

INFORMATION BROCHURE
Ph.D. ADMISSIONS
JULY - 2025



**NATIONAL INSTITUTE OF
TECHNOLOGY WARANGAL**

<https://www.nitw.ac.in>

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ELIGIBILITY, RULES AND REGULATIONS FOR ADMISSION TO Ph.D. PROGRAM

1. INTRODUCTION

The Ph.D. Programs in Full-time (FT) and Part-time (PT) modes are offered in the following Departments:

1. Civil Engineering
2. Electrical Engineering
3. Mechanical Engineering
4. Electronics and Communication Engineering
5. Metallurgical and Materials Engineering
6. Chemical Engineering
7. Computer Science and Engineering
8. Biotechnology
9. Mathematics
10. Physics
11. Chemistry
12. Humanities and Social Sciences
13. Department of Management Studies

Candidates with GATE/CSIR-UGC-NET/GPAT, including lectureship (Assistant Professorship) qualification, selected for admission to Ph.D under the Full-Time (Institute fellowship) program are eligible to receive Institute fellowship as per Ministry of Education rules.

The Institute fellowships are subject to change from time to time as per the instructions from the Ministry of Education, Government of India.

Category-wise (GEN-EWS, OBC-NCL, SC, ST, PwD), reservations on overall available seats will be followed as per Government of India norms. Online applications are invited from highly motivated candidates.

The application must be submitted online at:

<https://admissions.nitw.ac.in>

- Please read the instructions given in the brochure carefully before filling out the online application form.
- You are required to submit the application only **ONLINE**. After filling out the form, you are advised to take a printout of your application and keep the same for your record.
- Applications without online fee payment details will not be considered.



IMPORTANT DATES:

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| Announcement of inviting applications online: | 10.03.2025 |
| Last date to receive online applications: | 18.04.2025 |
| Announcement of shortlisted candidates for written test/ interview: | 25.04.2025 |
| Dates of written test/ interview: | 12.05.2025 to 16.05.2025 |
| <u>Announcement of Phase I:</u> 1. List of Selected Candidates 2. Online Reporting and Payment of Fee | 23.05.2025 26.05.2025 to 27-05-2025 |
| <u>Announcement of Phase II:</u> (If there are any vacant seats available after Phase I) 1. List of Selected Candidates 2. Online Reporting and Payment of Fee | 30.05.2025 02.06.2025 to 03-06-2025 |
| <u>Announcement of Phase III:</u> (If there are any vacant seats available after Phase II) 1. List of Selected Candidates 2. Online Reporting and Payment of Fee | 06.06.2025 09.06.2025 to 10-06-2025 |

2. ADMISSION CATEGORIES AND ELIGIBILITY CONDITIONS

2.1 Admission Categories: There are two types of admission categories for Ph.D.

Degree Program: full-time and part-time.

Full-time: There are seven categories in the full-time Ph.D. Degree Program.

- a. Full-time student on Institute fellowship. The **maximum age** limit for admission into PhD program under Full-time Institute Fellowship is 30 years for the GEN/ GEN-EWS category, 33 years for OBC-NCL, and 35 years for SC/ST/PwD/Female candidates as of March 10, 2025.
- b. Full-time Government/ Semi-Government Fellowship awardees/ QIP/ FIP (UGC) / CSIR/ UGC/ DOE/ DST/ DBT/ NBHM/ INSPIRE, etc.
- c. Full-time project fellows/ JRF/ SRF were appointed to carry out R&D projects at NITW.
- d. Full-time sponsored student from Industry/ R&D organizations.
- e. Indian Council for Cultural Relations (ICCR) fellowship awardees (Foreign students).
- f. Full-time External (CSIR/ JRF/ SRF Fellows) working in National Research Laboratories/ R&D Organizations having necessary facilities.
- g. Full-time Self-financed (Rules of reservation are not applicable. Master's degree is compulsory, whereas GATE/ UGC/ CSIR/ INSPIRE/ NET/ CAT is not mandatory).

Part-time: There are five categories in the part-time Ph.D. Degree Program.

- h. Permanent faculty from Private Academic Institutions.
- i. Both permanent and contractual faculty from Educational Institutions fully funded by the Government or maintained by Public-Private Partnership (PPP) Mode.
- j. Permanent Employees from Private Industries with R&D facilities with membership in CII/ ASSOCHAM or any other similar membership.
- k. Permanent employees working in Government R&D laboratories/ Government Organizations/ Government Industry/ PSUs/ State Undertakings.



