

All candidates seeking admissions in the doctoral programme shall have to possess requisite Marks/grades in qualifying examinations as enlisted below.

### A. Ph.D. in Engineering/Sciences

Master's Degree in Engineering/Technology/Science/Management/Computer Application with minimum 60% marks or equivalent Cumulative Grade Point Average (CGPA) / Cumulative Performance Index (CPI) 6.5.

OR

Four year Bachelor's degree in Engineering/Technology/Science/Management/Computer Application with minimum 80% marks or equivalent Cumulative Grade Point Average (CGPA) / Cumulative Performance Index (CPI) 8.5.

OR

Applicants under External Registration Programme (ERP) having more than 5 years' of experience should have minimum 60% of marks or Cumulative Grade Point Average (CGPA)/Cumulative Performance Index (CPI) 6.5 at Four year Bachelor's degree in Engineering/Technology/Science/ Computer application.

### B. PhD in Humanities, Social Sciences and Management

Master's Degree in Humanities/Social Sciences/Management/ Literature/ Engineering/Technology/ Science/ Computer application with a minimum 60% marks or equivalent Cumulative Grade Point Average (CGPA) / Cumulative Performance Index (CPI) 6.5.

OR

Four year Bachelor's degree in Humanities/Social Sciences/Management/ Literature/ Engineering/Technology/Science/ Computer application 80 % marks or equivalent Cumulative Grade Point Average (CGPA) / Cumulative Performance Index (CPI) 8.5.

OR

Applicants under External Registration Programme (ERP) having more than 5 years' of experience should have minimum 60% of marks or Cumulative Grade Point Average (CGPA)/Cumulative Performance Index (CPI) 6.5 at Four year Bachelor's degree in Humanities/Social Sciences/ Management/ Literature/ Engineering/Technology/Science/Computer application.

## 2.5 Vacancy

Vacancy in various department under Institute Sponsored Full-Time Registration Programme (IS-FRP) and Direct Full-Time Registration Programme (DR-FRP) are given below.

Department	CH	CE	CS	HS	EC	EE	MA	ME	MM	PI	PH	Interdisciplinary*	Total
Vacancy	6	12	6	0	10	10	2	23	11	10	6	11	107

*\* Interdisciplinary is optional for candidates. They may give their choice (Yes/No) in the application form.*

*\*Interdisciplinary is for IS-FRP and DR-FRP category only. Interdisciplinary research area requires maximum two faculty members to join together to supervise the PhD work of a student (one main supervisor and co-supervisor) from other departments (not from the same department) or equivalent academic/research Institutes/organizations (national/international), not from the Private Institutions/Organizations.*

### 3.0 Selection Procedure

Candidates who possess qualifications as laid down in Section 2.4 are eligible for admission to the PhD program on the basis of:

Written Examination and interview conducted by the Institute/Department/Centre with the weightage as:

- i. Written Examination– 50%
- ii. Interview–30%
- iii. Academic credentials – 20%

The selection procedure for admission to Doctoral Programme is based on consistently good academic record throughout and test/interview performance. Reservations for SC/ST/OBC/PWD/EWS are applicable as per Gol norms.

All candidates seeking admission to Doctoral Programme should fulfill the appropriate standards of medical fitness. The Institute Medical Board's opinion in regard to the medical fitness of a candidate shall be final.

### 4.0 How to Apply

The candidates are advised to fill their application form only through online mode and pay the requisite fee through SBI Collect.

The online application form and the information brochure for admission to Ph.D. programme are available at <https://online.nitjsr.ac.in/phd2025spot> in the institute website [www.nitjsr.ac.in](http://www.nitjsr.ac.in)

#### Application Fee

Full-Time Registration Programme (FRP)	Rs. 1,000/- for OPEN/OBC/ EWS candidates Rs. 500/- in the case of SC/ST/PWD candidates.
External Registration Programme (ERP)	Rs. 1,000/- for all

