

Information Brochure

for

Admission to Ph.D. Programmes December, 2025 [Except for QIP Applicants]



IMPORTANT DATES:

1. Last Date of Submitting e-Applications for Entrance Test:
24th August, 2025
2. Day & Date of Entrance Test:
Friday, 29th August, 2025
3. Last Date of Submitting e-Applications for Ph.D. Admission:
21st September, 2025
4. Dates of Interview:
08th to 10th October, 2025



National Institute of Technical Teachers Training and Research
(Deemed to be University under Distinct Category)

Sector - 26, Chandigarh - 160 019

Tel: 0172-2759593; 0172-2759729

E-mail: phd.entrance@nitttrchd.ac.in (for entrance test); phd.admissions@nitttrchd.ac.in (for admission)

Website: www.nitttrchd.ac.in

December 2025 Session

CONTENTS

| S. No. | Contents | Page No. |
|------------|---|----------|
| 1 | About the Institute | 3 |
| 2 | Vision, Mission and Quality Policy of the Institute | 4 |
| 3 | Objectives of Ph.D. Programmes | 4 |
| 4 | Categories of Admissions | 5 |
| 5 | Fellowships/Scholarships | 5 |
| 6 | Disciplines/Branches and Number of Seats Offered | 5-7 |
| 7 | Eligibility Criteria for Ph.D. Admission | 7 |
| 8 | Programme Duration | 8 |
| 9 | Admission Procedure | 9 |
| 10 | Supernumerary Seats in Ph.D. Programme | 10 |
| 11 | Fee Structure | 10 |
| 12 | Documents to be produced during Physical Reporting | 10 |
| 13 | Important Dates | 11 |
| Form-I | Application Form for Entrance Test for Admission to Ph.D. Programmes – December, 2025 | 12-13 |
| Form-II | Application Form for Admission to Ph.D. Programmes | 14-16 |
| Form-III | No-Objection Certificate from Employer/Sponsoring Organization on Letter Head (If Applicable) | 17 |
| Appendix-I | Ph.D. syllabus for entrance test | 18-24 |

National Institute of Technical Teachers Training and Research

(Deemed to be University under Distinct Category)

Sector 26, Chandigarh

Ph.D. PROGRAMMES

1. About the Institute

In realization of the need for training better quality technical teachers and workforce to meet the demand of large-scale industrialization of the country, the Ministry of Education, Government of India, established four Regional Technical Teachers Training Institutes (now National Institute of Technical Teachers Training & Research, (NITTTR) at Bhopal, Chandigarh, Chennai and Kolkata in mid 1960s. The institute at Chandigarh, started in collaboration with Royal Netherlands Government (up-to 1974), was designed to meet the requirements of developing polytechnic education in the northern region covering the then states/UTs of Jammu and Kashmir, Himachal Pradesh, Punjab, Haryana, Rajasthan, Uttar Pradesh, Uttarakhand, Delhi and Chandigarh. The institute during this time acted as a resource system to technical education and provided guidance at national, state and institution level in policy formulation, planning and management, quality controls etc. The institute is registered under the Societies Registration Act, 1860 and is managed by a Board of Governors.

To achieve its stated objectives, the institute undertakes the following spectrum of activities: Education and Training Programmes; Curriculum Development; Instructional Material Development; Research and Development; Extension Services; Consultancy in Technical Education and Technology areas. Keeping in tune with the various emerging needs of the country, the institute presently extends its services in the following areas as well: Media Development including information resources, their acquisition, storage and retrieval; Entrepreneurship Development; Industry Institute Interaction; Continuing Education for Working Professionals; Rural Development; Transfer of Appropriate Technology to Rural Areas; Integrating Persons with Different Abilities with the Mainstream of Technical and Vocational Education.

The status of the institute was elevated to a National Institute and renamed as National Institute of Technical Teachers Training and Research on 18 November, 2003 with an objective to play a larger role for the improvement of Technical Education in the country.

Since 2003, engineering colleges in the northern region have been brought under the purview of this institute as per the directions of Ministry of Education (the then MHRD). Since then, this institute has been conducting many short-term courses in various subjects for engineering college teachers, in addition to catering to their other needs. Further, the institute is also organizing induction training programmes and content based short term courses through physical as well as virtual modes.

Looking into the consistent performance and contribution in Technical Education System, the institute has now been granted the status of Deemed to be University under Distinct Category. Henceforth, NITTTR Chandigarh will be awarding the degree under its own aegis.

2. Vision, Mission and Quality Policy of the Institute

Vision

To be a global centre of excellence for capacity building through transformative education, training and research.

Mission

- Design and implement dynamic and flexible curricula to inculcate problem solving, design thinking, creativity, innovation and research through inter-disciplinary and multi-disciplinary programmes for inclusive and equitable education.
- Develop professionals with ethics, social values and aptitude for lifelong learning.
- Develop and implement innovative instructional and evaluation approaches for continuous quality improvement in higher education system.
- Develop and provide repository of instructional resources for capacity building.
- Collaborate with academia, research organizations, industry and other similar entities both at National and International level with sustainability perspective.

Quality Policy

NITTTR, Chandigarh is committed to provide high quality and customized education, training, Research and Development (R&D) and extension services to technical and vocational education system, industry and community. The institute shall develop leadership in technical teacher training and provide educational products and services to enable the technical education system to achieve excellence internationally.