NOTE:

- i) A candidate of category (a) will receive the Institute scholarship for a duration of three years, which may be extendable by two more years, based on the recommendations of the Doctoral Scrutiny Committee.
 - ii) Candidates of category (d) shall be sponsored and financed by the sponsoring organization.
 - iii) Candidates of category (f) shall produce a no-objection certificate from the Organization where he/ she has got a fellowship and also acceptance from a possible supervisor along with biodata from the Organization. There will not be any financial commitment from NITW for candidates under this category.
 - iv) Candidates of category (g) shall produce a No Objection and Sponsorship Certificate from the Organization where he/ she is working.
 - v) A part-time candidate of category (h) shall produce a No Objection Certificate from the present Institute, which should be AICTE recognized.
 - vi) A part-time candidate of categories (i, j, and k) shall produce a No Objection Certificate from the present employer.
 - vii) Change of status from full-time to part-time will be subjected to the approval of the senate based on recommendations of DSC.
 - viii) No student can receive a scholarship/ fellowship from more than one source, either Government or Private.
 - ix) Any candidate of the **PwD** category will only be considered eligible for admission after approval of the Medical Board, duly constituted by the Institute.
- 2.1.1 In the case of candidates of category (a), **GATE** is mandatory, and in case of candidates with M.Sc./ M.Sc.(Tech)/ MBA/ MA/MPHARM qualification **GATE/UGC- CSIR-NET/ GPAT** qualification is necessary.
- 2.1.2 In the case of candidates of categories (d), (e), (f), and (g), **GATE/ UGC- CSIR-NET**, qualification is relaxed. However, they (except category (e)) will be selected through an Institute entrance test and/ or an interview, as per the discretion of the Department.
- 2.1.3 Admission under the category (j and k) is open to Permanent Employees from Private Industries with R&D facilities, Government R&D laboratories/ Government Organizations/ Government Industry/ PSUs/ State Undertakings with B.Tech who have put in at least 5 years of experience or 4 years of experience with M.Tech/ ME/MSc/MBA/MA. The selection of candidates under this category is based on written test and interview.
- 2.1.4 Candidates of all categories must appear for an interview.



2.2 Eligibility:

Engineering Departments:

Candidates with a minimum of 60% aggregate marks or 6.5 CGPA at both UG and PG for GEN/ GEN-EWS/ OBC-NCL category and minimum 55% aggregate marks or 6.0 CGPA at both UG and PG for SC/ ST/ PwD category. **GATE is mandatory for full-time candidates and not mandatory for part-time candidates.**

(OR)

Candidates with Bachelor's degree in Engineering/ Technology **with valid GATE score (not mandatory for part-time)** and at least CGPA of **7.0/10** or 65% of marks under GEN/ GEN-EWS/ OBC-NCL category and at least CGPA of 6.5/10 or 60% under SC/ ST/ PwD category.

Note: Please refer to department-specific qualifications. Departments such as Biotechnology, Chemical Engineering, Metallurgical, and Materials Engineering consider M.Sc. candidates also. However, **GATE/UGC-CSIR-NET/GPAT qualification is mandatory for M.Sc/MPharm candidates.**

Science Departments:

Candidates with Master's degree in the relevant discipline of Science (Mathematics/ Physics/ Chemistry) with a minimum of 60% aggregate marks or 6.5 CGPA at both UG and PG (wherever applicable) for GEN/ GEN-EWS/ OBC-NCL category and minimum 55% aggregate marks or 6.0 CGPA at both UG and PG for SC/ ST/ PwD category. All candidates must have qualified in GATE/ UGC- CSIR- NET/GPAT (**not mandatory for part-time scholars**).

Humanities:

Candidates with a Master's degree in the relevant discipline of English with a minimum of 60% aggregate marks or 6.5 CGPA at UG and PG for GEN/ GEN-EWS/ OBC-NCL category and minimum 55% aggregate marks or 6.0 CGPA at both UG and PG for SC/ ST/ PwD category. All candidates must have qualified in GATE/UGC-NET (**not mandatory for part-time scholars**).

Department of Management Studies:

Candidates with a minimum of 60% aggregate marks or 6.5 CGPA at both UG and PG for GEN/ GEN-EWS/ OBC-NCL category and a minimum 55% aggregate marks or 6.0 CGPA at both UG and PG for SC/ ST/ PwD category in the following:

Master's degree or equivalent in Management/ Social Sciences/ Commerce/ 2-year PGDM/ M.Tech in any specialization/Management/Technology Management/ Entrepreneurship Management/ MSc Statistics / CA/CS/ICWA with CAT/UGC- NET/GMAT/ GRE/ GATE/CSIR NET (Not mandatory for Part-time candidates).



