

INFORMATION BROCHURE – 2025

For admission to

POST GRADUATE DIPLOMA IN ADVANCED MANUFACTURING (Industry Oriented and Practice Based)

Session 2025 – 2026



Last Date of Submitting e-Applications: 30th June, 2025

e-Application Form Link:

https://www.nitttrchd.ac.in/pdf/2025/pgdiploma_brochure/ApplicationFormPGDiplomaPrograms.pdf

Email ID for submitting e-Applications: pgdiploma@nitttrchd.ac.in

**Mechanical Engineering Department
National Institute of Technical Teachers
Training and Research**

(Deemed to be University Under Distinct Category)

Sector – 26, Chandigarh – 160 019

Phone: 0172-2759593; 0172-2759785

Website: www.nitttrchd.ac.in

June 2025

PROGRAM AT A GLANCE

e-Application Form Link	https://www.nitttrchd.ac.in/pdf/2025/pgdiploma_brochure/ApplicationFormPGDiplomaPrograms.pdf
Email to	pgdiploma@nitttrchd.ac.in (latest by 30-June-2025)
Name of the Programme	Post Graduate Diploma in Advanced Manufacturing
Department	Mechanical Engineering
No. of seats	15
Target Audience	Industry Professionals / Technical Teachers / Scientists / Officials of Regulatory Bodies / Entrepreneurs / Engineering Graduates
Mode of Conduct	60% of courses in contact mode (evening Classes 5.30 PM onwards); 40% courses in self-paced online mode
Practice-based	The program is Industry-oriented and practice based, with experts speakers from industry and industrial visits as integral part of the program
Flexibility	The program is offered with Multi-Entry, Multi-Exit option. If a learner exits after successfully earning the requisite credits of first semester, he/she will earn a <i>PG Certificate in Manufacturing Technology</i> . The learner may rejoin within a period of three years from the date of leaving the program to resume the learning journey.
Minimum Qualification for Admission	B.E. / B.Tech. in Mechanical Engineering / Manufacturing Engineering / Manufacturing Technology / Production Engineering / Industrial Engineering / Automobile Engineering / AMIE (enrolled before 31-05-2013) <i>Subject to seat vacancy, candidates having B.E. / B.Tech. / AMIE (enrolled before 31-05-2013) in any engineering discipline / B.Sc. (Non – Medical) may enroll for PG Certificate in Manufacturing Technology. Such candidates will be required to undergo a few self-paced online bridge courses as suggested by the department</i>
Programme Fee (in Rs.)	<ul style="list-style-type: none"> • Registration Fee (One Time) 2,500/- • Academic Fee 25,000/- per semester • Security (Refundable)-One Time 7,000/- • Fees for other Facilities and Services 3,000/- per semester • Examination Fees 4,000/- per semester • Sports Fees 500/- per semester • Alumni Fees (One time) 1,000/- • Hostel accommodation expenses and Mess Expenses will be extra
Department Virtual Tour	https://www.nitttrchd.ac.in/mech/v_tour.php
Institute Virtual Tour	https://youtu.be/Cg3KSNoTVE8

National Institute of Technical Teachers Training and Research, Chandigarh

(Deemed to be University Under Distinct Category)

POST GRADUATE DIPLOMA IN ADVANCED MANUFACTURING

1. About the Institute

In realization of the need for training better quality technicians to meet the large-scale industrialization of the country, the Ministry of Education, Government of India, on the recommendations of All India Council for Technical Education (AICTE), established four Regional Technical Teachers' Training Institutes (now National Institute of Technical Teachers' Training & Research, (NITTTR) at Bhopal, Chandigarh, Chennai and Kolkata in 1967. 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 levels 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 Engineers/Technicians; Rural Development; Transfer of Appropriate Technology to Rural Areas; Integrating Persons with Different Abilities with the Mainstream of Technical and Vocational Education.

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 (then the 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 ICT.

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.

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 with effect from 22nd February 2024.

Please take a virtual tour of the Institute at <https://youtu.be/Cg3KSNoTVE8> to have a glimpse of the wonderful facilities available in the institute.

2. Institute Vision, Mission and Quality Policy

Vision

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

Mission

- b. 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.
- c. Develop professionals with ethics, social values and aptitude for lifelong learning.
- d. Develop and implement innovative instructional and evaluation approaches for continuous quality improvement in higher education system.
- e. Develop and provide repository of instructional resources for capacity building.
- f. Collaborate with academia, research organizations, industry and other similar entities both at National and International level with sustainability perspective.