3. Objectives of Ph.D. Programmes

The Ph.D. Programmes are designed to prepare teachers for Engineering, Management and Applied Sciences disciplines, working professionals from Corporate Sector and scientists from R & D organizations to pursue their professional life with the right perspective and breadth of knowledge related to their respective fields of specialization. The Institute provides them the right kind of environment so as to develop high quality scientific and engineering specialists having strong base of principles of science and the scientific methods, deep understanding of their chosen areas of specialization, the motivation to learn continuously, interact with multi-disciplinary groups and dare to handle new challenges offered by the front-end technologies. Above all, the scholars should develop the capacity for free and objective enquiry, courage and integrity, awareness and sensitivity to the needs and aspirations of the society.

4. Categories of Admissions

NITTTR, Chandigarh offers Ph.D. Programmes under the following categories:

Regular

- Ph.D. under QIP Scheme of AICTE
- Ph.D. under Sponsored (by Institute/Industry/Other Organizations/ Self) Scheme

Modular

- Ph.D. under Sponsored (by Institute/ Industry/ Other Organizations/ Self) Scheme
- Employees of NITTTR Chandigarh

Employees of NITTTR, Chandigarh and other organizations are eligible to pursue Ph.D. Programme under Modular Category with the prior approval and No-Objection Certificate (NOC) from their parent organization, clearly stating that:

- a. The candidate is permitted to pursue studies on a part-time basis.
- b. His/her official duties permit him/her to devote sufficient time for research.
- c. If required, he/she will be relieved by his/her employer from the duty to complete a mandatory stay (including the course work) of at least 36 weeks at NITTTR Chandigarh during the entire duration of the Ph.D. programme.

However, such candidates must complete the residential period in NITTTR Chandigarh as per applicable UGC rules and guidelines.

5. Fellowships/Scholarships

- Ph.D. scholars admitted under AICTE-QIP scheme will get scholarship and contingency grant for three years as per AICTE rules.
- Regular scholars admitted under sponsored schemes can apply for various fellowships like INSPIRE, CSIR, AICTE, Minority Community Fellowship and such other schemes. Funding support or sponsorship from industry or any other agency may also be availed.

6. Disciplines/Branches and Number of Seats Offered

The disciplines/branches offered for Ph.D. Programmes at NITTTR Chandigarh are as per the following details:

- **For Ph.D. under QIP Scheme of AICTE:** Civil Engineering, Computer Science & Engineering, Electrical Engineering, Electronics & Communication Engineering, and Mechanical Engineering. There are a total of 10 seats under QIP Scheme across all these branches.
- **For Ph.D. under Sponsored (by Institute/ Industry/Other Organizations/ Self) Scheme (Regular/Modular):** Civil Engineering, Computer Science & Engineering, Electrical Engineering, Electronics & Communication Engineering, Mechanical Engineering, Management, Applied Sciences (Physics & Mathematics), Curriculum Development, Rural Development, Education and Educational Management, Media Engineering, Information Management and Emerging Engineering, Entrepreneurship Development and Industrial Coordination. **However, the institute promotes Interdisciplinary Research.**

- The number of Ph.D. seats in any branch/discipline is decided as per the availability of the supervisor(s) in that particular branch/discipline. The Department-wise areas of specialization and number of seats available is given below:

| S. No. | Department | Available Seats | Areas of Specialization |
|--------|---|-----------------|---|
| 1 | Applied Sciences | Physics: 04 | Physics: Materials Science and Engineering (Thin Films, Nano materials, Electronic Materials, Energy Materials, Polymeric Materials, Glasses, and Ceramics), Nanotechnology inspired energy storage materials and devices, Fiber Optics, Nanotechnology |
| | | Mathematics: 03 | Mathematics: Mathematical Programming, Optimization, soft computing, Data Analysis |
| 2 | Civil Engineering | 02 | Structures Design, Clean Technologies Repair & Rehabilitation, Green Materials and Sustainable Constriction, Construction Management, Structure Dynamic, Masonry, Dampers, Adobe Construction, Heritage Structures, Concrete Technology and Pavement Design |
| 3 | Computer Science and Engineering | 08 | Image Processing, Computer Vision, Cyber Security, Wireless Networks, Network Security, Data Science, Deep Learning, AI/ML/DL applications, Cloud Computing |
| 4 | Curriculum Development | 03 | Innovative Curriculum and Learning Design, Curriculum Quality Audit, Innovative Curriculum Assessment Tools & Methodologies, Effective Curriculum Implementation Techniques and Web Technologies, Effective Implementation of Curriculum in Technical Education |
| 5 | Education and Education Management | 01 | Teaching-Learning Process, Assessment of Teaching- Learning, Education Psychology, Modern Pedagogical Aspects of Education, Outcome-based Education, Inclusive Education, Technical and Vocational Education, Use of Technology and ICT tools in Education, Education for Sustainable Development, Education Policy and Management |
| 6 | Electrical Engineering | 01 | Renewable Energy, Energy Efficiency, Assistive Technology, Smart Grid, Electric Vehicles, Intelligent Control of Microgrid, PLC & Embedded Systems, IoT Enabled Industrial Automation |
| 7 | Electronics and Communication Engineering | 09 | Antenna Design (Wearable/Flexible/3D Printed), Applications of Soft Computing in Antenna Design, DSP, VLSI Design, Heterogenous Wireless Sensor Networks, Self-Configured Wireless Sensor Networks, Wireless Communication, Embedded Systems, Digital System Designing, Antenna Design Simulation for 5G and 6G, 3D Printed Antenna Design and Fabrication, Machine Learning for Antenna Applications, Next Generation Communication, Digital Signal Processing, FPGA Design, Perovskites Solar Cells, Biomedical Signal Processing |