3. DETAILS OF THE FEE

For Full-time and Part-time Candidates:

| S. No. | Details of the fee | Amount (in Rs.) |
|--------|--------------------------|-----------------|
| 1 | Tuition Fee per semester | 15,000/- |
| 2 | *Other Fee | 42,500/- |
| | Total | 57,500/- |

For Full-time Self-Finance Candidates:

| S. No. | Details of the fee | Amount (in Rs.) |
|--------|--------------------------|-------------------|
| 1 | Tuition Fee Per Semester | 50,000/- |
| 2 | Contingency | 10,000/- |
| 3 | *Other Fee | 42,500/- |
| | Total | 1,02,500/- |

*Other Fee Details (Rs. 42, 500/-)

a) Onetime payment at the time of Admission: Rs. 30,000/-

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| i) | Admission fee | : Rs. | 7,500.00 |
| ii) | Identity Card | : Rs. | 500.00 |
| iii) | NITW Alma-mater Fund | : Rs. | 2,000.00 |
| iv) | Institute Development Contribution | : Rs. | 20,000.00 |

b) Other Fee payable per year: Rs. 12,500/-

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| i) | IT User charges | : Rs. | 2,000.00 |
| ii) | Department Society fee | : Rs. | 1,000.00 |
| iii) | Student Activity fund | : Rs. | 1,000.00 |
| iv) | Student Welfare fund | : Rs. | 500.00 |
| v) | Games & Sports Activities | : Rs. | 1,000.00 |
| vi) | Health Services and Insurance | : Rs. | 2,000.00 |
| vii) | Student Library Fund | : Rs. | 2,000.00 |
| viii) | Institute Fests | : Rs. | 1,000.00 |
| ix) | Career Development Activities & Industry Visits: | : Rs. | 2,000.00 |

Convocation and Thesis Fee:

- i. Convocation Fee: Rs. 2,500/- (to be paid at the time of synopsis submission)
- ii. Thesis processing fee: Rs. 5,000/- (charged in Semester V)
- iii. Thesis evaluation fee: Rs. 35,000/- (charged in Semester V)

Note: The selected candidates are required to pay the fee online.



4. INSTRUCTIONS TO APPLY

4.1 Ph.D. Program on Full-Time Basis (with Institute Fellowship & Self-Finance):

The application form is to be submitted online, which is available at <https://admissions.nitw.ac.in>

- All the necessary documents are to be uploaded online.
- **Full-time Basis (with Institute Fellowship):** The proof of payment of the application fee of Rs. 2000/- for GEN/ GEN-EWS/ OBC-NCL and Rs. 1000/- for SC/ ST/ PwD candidates must accompany the application form.
- **For Self-Finance Candidates:** The proof of payment of the application fee (Rs. 2000/- for all the applicants) must accompany the application form.

Note:

- **The Application Fee, once paid, will not be returned under any circumstances.**
- Other payments like mobile payments (IMPS), NEFT, RTGS, and direct transfer will not be accepted. If paid by any chance, it will not be refunded. Do not use mobile applications to make the payment.
- The candidates who are employed and wish to do Ph.D under full-time must enclose a **NO OBJECTION** certificate from the employer.

Checklist of documents to be uploaded along with the application.

- SSC/ Class X certificate in support of Date of Birth.
- Intermediate/ (10+2)/ Class XII certificate.
- Provisional certificate/ Degree certificates and Marks Memos of both UG and PG as applicable.
- Caste certificate (in case of SC/ ST candidates).
- For GEN-EWS candidates, EWS certificate issued on or after **April 1, 2024** as per the format given in the Annexure-I only is acceptable.
- For OBC-NCL candidates, OBC-NCL certificate issued on or after **April 1, 2024** as per the format given in the Annexure-II only is acceptable along with the undertaking.
- No Objection Certificate from the employer issued on or after **10.03.2025** only is acceptable (Annexure-III).
- Relieving certificate from the employer (at the time of admission).
- Photograph on application form.
- Grade/ Rank Card of GATE or UGC-NET or INSPIRE or GPAT or CAT or GMAT or CSIR (as applicable).
- Fee payment receipt with transaction number.
- Statement of Proposal (Research Proposal).
- Any other documents (List of publications, if any).

Note: For the selected candidates, the OBC-NCL/ GEN-EWS certificate issued on or after April 1, 2025, should be produced at the time of physical reporting without fail.



Ph.D. Program on Part-time Basis:

The application form is to be submitted online and is available at <https://admissions.nitw.ac.in>

- All the necessary documents are to be uploaded online.
- The proof of payment of registration fee (Rs. 2000/- for GEN/ GEN-EWS/ OBC-NCL and Rs. 1000/- for SC/ ST/ PwD candidates) must accompany the application form.

Note:

- **The Application Fee, once paid, will not be returned under any circumstances.**
- Other payments like mobile payments (IMPS), NEFT, RTGS and direct transfer will not be accepted. If paid by any chance, it will not be refunded. Do not use mobile applications to make the payment.
- The candidates who are employed and wish to do a Part-time Ph.D must enclose a **NO OBJECTION** certificate from the employer.