- The candidates who are employed and wish to do Ph.D. must submit SPONSORSHIP/ NO OBJECTION CERTIFICATE from the employer at the time of admission, without which admission will not be possible.
- The following documents are required while filling the application form:
  - ✓ Proof of Payment
  - ✓ Self-attested copy of SSC in support of Date of Birth
  - ✓ Self-attested copy of intermediate /(10+2) Certificate
  - ✓ Self-attested copies of Degree certificates and Mark sheets of all the qualifying examinations
  - ✓ Self-attested copy of the caste certificate (in case of SC/ST candidates)
  - ✓ For OBC candidates, self-attested copy of OBC certificate issued after 31/03/2025 only as per the format given in the Annexure-I is accepted
  - ✓ Candidates with 40% and more physical disability, would be considered as PwD Candidates
  - ✓ Self-attested Proof documents of GATE/NET or any other equivalent examination recognized by MoE for award of fellowship
  - ✓ Self-attested Proof documents of CSIR/UGC/DST/AICTE/ QIP Scheme or any other equivalent fellowship scheme
  - ✓ Self-attested copy of EWS certificate issued after 31/03/2025 by the competent authority.
  - ✓ Self-attested Proof documents of ICCR/MEAs/Study in India etc. (if any)
  - ✓ List of publications (if any)



## 5.0 Important Dates

Advertisement on the Institute website	28/08/2025 (Thursday)
Last date for receipt of application forms	08/09/2025 (Monday)
Date of written test and interview at NIT Jamshedpur	09/09/2025 (Tuesday)
Date of announcement of results	10/09/2025 (Wednesday)
Date of admission	10/09/2025 (Wednesday)
Commencement of Classes for Autumn Semester	11/09/2025 (Thursday)

**Note: Students may require staying one more day if interview is not completed on scheduled date.**

## 6.0 GENERAL INSTRUCTIONS

- Link for online application: <https://online.nitjsr.ac.in/phd2025spot>
- Candidates should specify broad areas of research in the application form.
- **All candidates seeking admission to Ph. D. Programme are required to fill and upload their application from (online) along with all required documents by 08/09/2025 (Monday). To attend Written Test and Interview on 09-09-2025 need produced hard copy of application form (online) along with all the relevant documents.**
- Non-working personal need not to produce NOC under ERP category.
- If a candidate is applying in more than one department, then he/she should fill separate application forms with the prescribed application fee for each department separately.
- List of short-listed candidates for the written test and interview will be uploaded on the Institute website only.
- The candidates are required to visit our website for fee structure/faculty expertise etc. and also advised to visit our website regularly for updated information about the admission to Ph.D. Programme for AY 2025-26.
- No separate interview letter / communication will be sent to any individual.
- All candidates selected for admission shall be required to deposit the fee as per the fee structure applicable at the time of admission.
- Candidates need not to send the hard copy of applications.
- For any technical query, contact at [phdadmission@nitjsr.ac.in](mailto:phdadmission@nitjsr.ac.in)
- For any administrative query, contact at [dean.ac@nitjsr.ac.in](mailto:dean.ac@nitjsr.ac.in)
- **It is the responsibility of the candidate, to ensure that he/she satisfies all eligibility criteria for a particular programme, as mentioned in this information brochure.**

**Proforma for Other Backward Class (OBC Certificate)****(CERTIFICATE TO BE PRODUCED BY OTHER BACKWARD CLASSES APPLYING FOR ADMISSION TO CENTRAL EDUCATIONAL INSTITUTIONS (CEIs), UNDER GOVERNMENT OF INDIA)**

This is to certify that Shri/Smt./Kum. \_\_\_\_\_ Son/Daughter of Shri/Smt. \_\_\_\_\_ of Village/Town \_\_\_\_\_

\_\_\_\_\_ district/Division \_\_\_\_\_

\_\_\_\_\_ in the \_\_\_\_\_ State belongs to the \_\_\_\_\_

\_\_\_\_\_ Community which is recognized as a backward class under:

- i) Resolution No. 12011/68/93- BCC(C) dated 10/09/93 published in the Gazette of India Extraordinary Part I Section I No.186 dated 13/09/93.
- ii) Resolution No. 12011/9/94-BCC dated 19/10/94 published in the Gazette of India Extraordinary Part I Section I No. 163 dated 20/10/94.
- iii) Resolution No. 12011/7/95-BCC dated 24/05/95 published in the Gazette of India Extraordinary Part I Section I No. 88 dated 25/05/95.
- iv) Resolution No. 12011/96/94-BCC dated 09/03/96.
- v) Resolution No. 12011/44/96-BCC dated 6/12/96 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 11/12/96. vi) Resolution No. 12011/13/97-BCC dated 03/12/97.
- vi) Resolution No. 12011/99/94-BCC dated 11/12/97.
- vii) viii) Resolution No. 12011/68/98-BCC dated 27/10/99.
- ix) Resolution No. 12011/88/98-BCC dated 6/12/99 published in the Gazette of India Extraordinary Part I Section I No. 270 dated 06/12/99.
- x) Resolution No. 12011/36/99-BCC dated 04/04/2000 published in the Gazette of India Extraordinary Part I Section I No. 71 dated 04/04/2000.
- xi) Resolution No. 12011/44/99-BCC dated 21/09/2000 published in the Gazette of India Extraordinary Part I Section I No.210 dated 21/09/2000. xii) Resolution No. 12015/9/2000-BCC dated 06/09/2001.
- xiii) Resolution No. 12011/1/2001-BCC dated 19/06/2003.
- xiv) Resolution No. 12011/4/2002-BCC dated 13/01/2004.