| | | | |
|----|--|----|--|
| 8 | Entrepreneurship Development and Industrial Coordination | 05 | Management, Entrepreneurship, Technology Adoption, Entrepreneurial Ventures in Manufacturing Domain, Technology Management, Production Planning and Operation Management, Human Resource Development, General Management, Quality Management |
| 9 | Information Management and Emerging Engineering | 05 | Image Processing, IoT, VLSI Design |
| 10 | Mechanical Engineering | 03 | Rapid Manufacturing, Industry 4.0, Robotics, Mechatronics, Automation, Advanced Machining, Hybrid Machining Processes, CAD, CAM, Reverse Engineering, Conventional Machining |
| 11 | Media Engineering | 01 | Digital Media and its Applications, Media Development, Media Implementation, Media Management |
| 12 | Rural Development | 03 | Rural Development, Sustainable Agriculture Management, Appropriate Technology, Sustainable Rural Development, Empowerment of Weaker Sections, Climate Change and Disaster Management |

Note: Reservation policy of Government of India for SC/ST/OBC-NCL/EWS/PwD candidates will be followed in admission to Ph.D. program

7. Eligibility Criteria for Ph.D. Admission

In-service Teachers/Working Professionals/Fresh Master's Degree holders aspiring to be teachers are eligible to apply for admission in Ph.D. programmes, subject to the following minimum eligibility criteria:

7.1 Ph.D. under QIP Scheme of AICTE

- Please refer the eligibility criteria prescribed as per the AICTE-QIP scheme information brochure available at https://qip.aicte-india.org/assets/manuals/QIP_Admission_Brochure_21_05_2024.pdf.55

7.2 Ph.D. under Sponsored (by Institute/ Industry/Other Organizations/ Self) Scheme (Regular/Modular):

- Relevant Master's Degree or Equivalent in Engineering/ Applied Sciences/ Management with a minimum CGPA of 6.00 on a 10-point scale or 60% (55% in case of SC/ST/PwD/OBC-NCL/EWS) marks in aggregate where marks are awarded.
- Qualified GATE/NET/other such national fellowship test or Ph.D. Entrance Test of NITTTR, Chandigarh in the respective discipline.
- Note: For the candidates opting for Modular Ph.D., an experience of minimum two years is essential.
- Interview of the eligible candidates by Ph.D. Admission Committee of NITTTR Chandigarh.
- Any other additional eligibility criteria as per sponsoring/funding agency's requirement will also be applicable.

- For regular employees of NITTTR Chandigarh, Regulatory Bodies like AICTE/UGC etc., National Laboratories, Public Sector Undertakings and Limited Industry/Company having a minimum of 10 years of total work experience, the Director may waive off the condition of a written test on the recommendation of a five-members committee

8. Programme Duration

- 8.1 Ph.D. Programme shall be for a minimum duration of three (3) years for regular and four (4) years for modular candidates from the date of admission, the total duration being six (6) years for both regular and modular modes.
- 8.2 A candidate does not require to seek any extension for submission of thesis upto 6 years from the date of admission. After 6 years, a maximum of two years extension (one year at a time) may be granted by the Director, on the recommendation of the concerned Supervisor and Dean (Academics and Students) on the basis of valid justifiable grounds. The total period for completion of Ph.D. programme should not exceed 8 (eight) years from the date of admission in such cases.
- 8.3 The female candidates and Persons with Disability (more than 40% disability) may be allowed a further relaxation of two (02) years beyond 08 years. The total period for completion of Ph.D. programme should not exceed 10 (ten) years from the date of registration in such cases.
- 8.4 The female candidates may be provided Maternity Leave/ Child Care Leave in the entire duration of Ph.D. up to 240 days. These 240 days shall be inclusive of the maximum stipulated period of 10 years.
- 8.5 If a candidate fails to submit the thesis within the stipulated period of 8 years (10 years for females and Persons with Disability) as per the above-mentioned clauses, his/her registration will automatically stand cancelled.
- 8.6 **Coursework Requirements:** The following outline details the coursework requirements for the Ph.D. Programme:

For Regular Mode:

| S. No. | Paper Title | Hours per Week | | Credits | Marks (Internal Evaluation) | Marks (End-semester Examination) |
|--------|---------------------------------|----------------|---------|---------|-----------------------------|----------------------------------|
| | | Lecture | Seminar | | | |
| 1 | Research Methodology | 4 | --- | 4 | 50 | 50 |
| 2 | Research Seminar | --- | 3 | 2 | 50 | --- |
| 3 | Research and Publication Ethics | 2 | --- | 2 | 50 | --- |
| 4 | Elective* | 4 | --- | 4 | 50 | 50 |

For Modular Mode:

| S. No. | Paper Title | Hours per Week | | Credits | Marks (Internal Evaluation) | Marks (End-semester Examination) |
|--------|---------------------------------|----------------|---------|---------|-----------------------------|----------------------------------|
| | | Lecture | Seminar | | | |
| 1 | Research Methodology | 12 | --- | 4 | 50 | 50 |
| 2 | Research Seminar | --- | 9 | 2 | 50 | --- |
| 3 | Research and Publication Ethics | 6 | --- | 2 | 50 | --- |
| 4 | Elective* | 12 | --- | 4 | 50 | 50 |