Checklist of documents to be uploaded along with the application:

- i. SSC/ Class X certificate in support of Date of Birth.
- ii. Intermediate/ (10+2)/ Class XII certificate.
- iii. Provisional certificate/ Degree certificates and Marks Memos of both UG and PG as applicable.
- iv. No Objection Certificate from the employer issued on or after **10.03.2025** only is acceptable (Annexure-III).
- v. Photograph on application form.
- vi. Fee payment receipt with transaction number.
- vii. Statement of Proposal (Research Proposal).
- viii. Any other documents (List of publications, if any).

Note:

- The candidates selected for admission into the Ph.D program on a part-time basis are not eligible to receive Institute fellowship.

IMPORTANT INFORMATION:

- NIT Warangal is a fully residential Institute. All the admitted Full-time research scholars into NIT Warangal with institute fellowship are required to stay on the campus, and HRA will not be paid.
- Candidates should note that the Institute will neither make any allowances for delays and irregularities in submitting the application.
- If the candidate cancels the seat, the application fee will not be refunded, but the other fee will be refunded as per the institute's refund rules.
- In case the result of the qualifying degree is awaited, provisional admission is permitted to a candidate subject to meeting the above minimum qualifying degree requirements latest by September 30, 2025. In these cases, all exams should have been completed by August



15, 2025. A certificate from the Head of the current institute to that effect should be submitted during certificate verification.

- No working professional shall be admitted as a full-time scholar unless he/she is relieved of his/her duties by his/her present employer and unless a proper relieving and no-objection certificate for pursuing a Ph.D is produced to that effect.
- The short-listed candidates for the written test and interview will be notified on the institute website, and no separate call letters shall be sent to the candidates.
- If any candidate has admitted due to any discrepancies in the processing of the application, the Institute reserves the right to cancel the seat before admission is made final, without payment of any compensation for the inconvenience caused.
- If it is found that any of the applicants admitted to the Institute has either furnished wrong information or tampered with the records, his/her admission is liable to be cancelled at any stage.
- The Institute reserves the right to cancel the admission of any candidate at any stage (even after admission) if any discrepancy is found (or) on the basis of adverse remarks in the Conduct Certificate.
- Wherever ambiguities arise in the interpretation of the Admission Rules, the decision of the Director of this Institute on the matter shall be final.
- The Director is authorized to make appropriate decisions with regard to any other details of admission not covered by the rules listed above.
- The decision of the Institute in all matters will be final and binding on all the applicants who respond to this admissions notification. No interim correspondence or unsolicited query will be entertained from the applicants in connection with the process of scrutiny/selection, including reasons for not being shortlisted for the written test/interview.
- Any legal dispute arising out of this admissions notification is subject to the Courts having jurisdiction over Warangal, Telangana.



5. DEPARTMENT SPECIFIC QUALIFICATIONS & RESEARCH AREAS

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| Department of Civil Engineering | <p>B.Tech/ B.E. or Equivalent degree in any branch of Engineering & Technology and M.Tech/ M.E in a relevant Civil Engineering specialization.</p> <p>(OR)</p> <p>B.Tech/ B.E. in Civil Engineering or Equivalent degree in allied branches with valid GATE score</p> |
| <u>Research Areas</u> | |
| Engineering Structures | Water Resources Engineering |
| Geotechnical Engineering | Construction Technology & Management |
| Environmental Engineering | Geoinformatics |
| Transportation Engineering | Waste Management |

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| Department of Electrical Engineering | <p>B.Tech/ B.E. or Equivalent degree in Electrical Engineering or Electrical and Electronics Engineering and M.Tech/ M.E in Electrical Engineering or allied Specializations in broad research areas mentioned below.</p> <p>(OR)</p> <p>B.Tech/ B.E or Equivalent degree in Electrical Engineering or Electrical and Electronics Engineering with valid GATE score.</p> | |
| <u>Research Areas</u> | | |
| Power Electronics & Drives | Smart Grid Technologies | Power Systems Engineering |
| Power Driver for LED Lighting Systems | Wide Area Control of Power Systems | FACTS/ HVDC Control |
| Motor Drives (SRM/IM/BLDC/PMSM) | Renewable Energy Sources | Power Quality |
| Multi-Level Inverters | Electricity Market Modeling, Risk Optimization Ancillary Service Market | Power System Stability and Security |
| Pulsed Power Technology | Grid Integration of Large Scale Distributed Energy Resources | Real Time Control of Power Systems |
| EV Technologies | Power System State Estimation | Power System Protection |
| High frequency Inverters for Induction heating systems | AI Techniques in Power Systems | Power System Deregulation |
| Bidirectional Power Converters & Energy Storage Systems | Control & Instrumentation | High Voltage Engineering |
| Multifunctional Grid Tied Inverter Configurations & Control Strategies | DATA Science Application in Power Engineering | Condition Monitoring of Power Equipment |