Quality Policy

NITTTR (Deemed to be University under Distinct Category) 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 Post Graduate (PG) Diploma Programme

To keep pace with rapid advancement in technology, the country requires high quality manpower with technical and managerial capabilities in the 21st Century. There are primarily three distinct categories of technical manpower needed by the industry in the country i.e., engineers, technicians and skilled workers. Personnel of each of these categories play an equally important role in the day-to-day running as well as the development and growth of industry. The institutions which are producing technical manpower, therefore, need teachers who have the required knowledge and skills to train good technicians and engineers.

Thus, there is a great need to reorient and upgrade the knowledge and skills of existing teachers of technical institutions through Industry oriented and Practice based Programmes in Engineering and Technology. The PG Diploma program in Advanced Manufacturing will help enhance the professional capabilities of industry professionals and of technical teachers for training technicians/engineers that would meet the changing requirements of manufacturing industry.

4. Mode of Conduct

For the benefit of working professionals, the classes for the PG Diploma program will be held in the evenings from 5.30 pm to 9 pm tentatively. Further, as per UGC guidelines, a maximum of 40% courses in the program will be offered in online mode, limited to a maximum of 2 courses per semester.

5. About Mechanical Engineering Department

Mechanical Engineering Department started functioning in 1967 when the institute was established by Ministry of Higher Education, Government of India, in collaboration with the Royal Dutch government. The department was established under the guidance of Dutch experts. Equipment in different areas of Mechanical Engineering and training to selected faculty of the department in Netherlands was provided. Presently, the department offers Post-Doctoral, Doctoral & Post graduate programs and short term training programs. For more information, please refer to the following web-links for the department:

Virtual Tour	https://www.nitttrchd.ac.in/mech/v_tour.php
Brochure	https://www.nitttrchd.ac.in/mech/pdf/Brochure%20MED%20NITTTR.pdf

6. Special Features of PG Diploma Program

- a. The program is offered with Multi-Entry, Multi-Exit option. If a learner exits after successfully earning the requisite credits of first semester, he/she will earn a *PG Certificate in Manufacturing Technology*. The learner may rejoin within a period of three years from the date of leaving the program to resume the learning journey.
- b. The program is Industry-oriented and practice based, with experts speakers from industry and industrial visits as integral part of the program
- c. The nature of programmes offered are flexible, allowing self-pacing and taking up courses of study in a sequence and at the time convenient to the students within the maximum time frame as stipulated by the institute for the completion of the programme.
- d. The curriculum contents of the programmes are aligned with the National Higher Education Qualification Framework and NEP-2020 guidelines.
- e. Assessment of students' performance is based on both continuous evaluation and end-semester evaluation with the use of a variety of assessment techniques matching the learning objectives of different courses of study.
- f. Almost all courses contain practical/laboratory tasks. These tasks form an essential component of the curriculum implementation.

7. Sanctioned Intake and Reservation

Sanctioned Intake:

Fifteen (15) seats are available in Post Graduate Diploma in Advanced Manufacturing

Reservation:

Reservation for SC, ST candidates, PWDs, OBC and EWS category is available as per instructions by Govt. of India applicable to all higher education Institutions.

Note:

The institute reserves the right of admission entirely and the decision of Institute authorities on admission will be final in all the cases.

8. Categories of Admissions

The preference for admission will be as per the following sequence of categories:

- a) Sponsored Teachers/ Technical Staff of Technical Institutions/ Officials of State DTEs/ BTEs
- b) Working professionals from Industry/ Other Organizations
- c) Engineering Graduates aspiring to upgrade their knowledge and skill

9. Eligibility Criteria

- B.E./B.Tech. in Mechanical Engineering/ Manufacturing Engineering (or Technology)/ Production Engineering/ Industrial Engineering/ Automobile Engineering from a recognized University or equivalent or AMIE** with at least 60% marks* in aggregate.
 - Subject to seat vacancy, candidates having B.E. / B.Tech. / AMIE (enrolled before 31-05-2013) in any engineering discipline / B.Sc. (Non – Medical), with at least 60% marks* in aggregate, may enroll for PG Certificate in Manufacturing Technology. Such candidates will be required to undergo a few self-paced online bridge courses as suggested by the department
 - Working professionals must submit a No Objection Certificate from their employer
- . * relaxation in marks/grades as per GoI norms for reserved categories
** enrolled before 31-05-2013

Notes: 1. A certified copy of the conversion formula, in case of marks in grade points (i.e., CGPA to %), is essential.