xv) Resolution No. 12011/9/2004-BCC dated 16/01/2006 published in the Gazette of India Extraordinary Part I Section I No.210 dated 16/01/2006.

Shri/Smt./Kum. \_\_\_\_\_ and/or his family ordinarily reside(s) in the \_\_\_\_\_

\_\_\_\_\_ District/Division of \_\_\_\_\_ State. This is also to certify that he/she does not belong to the Persons/sections (Creamy Layer) mentioned in Column 3 of the Schedule to the Government of India, Department of Personnel & Training O.M. No. 36012/22/93-Estt.(SCT) dated 08/09/93 which is modified vide OM No. 36033/3/2004 Estt. (Res.) dated 09/03/2004 or the latest notification of the Government of India.

**District Magistrate/Competent Authority  
with Seal**

**Dated:**



**NOTE:**

- (a) The term "Ordinarily" used here will have the same meaning as in Section 20 of the Representation of the People Act, 1950.
- (b) The authorities competent to issue Caste Certificates are indicated below:
  - i) District Magistrate / Additional Magistrate / Collector / Deputy Commissioner / Additional Deputy Commissioner / Deputy Collector / 1st Class Stipendiary Magistrate / Sub-Divisional Magistrate / Taluka Magistrate / Executive Magistrate / Extra st Assistant Commissioner (not below the rank of 1 Class Stipendiary Magistrate)
  - ii) Chief Presidency Magistrate / Additional Chief Presidency Magistrate / Presidency Magistrate.
  - iii) Revenue Officer not below the rank of Tehsildar' and iv) Sub- Divisional Officer of the area where the candidate and / or his family resides.
- (c) The annual income /status of the parents of the applicant should be based on financial year ending March 31, 2025.

**Declaration /undertaking - for OBC Candidates only**

I, \_\_\_\_\_ Son/Daughter of Shri \_\_\_\_\_

resident of village/town/city \_\_\_\_\_ district \_\_\_\_\_ State hereby declare that I belong to the \_\_\_\_\_ community which is recognized as a backward class by the Government of India for the purpose of reservation in services admission in Central Government Institutions as per orders contained in Department of Personnel and Training Office Memorandum No. 36012/22/93 – Estt. (SCT), dated 8/9/1993. It is also declared that I do not belong to persons/sections (Creamy Layer) mentioned in Column 3 of the Schedule to the above referred Office Memorandum, dated 8/9/1993, which is modified vide Department of Personnel and Training Office Memorandum No. 36033/3/2004 Estt. (Res.) dated 9/3/2004 or the latest notification of the Government of India.

I also declare that the condition of status/annual income for creamy layer of my parents/guardian is within prescribed limits as on financial year ending on March 31, 2025.

**Place:**

**Signature of the Candidate**

**Date:**

**Declaration/undertaking not signed by Candidates will be rejected**

## **No-Objection Certificate for External Registration Programme (ERP) PhD Category Candidates**

(This should be typed on the letter head of the employee's organization)

Reference No.: .....

Date: .....

To  
The Director  
National Institute of Technology  
Jamshedpur

Sub.: No-Objection Certificate for pursuing External Registration Programme  
(ERP) PhD Category at NIT Jamshedpur

Dear Sir,

We have no objection if Mr./Ms.....an employee of our  
organization/ institute, is admitted to the Ph.D. Programme in the Department of /  
Center for ..... at NIT Jamshedpur as a External Registration  
Programme (ERP) PhD Category student.

It is certified that he/ she has completed ..... year of service in our organization/  
institute as a regular employee.

We shall give him/her leave of absence at our organization to attend classes of course  
work of Ph.D. programme at NIT Jamshedpur.

**Signature & Seal of Head of the Organization/ Institute**