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| Department of Mechanical Engineering | B.Tech/ B.E or Equivalent degree in Mechanical Engineering/ Production Engineering/ Industrial Engineering/ Mechatronics/ Automobile Engineering/ Aeronautical Engineering/ Marine Engineering and M.Tech/ M.E. in Mechanical Engineering allied areas and specializations within the broad research areas mentioned below. | |
| | (OR) | |
| | B.Tech/ B.E or Equivalent degree in Mechanical Engineering/ Production Engineering/ Industrial Engineering/ Mechatronics/ Automobile Engineering/ Aeronautical Engineering/ Marine Engineering with valid GATE score | |
| <u>Research Areas</u> | | |
| Automobile Engineering | Modeling of IC Engines | Micro-combustors |
| Materials Technology | Machine Design | Tribology |
| Topology and Shape Optimization | Isogeometric FEA | AI for Design |
| Robotics | Manufacturing Engineering | Modern Machining Processes |
| Thermal Engineering | CFD | Battery Thermal Management Systems |
| Mechatronics | Fluid Mechanics | Additive Manufacturing |
| Industrial Engineering and Management | Entrepreneurship | Friction Stir Welding |
| Processing Renewable Fuels | Energy Studies | |

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| Department of Electronics and Communication Engineering | B.Tech/ B.E or Equivalent degree in Electronics and Communication Engineering and M.Tech/ M.E. in Electronics and Communication Engineering or equivalent with Research areas in Communication/ VLSI/ Instrumentation. | |
| | (OR) | |
| | B.Tech/ B.E or Equivalent degree in Electronics and Communication Engineering with valid GATE score | |
| <u>Research Areas</u> | | |
| Radar Signal Processing | VLSI Architectures, MOS Devices, On-chip Circuits | Speech Processing |
| RFIC, MMIC for 5G, MW Active and Passive Circuits | Nano Electronics & Devices | Embedded Systems |
| Antennas, Antenna Arrays | Visible Light Communications | Bio-medical Engineering |
| MIMO Antennas & Beam forming, Smart Antennas | Optical Signal Processing | Process Control Design |
| 5G, MIMO, MMIMO | Cognitive Radio | Image & Video Processing |
| Wireless Ad-hoc & Sensor Networks | AI, ML, DL, IoT & Security | |



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| Department of Metallurgical and Materials Engineering | <p>B.Tech/ B.E or Equivalent degree in Metallurgical & Materials Engineering/ Mechanical Engineering and M.Tech/ M.E in Metallurgical and Materials Engineering and related fields.</p> <p style="text-align: center;">(OR)</p> <p>M.Sc. in Physics/ Chemistry/ Materials Science/ Electronics/ Nanoscience and Nanotechnology with M.Tech. in Materials Science/ Metallurgy/ Nanoscience and Nanotechnology/ Ceramic Engineering/ Surface Engineering.</p> <p style="text-align: center;">(OR)</p> <p>B.Tech. or B.E or Equivalent degree in Metallurgical & Materials Engineering/ Mechanical Engineering with valid GATE score</p> <p style="text-align: center;">(OR)</p> <p>M.Sc. in Physics/ Chemistry/ Materials Science/ Polymer/ Electronics/ Nanoscience and Nanotechnology/ Ceramic Engineering/ Surface Engineering and relevant area with GATE/ NET qualification.</p> |
| | <u>Research Areas</u> |
| Physical Metallurgy | Surface Engineering |
| Powder Metallurgy | High Temperature Corrosion and Oxidation |
| Welding Metallurgy | Fatigue and Fracture Mechanics |
| Structure Property Correlation | Environmental Degradation of Materials |
| Special Steels/ High Temperature Materials | Ceramics, Polymers and Composites |
| Severe Plastic Deformation | Biomaterials |
| Materials for Extreme Environments | Nano Materials |
| Smart Materials | 3d Printing |
| Non-Destructive Evaluation | Ultra-Fine Grain Materials |