9. Admission Procedure

- 9.1 Applications may be submitted through email at **phd.admissions@nitttrchd.ac.in** along with self-attested copy of relevant documents and proof of payment of non-refundable fee of Rs. 1000/- on or before the prescribed date.
The candidates applying for more than one discipline should submit separate applications. A non-refundable fee of Rs. 500/- is to be paid for additional discipline applied. A candidate is permitted to apply for a maximum of two disciplines only.
- 9.2 A Valid GATE/NET/other such national fellowship test or Ph.D. Entrance Test of NITTTR Chandigarh in the respective discipline.
- 9.3 The Ph.D. Entrance Test conducted by NITTTR Chandigarh will have a validity of 2 years from the date of test.
 - a. For Entrance Test see Appendix-I
 - b. The entrance test will consist of 50 Multi-Choice Questions (MCQs) and the duration of the test will be 1 hour. The test will comprise of 25 questions from the relevant discipline and the remaining 25 questions related to basics of research methodology.
- 9.4 Awardees of JRF/National/ International fellowship for pursuing Ph.D. may seek admission in the Ph.D. Programmes throughout the year.
- 9.5 Eligible candidates will be called for an interview to assess the following aspects:
 - a. the candidate's competence for the proposed research;
 - b. the feasibility of conducting the proposed research work at the institution;
 - c. The likely contribution of the proposed area of research to new/additional knowledge as per the mandate of NITTTR Chandigarh.
- 9.6 The institute may decide the number of eligible candidates to be called for an interview based on the number of Ph.D. seats available in the respective department.
- 9.7 For the selection of candidates, a weightage of 70% for the NITTTR Entrance Test and 30% for the performance in the interview shall be given.

10. Supernumerary Seats in Ph.D. Programme

- One supernumerary seat in exceptional situation be created under any of the following categories:
- 10.1 An international/Foreign student interested in Ph.D. having fellowship/financial support from overseas for at least 2 years and fulfilling the Ph.D. enrolment criteria.

- 10.2 A Research Supervisor having an international research project with minimum financial support for at least 2 years and fulfilling the Ph.D. enrolment criteria by the candidate.
- 10.3 Candidate with the award of any national fellowship funded by Government of India like PM Fellowship/National Fellowship for Scheduled Caste Students (NFSC)/Maulana Azad National Fellowship/National Fellowship for Persons with Disabilities/INSPIRE etc.
- 10.4 A Research Supervisor having a project worth Rs.2 crores or more in Sciences and Rs. 1 crore or more for other subjects, be allowed to have more Research Scholars than the prescribed limit of the institute. For this purpose, the Director of the Institute is authorized to constitute a High-Level Standing Committee consisting of two faculty members from the Institute and one from outside the Institute of the level of Director or above to decide the number of research scholar on case-to-case basis.

11. Fee Structure

| | |
|---|--------------|
| Admission Fee(One-Time at Admission only) | Rs. 5,000/- |
| Security(Refundable onetime) | Rs.7,500/- |
| During First 3 Years | |
| Academic Fee(half-yearly) | Rs. 10,000/- |
| Other facilities (library/internet/welfare/development etc.)(half-yearly) | Rs. 2,500/- |
| After 3 Years | |
| Academic Fee (half-yearly) | Rs. 15,000/- |
| Other facilities (library/internet/welfare/development etc.)(half-yearly) | Rs. 3,500/- |

Total amount payable at the time of admission is Rs. 25,000/- excluding the fees mentioned below:

- Hostel/Mess charges extra as per rules.
- Students will deposit migration fee (if any), thesis submission fee, and any other applicable fee as per norms of NITTTR, Chandigarh (Deemed to be University).

12. Documents to be produced during Physical Reporting

- Printout of the Application Form.
- Valid GATE score card/UGC-NET (JRF) Certificate.
- Original Photo ID Proof as per Govt. of India norms (Aadhaar Card/Passport/Driving license).
- Original Class X (High School) Board Certificate as proof of date of birth.
- Original Marks sheet of Class XII.
- Original Grade/Marks sheets of qualifying examination for all semesters.
- Original qualifying Degree/Provisional Certificate, if degree is completed.
- Original certificate of category of SC/ST/PWD/OBC/EWS, if applicable.
- Original Migration Certificate of last Institute/University attended.
- Three colour passport size photographs.
- Original Course completion certificate from the Head of University/ Institute in case result is awaited.

- Original NOC on Letter Head from the sponsoring organization (if applicable).
- One set of self-attested photocopies of the above documents.

Note: If the original certificates are not in English/Hindi, English/ Hindi version/translation of such certificates, duly certified by the Principal/Director of the graduating Institute, will be required during the verification of documents.