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| Department of Chemical Engineering | <p>B.Tech/ B.E or Equivalent degree in Chemical Engineering/ Mechanical Engineering/ Biotechnology/ Civil Engineering / Metallurgy /Petrochemical Engineering/ Petroleum Technology/ Nanotechnology/ Instrumentation and Control Engineering/ EEE/ Electrochemical Engineering/ Electronics & Communication Engineering / Electronics & Instrumentation/ Chemical Technology/ Polymer Technology/ Biochemical Engineering/ Energy Engineering/ Environmental Engineering/ Agricultural Engineering and allied disciplines and M.Tech. or M.E in Chemical Engineering/ Mechanical Engineering/ Biotechnology/ Petrochemical Engineering/ Petroleum Technology/ Process Control and Instrumentation/ Control Systems/ Polymer Technology/ Biochemical Engineering /Energy Engineering/ Nanotechnology/ Environmental</p> |
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| | <p>Engineering and allied areas. (OR) B.Tech/B.E. or Equivalent degree in Chemical Engineering/ Mechanical Engineering/ Biotechnology/ Civil Engineering / Metallurgy /Petrochemical Engineering/ Petroleum Technology/ Nanotechnology/ Instrumentation and Control Engineering/ EEE/ Electrochemical Engineering/ Electronics & Instrumentation/ Chemical Technology/ Polymer Technology/ Biochemical Engineering/ Energy Engineering/ Environmental Engineering/ Agricultural Engineering and allied disciplines with valid GATE score (OR) M.Sc (Chemistry, Physics, Material Science, Environmental Science, Polymer Science, Biotechnology, Nanotechnology, Agriculture and allied areas), M.Pharm. The candidate should have GATE/CSIR/UGC NET/GPAT/DST-Inspire Fellowship.</p> |
| <u>Research Areas</u> | |
| Biomass Gasification | Fuel Cells, Batteries and Supercapacitors |
| Hydrogen generation and storage | Membrane processes |
| Bioreactors | Electronic waste recycling |
| Reactive Distillation | Chemical process scheduling |
| Microfluidics | Multiphase flows |
| Interfacial Science | Chemical reactor analysis and design |
| Wastewater Treatment | Sustainable and energy efficient technologies |
| Microreactors | Process control |
| Process Intensification | Nonlinear analysis |
| Nanotechnology & Nanomaterials | Computational Fluid Dynamics |
| Fluidized Bed Operations | Bioenergy & Biofuels |
| Catalysis | Corrosion Engineering |
| Functional materials | Pharmaceuticals and fine chemicals |
| AI and Machine learning | Polymer and Composite materials |
| Drug design & delivery | Carbon capture, Sequestration and Utilization |
| Chemical process modeling, simulation, and optimization | Transport processes |
| Circular Economy | 3D printing |
| Agricultural Engineering | Molecular Simulations |

Note: The department has two SPARC projects and the suitable selected candidates will get the opportunity to work on these projects.



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| <p>Department of Computer Science and Engineering</p> | <p>B.Tech/ B.E or Equivalent degree in Computer Science and Engineering and M.Tech/ M.E in Computer Science and Engineering or equivalent. (OR) B.Tech/ B.E or Equivalent degree in Computer Science and Engineering with valid GATE score</p> <p>Note: Some additional fellowships sponsored by M/s. TCS and IDRBT are also available.</p> |
| <p><u>Research Areas</u></p> | |
| <p>Algorithms and Graph Theory, Bioinformatics, DNA Computing, Quantum Computing, Database Systems.</p> | |
| <p>Artificial intelligence, Machine Learning, Data Mining, Deep Learning, Soft Computing, Evolutionary Computation.</p> | |
| <p>Big Data Analytics, Computational Neuroscience, Computer Vision, Human Computer Interaction, Image Processing, Natural Language Processing, Swarm and Other Optimization Techniques, Video Analytics.</p> | |
| <p>Computer Networks, Wireless Ad-hoc and Sensor Networks, Parallel Systems, Distributed Systems, High Performance Computing, Cluster Computing.</p> | |
| <p>Mobile Computing, Internet of Things, Osmotic Computing, Fog Computing, Cloud Computing.</p> | |
| <p>Cryptography, Information Security, Security and Privacy, Block Chain Technologies.</p> | |
| <p>Service-Oriented Architecture, Microservices Architecture, and Model-Driven Framework-oriented Systems.</p> | |
| <p>Software Engineering, Program Analysis, Software Reliability Prediction, Software Testing, Design Pattern, Reactive Pattern, Smart Contract Testing.</p> | |
| <p>Department of Biotechnology</p> | <p>B.E./B.Tech. in Biotechnology/ Industrial Biotechnology/ Biochemical Engineering/ Bioinformatics/ Biomedical Engineering/ Biotech. Engineering/ Bioengineering/ Chemical and Bio-Engineering/ Genetic Engineering/ Food Technology and Biochemical Engineering/ Biological Sciences and Bioengineering/ Biosciences and Bioengineering/ Biotechnology and Biochemical Engineering/ Biochemical and Biotechnology Engineering/ Biomedical Instrumentation, and M.E./ M. Tech./ M.S. (by Research)/ M.S.* (from abroad Two-year program only) in Biotechnology/ Industrial Biotechnology/ Biochemical Engineering/ Bioinformatics/ Biomedical Engineering/ Biotech Engineering/ Bioengineering/ Chemical and Bio-Engineering/ Genetic Engineering/ Food Technology and</p> |