13. Important Dates

- Last Date of Submitting **e-Applications** for Entrance Test at **phd.entance@nitttrchd.ac.in: 24th August, 2025**
- Day and Date of Entrance Test: **29th August, 2025**
- Date of Declaration of Entrance Test Result: **2nd September, 2025**
- Last Date of Submitting **e-Applications** for Ph.D. Admission at **phd.admissions@nitttrchd.ac.in: 21th September, 2025**
- Dates of Interview: **08th to 10th October, 2025**

NOTE:

- a) The complete e-Application along with copies of all certificates and payment of Rupees 1,000/- or 1,500/- must be submitted online on or before the last date for receipt of applications as given above.
- b) Applicants should regularly visit the institute website to learn about any updates/modifications pertaining to Entrance Test and Interview for admissions.
- c) No separate call letters will be issued for appearing in Entrance Test and attending the interview for admission.
- d) Candidates shall appear in the Entrance Test and attend the interview for admission to Ph.D. Programmes at their own expenses.

Serial No. AC/2025/

Form-I

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
(DEEMED TO BE UNIVERSITY UNDER DISTINCT CATEGORY)
SECTOR-26, CHANDIGARH –160 019

Application Form for Entrance Test for Admission to
Ph.D. Programmes – December, 2025

(For those who have Not Qualified GATE/NET/Other such National Fellowship Tests)
Last Date for Receipt of e-Applications (at phd.entrance@nitttrchd.ac.in) for Entrance Test is
24th August, 2025

Application Fee for applying for only one discipline: Rs. 1000/-
Application Fee for applying for two (maximum) disciplines: Rs. 1500/-

Schedule of Entrance Test:

| | |
|--|--|
| Day & Date of Entrance Test | Friday, 29 th August, 2025 |
| Reporting Time | 10:00 AM (No entry shall be allowed after 10:15 AM) |
| Exam Timings | 10:30 AM-11:30 AM (for applicants applying for only one discipline) 10:30 AM-12:15 PM (for applicants applying for two disciplines) |
| Venue | NITTTR, Sector 26, Chandigarh |

The bank details for paying the application fee are as follows:

| | | |
|---|----------------------------|------------------------------|
| 1 | Name of the Bank | INDUSIND BANK |
| 2 | Name of the Account Holder | Director, NITTTR, Chandigarh |
| 3 | Account Type | Saving |
| 4 | Account Number | 151811200301 |
| 5 | Bank Branch IFSC Code | INDB00000014 |

Details of Application Fees: To be filled by the Candidate (Attach copy of transaction)

| | |
|---------------------------|--|
| RTGS/NEFT Transaction No. | |
| Amount Deposited | |
| Date | |
| Bank Name | |

Discipline for which admission to Ph.D. is sought (Please Tick the appropriate box)

| | | |
|--|--|---|
| Applied Sciences (Mathematics) | | Affix recent passport size coloured photograph |
| Applied Sciences (Physics) | | |
| Civil Engineering | | |
| Computer Science and Engineering | | |
| Curriculum Development | | |
| Education and Educational Management | | |
| Entrepreneurship Development and Industrial Coordination | | |
| Electrical Engineering | | |
| Electronics and Communication Engineering | | |
| Information Management and Emerging Engineering | | |
| Mechanical Engineering | | |
| Media Engineering | | |
| Rural Development | | |

Personal Particulars:

| | | | |
|-----|---|--|--|
| 1. | Name (Block Letters): | | |
| 2. | Marital Status(Please Tick the appropriate box): | Married | |
| | | Unmarried | |
| 3. | Gender(Please Tick the appropriate box): | Male | |
| | | Female | |
| | | Other (please specify) | |
| 4. | Father's Name: | | |
| 5. | Mother's Name: | | |
| 6. | Aadhaar Number: | | |
| 7. | Date of Birth: | | |
| 8. | State the Minority Group to which you belong, if any: | { Buddhists, Christians, Muslims, Sikhs, Zoroastrians (Parsis), if any other please specify }: | |
| 9. | Address for Correspondence (including Pin Code): | | |
| 10. | Mobile Number: | | |
| 11. | Email: | | |
| 12. | Category (Please Tick the appropriate box) | General | |
| | | SC | |
| | | ST | |
| | | OBC | |
| | | PwD | |
| | | EWS | |

Educational Qualifications:

| Examination | University/ Board | Year | Max. Marks | Marks Obtained | CGPA/ Percentage |
|--|----------------------|------|---------------|-------------------|---------------------|
| 10 th | | | | | |
| 12 th | | | | | |
| B. Tech./ B.E. / BBA/B.A. / B.Sc./Relevant Bachelor's Degree | | | | | |
| M.Tech./ M.E. / M.Sc./ MBA/ Relevant Master's Degree | | | | | |
| Any other | | | | | |

I certify that the entries made by me in this form are correct to the best of my knowledge and I have not suppressed any information in any manner. I agree to observe and abide by all the rules and regulations of the NITTTR, Chandigarh (Deemed to be University under Distinct Category) that may be laid down from time to time during the period of my studies and not to associate myself with any activity prejudicial to the discipline of the institute.

Place:

Date: Signature of the applicant

Form-II

Serial No. AC/2025/

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
(DEEMED TO BE UNIVERSITY UNDER DISTINCT CATEGORY)
SECTOR-26, CHANDIGARH –160 019

Application Form for Admission to Ph.D. Programmes
December 2025

(for Ph.D. enrolment under Regular/Modular Category)

Last Date for receipt of e-Applications (at phd.admissions@nitttrchd.ac.in) for admission is
21th September, 2025

Application Fee for applying for only one discipline: Rs. 1000/-

Application Fee for applying for two (maximum) disciplines: Rs. 1500/-

Note: The bank details for paying the application fee are as follows:

| | | |
|---|----------------------------|------------------------------|
| 1 | Name of the Bank | INDUSIND BANK |
| 2 | Name of the Account Holder | Director, NITTTR, Chandigarh |
| 3 | Account Type | Saving |
| 4 | Account Number | 151811200301 |
| 5 | Bank Branch IFSC Code | INDB00000014 |

Details of Application Fees: To be filled by the Candidate (Attach copy of transaction)

| | |
|---------------------------|--|
| RTGS/NEFT Transaction No. | |
| Amount Deposited | |
| Date | |
| Bank Name | |

Discipline for which admission to Ph.D. is sought (Please Tick the appropriate box)

| | | |
|--|--|---|
| Applied Sciences (Physics) | | Affix recent passport size coloured photograph |
| Applied Sciences (Mathematics) | | |
| Civil Engineering | | |
| Computer Science and Engineering | | |
| Curriculum Development | | |
| Education and Educational Management | | |
| Entrepreneurship Development and Industrial Coordination | | |
| Electrical Engineering | | |
| Electronics and Communication Engineering | | |
| Information Management and Emerging Engineering | | |
| Mechanical Engineering | | |
| Media Engineering | | |
| Rural Development | | |

Mode in which admission to Ph.D. is sought (Please Tick the appropriate box)

REGULAR
MODULAR

Personal Particulars:

| | | | |
|----|---|--|--|
| 1 | Name (Block Letters): | | |
| 2 | Marital Status(Please Tick the appropriate box): | Married | |
| | | Unmarried | |
| 3 | Gender(Please Tick the appropriate box): | Male | |
| | | Female | |
| | | Other (please specify) | |
| 4 | Father's Name: | | |
| 5 | Mother's Name: | | |
| 6 | Aadhaar Number: | | |
| 7 | Date of Birth: | | |
| 8 | State the Minority Group to which you belong, if any: | {Buddhists, Christians, Muslims, Sikhs, Zoroastrians (Parsis), if any other please specify}: | |
| 9 | Address for Correspondence (including Pin Code): | | |
| 10 | Mobile Number: | | |
| 11 | Email: | | |
| 12 | Category (Please Tick the appropriate box) | General | |
| | | SC | |
| | | ST | |
| | | OBC | |
| | | PWD | |
| | | EWS | |

Educational Qualifications (Attach Self-Attested Copies of Certificates)

| Examination | University/ Board | Year | Max. Marks | Marks Obtained | CGPA/ Percentage |
|---|----------------------|------|---------------|-------------------|---------------------|
| 10 th | | | | | |
| 12 th | | | | | |
| B. Tech./ B.E. / BBA/B.A. / B.Sc./Relevant Bachelor's Degree | | | | | |
| M.Tech./ M.E. / M.Sc./ MBA/ Relevant Master's Degree | | | | | |
| Any other | | | | | |

NOTE: In case the result is declared in Grade Points, an authenticated copy of the formula for conversion to percentage of marks should be attached.

Proof of Passing of the Ph.D. Entrance Test/GATE/NET/Any Other Tests Considered Equivalent for Admission (Attach Relevant Self-Attested Photocopies):

| | |
|--------------------------|--|
| Name of Test: | |
| Year/Session of Passing: | |
| Subject of Test: | |
| Rank/Score in the Test: | |
| University/Institution: | |

Teaching and Practical Experience (in Chronological Order) (Attach Self-Attested Certificates)

| S. No. | Name of Institute/Organization & address | Period(with date) | | Designation | Nature of Duties |
|--------|--|-------------------|----|-------------|------------------|
| | | From | To | | |
| | | | | | |
| | | | | | |
| | | | | | |

Total experience (as on the Last Date of Application): ____ Years ____ Months ____ Days

Choice Regarding Research Areas:

- i.
- ii.
- iii.

List of Research Papers/Books Published (if any)

.....

.....

.....

.....

.....

I certify that the entries made by me in this form are correct to the best of my knowledge and I have not suppressed any information in any manner. I agree to observe and abide by all the rules & regulations of the NITTTR, Chandigarh, that may be laid down from time to time during the period of my studies and not to associate myself with any activity prejudicial to the discipline of the institute.

Place:

Date:

Signature of applicant

Form-III**NO-OBJECTION CERTIFICATE FROM EMPLOYER/SPONSORING
ORGANIZATION ON LETTER HEAD (IF APPLICABLE)**

Certified that the particulars given by Mr./Ms. _____ S/o / W/o / D/o
_____ are correct to the best of my knowledge. The
institute/organization has no objection for him/her seeking admission to Ph.D. Programme in
_____.

Date:**Signature****Place:****Name:****Designation:****Address of Organization
(with Seal/Office Stamp):**

(APPENDIX –I)

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING & RESEARCH CHANDIGARH

SYLLABI FOR Ph.D. ENTRANCE TEST SCHEDULED ON 29-08-2025

General Information:

- The Ph.D. Entrance Test conducted by NITTTR Chandigarh will have a validity of 2 years from the date of entrance test.
- The entrance test will consist of 50 Multi-Choice Questions (MCQs) and the duration of the test will be 1 hour. The test will comprise of 25 questions from the relevant discipline and the remaining 25 questions related to basics of research methodology.