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| | <p>Biochemical Engineering/ Biological Sciences and Bioengineering/ Biosciences and Bioengineering/ Biotechnology and Biochemical Engineering/ Biochemical and Biotechnology Engineering/ Biomedical Instrumentation.</p> <p>(OR)</p> <p>B.E./B.Tech. in Biotechnology/ Industrial Biotechnology/ Biochemical Engineering/ Bioinformatics/ Biomedical Engineering/ Biotech. Engineering/ Bioengineering/ Chemical and Bio-Engineering/ Genetic Engineering/ Food Technology and Biochemical Engineering/ Biological Sciences and Bioengineering/ Biosciences and Bioengineering/ Biotechnology and Biochemical Engineering/ Biochemical and Biotechnology Engineering/ Biomedical Instrumentation <u>with valid GATE score</u></p> <p>(OR)</p> <p>M.Sc. in Biotechnology/ Biochemistry/ Microbiology/ Botany/ Zoology/ Bioinformatics/ Life Sciences and M.Tech. in Biotechnology.</p> <p>(OR)</p> <p>M.Sc. in Biotechnology/ Biochemistry/ Microbiology/ Botany/ Zoology/ Bioinformatics/ Life Sciences <u>with GATE/ NET qualification.</u></p> |
| <u>Research Areas</u> | |
| Algal Biotechnology & Microbial Fuel Cell | Gene Therapy |
| Big Data & Data Science | Machine Learning |
| Bioelectrochemical System & Biological Wastewater Treatment | Microbial Gene regulation & Epigenetics |
| Bioenergy, Biorefinery & Therapeutic Proteins/ Enzymes | Modeling & Simulation of Bioprocesses |
| Bioinformatics | Molecular & Biochemical Parasitology |
| Biomass, Biomaterials & Metabolic Engineering | Nanobiotechnology & Medical Biosensors |
| Bioseparations Technology | Genomic Data Analysis & Cancer Signaling Pathways |
| Cancer Biology & Cell Signaling | Plant Biotechnology & Plant Tissue Culture |
| Computational Biophysics | Stem Cell Engineering |
| Drug Design & Discovery | Structural Biology |
| Environmental Biotechnology | Systems Biology |
| Functional Genomics & Metabolic Disorders | Enzyme Engineering |
| Biopharmaceutical Technology | |

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| Department of Mathematics | B.Sc. and M.Sc./ M.Phil. in Mathematics or equivalent Degree. |
| <u>Research Areas</u> | |
| Computational Fluid Dynamics | Biomechanics |
| Mathematical Biology | Fluid Dynamics |
| Partial Differential Equations | Cryptography |
| Operations Research | Fuzzy Set Theory |
| Commutative Algebra | Probability and Statistics |

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| Department of Physics | B.Sc. with Physics and M.Sc./ M.Sc. (Tech) in Physics/ M.Tech with specialization in Photonics/ Electronics/ Instrumentation/ Materials Science/ Nanotechnology/ Solid State Physics or any equivalent specialization. |
| <u>Research Areas</u> | |
| Materials Science: Multiferroics, Thin Films, Irradiation Effects on Materials, Hybrid Materials, Glass and Glass Ceramics, Polymer Composites, Luminescent Materials, Liquid Crystals, Green Synthesis. | |
| Energy Conversion and Storage: Renewable Energy, Energy Harvesting, Recycling Waste, Batteries, Supercapacitors. | |
| Theoretical Physics: Condensed Matter Physics, Statistical Mechanics | |
| Device Physics: Self-powered Sensors and Devices, Solar Cells, Fuel Cells, Organic Electronic Devices, Resistive Switching and Memristor, Piezo and Triboelectric Nanogenerators | |
| Photonics: Fibre Optic Sensing, Optical Design, Optical Elements Productions Testing, Light-matter Interaction, Nano-optics. | |
| Electronics: Optoelectronic Materials and Devices, Sensors, and Transducers. | |
| Computational Physics: Soft Matter, Biophysics, Machine Learning, DFT, Quantum Computing. | |
| Nanoscience: Low Dimensional Systems, Quantum Dots, Nanomaterials. | |
| Biophysics and Interdisciplinary Physics: Drug Delivery, Bioimaging, Tissue Engineering, Biomaterials. | |

| | |
|--------------------------------|--|
| Department of Chemistry | B.Sc. and M.Sc./ M.Phil. in Chemistry or equivalent Degree. |
| <u>Research Areas</u> | |
| Coordination Chemistry | Nanocatalysts for Fuel Cells |
| Electrochemistry | Bio-Organic Chemistry |
| Catalysis | Nanomaterials |
| Spectrophotometry | Organic Synthesis |
| Chromatography | Medicinal Chemistry |
| Environmental Pollution | Supramolecular Chemistry |
| Synthetic Organic Chemistry | Carbohydrate Chemistry |
| Stereo Selective Synthesis | Molecular Modeling |
| Electrochemical Biosensors | |