Syllabi for Entrance Test:

- For engineering branches, the syllabus of the test will be that of the latest GATE Test for the corresponding branch.
- For Entrepreneurship Development & Industrial Coordination (EDIC), the syllabus of the entrance test will be that of Management (including Business Admn. Mgt./Marketing/Marketing Mgt./Industrial Relations and Personnel Mgt./ Personnel Mgt./Financial Mgt./Co-operative Management), available on <https://www.ugcnetonline.in/syllabus-new.php>
- For Information Management and Emerging Engineering (IMEE) entrance test syllabus will be of either Computer Science and Engineering or Electronics and Communication Engineering based on the choice of applicant in which he/she want to pursue.
- For Physics and Mathematics, the syllabus of the entrance test will be that of Physical Sciences and Mathematical \Sciences respectively, available on <https://csirhrdg.res.in/Home/Index/1/Default/2666/78>
- **For the departments of Curriculum Development Department, Education & Educational Management, Rural Development and Media Engineering the syllabi are given below:**

Department of Curriculum Development

- [Curriculum Overview](#)
- - Concept of curriculum and syllabus
- - Curriculum rationale by Ralph Tyler and Hilda Taba
- - Stages of curriculum development process
- - Models of curriculum development based on various approaches-Subject specialization, individual needs and social demand, their comparative strengths and weaknesses
- - Schematic representation of various models

- - Stakeholders of curriculum development, their perceptions and role
- Planning and Need Analysis
 - - Introduction
 - - Factors influencing curriculum decisions
 - - Need Analysis surveys
 - - Areas of employment
 - - Assessing current and future manpower needs and its forecast
 - - Tools for conducting need analysis- questionnaires, interviews and observations.
- Curriculum Design
 - - Concept of curriculum design
 - - Identification of objectives of curriculum
 - - Data sources for curriculum design - students, subjects and society
 - - Characteristics of an ideal curriculum for technical education programme
 - - Various approaches in curriculum design-DACUM approach and Delphi technique.
 - - Various modes of curriculum offering e.g. fixed and linear, flexible and sandwich.
- Curriculum Implementation & Evaluation
 - - Factors influencing effective curriculum implementation
 - - Monitoring of curriculum implementation
 - - Guidelines for effective curriculum implementation
 - - Role of academic planning for effective implementation
 - - Networking with industry for curriculum implementation
 - - Concept of curriculum evaluation – definition and purpose
 - - Curriculum evaluation – approaches and models
 - - Decision facilitation model – CIPP Model of curriculum evaluation, historical perspective, block diagram, purpose, aspects to be evaluated and respondents
 - - Planning and execution of curriculum evaluation including time frame
- Curriculum Alignment
 - - National Skill Qualification Framework (NSQF)
 - - Outcome Based Education (OBE)
 - - National Education Policy (NEP)
 - - National Credit Framework (NCrF)
 - - All India Council for Technical Education (AICTE)

Department of Education and Educational Management

Educational Psychology

Concept of learning, theories of learning, Concept, theories and measurement of intelligence, personality and creativity, Understanding individual differences, Motivation: Concept, theories and factors affecting motivation.

Teaching learning Methods

Types of teaching methods (teacher-centred techniques, student-centred methods, and mixed strategy methods), Factors affecting teaching methods, Offline and online teaching environment creation

Educational Media in Teaching Learning

Education media, Classification of Education media, Relevance of media in teaching learning, Various ICT tools and social media platform for teaching learning

Guidance and Counselling

Concept, Need and Importance of Guidance and Counselling. Difference Between Guidance & Counseling, Types of Counseling, Steps of Counseling, Organizing Guidance Services At Different Levels Of Education, Occupational Information.

Educational Evaluation and assessment

Evaluation and assessment – Concept, Need and Importance, Types, Principles, Blooms Taxonomy , Tools Of Measurement - Subjective and Objective Tools, Essay Test, Objective Test, Scales, Questionnaires, Schedules, Inventories, Performance Tests. Characteristics of a Good Measuring Instrument: Validity Reliability Norms Usability, Etc. Test Standardization. Norm-Referenced and Criterion-Referenced Tests. Scaling Standard Scores.

Professional Development

Professional Code of Ethics for Teacher Educators, Performance Appraisal, Trends in Research in Teacher Education, Innovative Practices in Teacher Education.

Leadership in Education

Leadership in Educational Administration: Meaning and Nature of Leadership Theories of Leadership Styles of Leadership Measurements of Leadership, Decision Making

New Education Policy, 2020

Concept, Salient Features and Characteristics

Department of Rural Development

Rural Development

Major Rural Development plans and programmes India adopted by government of India, Impact of Various schemes, Target Area Approach and Target Group Approach of Planning Commission, Major Schemes adopted by Government of India under five year plans and its impact, major schemes of Rural Development in last ten years, Micro Plan and Decentralized Planning, Participatory Approach of Rural Development, Panchayati Raj and its Impact, National Rural Livelihood Mission etc.

Sustainable Agriculture Management

Positive and Negative impact of green revolution, Degradation of Soil, Imbalance of soil nutrients, Chemical Residues and Food Toxicity and ill impact on human and cattle health, Various techniques of organic farming and soil fertility enhancing techniques, Composting and application of bio-fertilizers, Bio pesticides, and bio-controls, Mixed and Multi-crops and its bio-diversity, Mixed Farming (Agriculture and livestock rearing), good agricultural practices, value addition, processing and marketing, Demands of herbal, organic and nutritious food products, promotion of herbal and medicinal plants cultivation, marketing of organic produce herbal and Ayurvedic products

Appropriate Technology

Concept of Appropriate Technology, Purpose of Transfer of Technologies in Rural India, Local Demands based technological interventions, indigenous technologies, various low cost and sustainable technologies in the field of agriculture, housing, rural sanitation, waste water treatment, Phyto-remediation techniques, local and vernacular architecture, green building, water resources management, watershed management techniques, traditional storage and food processing techniques.