| | |
|---|--|
| Department of Humanities & Social Sciences | Post Graduate Degree in English with GATE/ UGC/ NET qualification and having studied B.A./ B.Sc./ B.Com. or any other Bachelor's Degree. |
| <u>Research Areas</u> | |
| British Literature | English Language Teaching |
| Department of Management Studies | Any graduate having Full-time M.B.A. degree with UGC/ NET qualification. (OR) Master's degree or equivalent in Management/ Social Sciences/ Commerce/ 2-year PGDM/ M.Tech in any specialization/ Management/Technology Management/ Entrepreneurship Management/ MSc Statistics / CA/CS/ICWA with CAT/UGC-NET/GMAT/ GRE/ GATE/CSIR NET (Not mandatory for Part-time candidates). |
| <u>Research Areas</u> | |
| Marketing | Human Resources |
| Finance | Economics |
| Information Technology | Operations Management |
| Supply Chain Management | Quality Management |
| Sustainability | Project Management |
| Industrial Management | Industrial Relations & Labour Legislations |
| Organizational Behaviour | Corporate Governance |
| Financial Engineering | Ergonomics |
| Strategic Management | Entrepreneurship |
| General Management and Allied Areas | Interdisciplinary Research |

ANNEXURES



Proforma for Economically Weaker Section (EWS) Certificate

Government of

(Name & Address of the authority issuing the certificate)

[This certificate MUST have been issued on or after 1st April 2024]

Certificate No. _____

Date: _____

VALID FOR THE YEAR 2024-2025

1. This is to certify that Shri/Smt./Kumari _____, s o n / daughter/ wife of _____ permanent resident of _____, Village/Street _____ Post Office _____ District in the State/Union Territory _____ Pin Code _____ whose photograph is attested below belongs to Economically Weaker Sections, since the gross annual income* of his/her family** is below Rs. 8 lakh (Rupees Eight Lakh only) for the financial year 2023-2024. His/her family does not own or possess any of the following assets***:
 - I. 5 acres of agricultural land and above;
 - II. Residential flat of 1000 sq. ft. and above;
 - III. Residential plot of 100 sq. yards and above in notified municipalities;
 - IV. Residential plot of 200 sq. yards and above in. areas other than the notified municipalities.

2. Shri/Smt./Kumari _____ belongs to the _____ caste which is not recognized as a Scheduled Caste, Scheduled Tribe and Other Backward Classes (Central List).

Signature with seal of Office _____

Name _____

Designation _____

Recent Passport size attested photograph of the applicant

The income and assets of the families as mentioned would be required to be certified by an officer not below the rank of Tehsildar in the States/UTs.

Note:

- * Income covered all sources i.e. salary, agriculture, business, profession, etc.
- ** The term 'Family' for this purpose includes the person, who seeks benefit of reservation, his/her parents and siblings below the age of 18 years as also his/her spouse and children below the age of 18 years.
- *** The property held by a 'Family' in different locations or different places/cities have been clubbed while applying the land or property holding test to determine EWS status.



Proforma for Other Backward Class (OBC Certificate)

(CERTIFICATE TO BE PRODUCED BY CANDIDATES FROM 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.
- vii) Resolution No. 12011/99/94-BCC dated 11/12/97.
- 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.

Dated:

**District Magistrate/ Competent Authority:
Seal**

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 Assistant Commissioner (not below the rank of 1st Class Stipendiary Magistrate).
 - ii) Chief Presidency Magistrate/ Additional Chief Presidency Magistrate/ Presidency Magistrate.
 - iii) Revenue Officer not below the rank of Tahsildar, 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, 2024.



Declaration/ Undertaking for OBC Candidates only

I, _____ Son/ Daughter
of Shri/ Smt. _____ 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, 2024.

Place:
Date:

Signature of the Candidate

Note: Applications without declaration/undertaking not signed by Candidates will be
rejected.



Annexure–III

No Objection Certificate

(Should be on the letterhead of the employee's organization)

Ref. No.

Date:

To
The Director,
National Institute of Technology,
Warangal-506 004,
Telangana

Sub.: No objection certificate for pursuing Ph.D. (Full-time/part-time) at NIT Warangal

Dear Sir,

We have no objection if Mr./ Mrs./ Ms. _____ is an employee of our Organization/ Institute, if admitted to the Ph.D. program in the Department of _____ at the National Institute of Technology, Warangal, as a Full-time/part-time student.

It is certified that he/she has completed _____ years of service in our Organization/ Institute as a regular employee.

We shall give him/ her a leave of absence at our Organization/ Institute to complete the coursework during his/ her Ph.D. program at NIT Warangal.

Signature and Seal
Head of the Organization/ Institute

Note: No Objection Certificate issued on or after **10.03.2025** is only acceptable.