Sustainable Rural Development

Measures towards achieving Sustainable Development Goals by adopting right techniques and technologies, Development of an integrated model of rural development where we can utilise the potential of green revolution, yellow revolution, white revolution and other revolutions including application of IT in agriculture in a natural way where we can eliminate the negative factors affecting land, water and environment. Technologies for sustainable development, clean and green technologies, Promotion of small businesses and agri-industries in rural India, Promotion of circular and green economy

Empowerment of Weaker Sections:

Major Schemes for the weaker sections i.e. SCs, STs, OBCs, PWDs, Minorities and Women, Socio-economic and cultural reasons of their backwardness, how to empower them through education, technical skills, vocational skills and helping them establishing rural or urban start-ups, self-help groups and micro credits system for the economic empowerment, impact of various schemes, New strategies for their upliftment, Role of Technical and Vocational Education and Training (TVET), Role of

Polytechnics and Engineering Colleges in Rural and Community Development, Reservation policies for PWDs, Schemes for Rural Artisan Climate Change and Disaster Management:

Climate change and the factors for climate change, greenhouse gases and its impact, north south dialogue, Conference of parties debating the Climate Issues in last ten years, Impact of Climate change in Agriculture, National Mission on Climate Mitigation, Carbon Credits in Good Agricultural Practices, Climate Smart Agricultural Practices and future planning, Basics of Disaster Management Cycles, manmade and natural hazards, Preparedness w r t various local natural hazards, technical measures and mitigation techniques in earthquake, flood, landslides, cyclone, drought and pandemic.

Department of Media Engineering

Unit 1: Introduction to Journalism and Mass Communication

- Concept of Journalism and Mass Communication, mass communication in India
- History, growth and development of print, electronic, and digital media
- Major landmarks in Indian media; Media's role in Indian state formation
- Media criticism and media literacy, Press Council and Commissions
- Models and theories of communication: normative, critical, socio-cultural
- Indian and global communication traditions; media and culture
- Introduction to AI in communication and journalism

Unit 2: Communication for Development and Social Change

- Development communication: concepts, role of media and journalism in social change
- Demographic and sociological contexts; media and specific audiences
- Post-colonial perspectives and critique of dominant development models
- NGOs, CSR, international development campaigns
- Global civil societies and communication policies
- Use of immersive technologies (AR/VR) in development communication

Unit 3: Reporting and Editing

- News: concepts, values, structure; types of reporting across media
- Writing and editing for print, electronic, and digital platforms
- National and international news agencies
- Journalism ethics, critique of western news values
- Niche and investigative reporting
- Audio-visual editing techniques and integration of AI in editing workflows

Unit 4: Advertising and Marketing Communication

- Advertising: definition, types, ethics, and theories
- Brand management, advertising campaigns and strategy
- Media planning, budgeting, and agency structure
- Language, creativity, and translation in ads
- Marketing research and consumer behaviour
- Incorporation of motion graphics and animation in digital ads

Unit 5: Public Relations and Corporate Communication

- PR and Corporate Communication: concepts and scope
- Tools, techniques, and structures across sectors
- Crisis communication and ethical PR practices
- International PR and communication audits
- Use of AI tools in corporate communication, visual branding

Unit 6: Media Laws and Ethics

- Legal and ethical frameworks in media
- Constitution of India and freedom of expression
- Defamation, libel, sedition, obscenity, and privacy laws
- Media-specific laws: Press Act, IT Act, Cinematograph Act, IPR
- Regulatory bodies: PCI, ASCI, CBFC
- AI ethics, deepfakes, and the legal implications in media creation

Unit 7: Media Management and Production

- Media management concepts and organizational structures
- Grammar of electronic media and communication design
- Economics of mass media and post-liberalisation industry trends
- Video Film Production process: Pre-production (conceptualizing, scripting, budgeting), Production (shooting, direction), Post-production (editing, audio mastering)
- Basics of lighting techniques for video shoots
- Camera operation: composition, movement, exposure control

Unit 8: ICT and Media

- Role of ICT in transforming media and communication
- Impact of digitization and computer-mediated communication
- Social networking, mobile telephony, and web-enabled media
- E-governance and online platforms in education and development
- AR/VR applications in immersive journalism and media experiences
- Interactive and animated media for education and entertainment

Unit 9: Film and Visual Communication

- Film and television theories; Indian and global cinema
- Indian cinema post-Independence, national film movements
- Film language, aesthetics, and visual culture
- Introduction to visual storytelling, framing, and cinematographic language
- Graphics and animation in visual narratives
- AI in script analysis, audience prediction, and visual content creation

Unit 10: Communication Research

- Concepts and constructs in media research
- Research design: qualitative, quantitative, mixed methods
- Tools and techniques: sampling, measurement, surveys, interviews
- Data analysis, statistical testing, and interpretation
- Media-specific research: journalism, advertising, digital platforms
- Ethical considerations and plagiarism
- Research in emerging domains: AR/VR, AI in media, animation studies