2. Merit list will be prepared based on aggregate % of marks in B.E. or its equivalent X 0.4 (Multiplying Factor) plus one (01) score for each completed years of experience as on the last day of receiving application, gained after obtaining minimum entry qualification and subject to a maximum of ten marks for experience.

10. Duration of the Programme

The normal duration of PG Diploma Programme is 1 academic year (2 semesters).

11. Study and Evaluation Scheme in brief

S. No.	Subject	Contact Hours Per Week	Credits	Internal Assessment Marks	End-semester Examination Marks	Total Marks
FIRST SEMESTER						
1.	Program Core– I	4	4	50	50	100
2.	Program Core– II	4	4	50	50	100
3.	Program Core– III	4	4	50	50	100
4.	Program Elective – I	3	3	50	50	100
5.	Program Elective – II	3	3	50	50	100
6.	Manufacturing Lab – I	6	3	50	-	50
7.	Research Seminar – I	2	1	50	-	50
OCA #		4	-	-	-	-
SEMESTER TOTAL:		30	22	350	250	600

SECOND SEMESTER						
1.	Program Core– IV	4	4	50	50	100
2.	Program Core–V	4	4	50	50	100
3.	Program Elective – III	3	3	50	50	100
4.	Program Elective – IV	3	3	50	50	100
6.	Manufacturing Lab – II	6	3	50	-	50
7.	Research Seminar – II	2	1	50	-	50
OCA #		8	-	-	-	-
SEMESTER TOTAL:		30	18	300	200	500

[#] **Out of Class Activities:** Preparing Assignments, Seminar preparation, PPT preparation, Literature Survey, Library, Self-Study, field visits etc.

TOTAL CREDITS = 40

NOTES: 1. Requirement for the award of **Post Graduate Diploma in Advanced Manufacturing degree** is 40 credits with minimum CGPA of 6.0

2. The students will study a minimum of 2 and a maximum of 4 SWAYAM-NPTEL self-paced online courses during the program subject to at the most 2 courses in a semester. A 4-weeks duration course will be equivalent to 1 credit course. Any course, except those involving practical component, may be offered in online mode.

3. For SWAYAM-NPTEL courses, the sessional and end-semester examination may be conducted by the institute OR the students may be asked to take the SWAYAM-NPTEL exam by paying the requisite fee and submit the certificate to the department for credit transfer. Grades will be awarded on the basis of marks computed out of 100. In case of reappear in such course, some other course may be repeated with the permission of the Head of the department.

COURSE BASKETS

Program Core Courses (PCC) [Five Compulsory Courses]	Program Elective Courses (PEC) [Any Four Courses to be studied]
Manufacturing Processes	Rapid Manufacturing
Advanced Manufacturing Methods	Introduction to Materials Science and Engineering
Digital Manufacturing	Computer Aided Design for Manufacturing
Tool Engineering	Material Characterization
Design for Manufacturing	Introduction To Composites
	Introduction To Mechanical Micro Machining
	Automation in Manufacturing
	Mechatronics Systems Design
	Industrial Robotics
	Computer Programming for Manufacturing Applications
	Industrial Instrumentation
	Machinery Fault Diagnosis and Signal Processing
	Metal Casting
	Welding Technology
	Principles of Industrial Engineering
	Industrial Hydraulics & Automation

12. Conditions for Appearing in End-Semester Examination

a) Attendance

A candidate shall be eligible to appear in the end-semester examination of a subject only if he/she has attended a minimum of 75% of classes in that subject. A deficiency up to 10% only may be condoned by the Director of the institute in special cases. A candidate who does not fulfill the attendance requirements in a subject will have to repeat the course of instruction in that subject.

b) Continuous Evaluation

Continuous evaluation comprises of two periodic tests (60% of total sessional marks) and assignments/class projects/presentations/group discussions (40% of total sessional marks) during a semester. No special test is permissible in continuous evaluation.

13. Evaluation Method

The grades, their respective description, the method for the Award of Grades, along with grade points are given below:

Marks	Grade	Grade Point	Description
≥ 90	A+	10	Outstanding
$\geq 80 \text{ \& } < 90$	A	9	Excellent
$\geq 70 \text{ \& } < 80$	B+	8	Very Good
$\geq 60 \text{ \& } < 70$	B	7	Good
$\geq 50 \text{ \& } < 60$	C+	6	Average
$\geq 45 \text{ \& } < 50$	C	5	Below average
$\geq 40 \text{ \& } < 45$	D	4	Marginal
< 40	F	0	Very Poor
-	R	0	Shortage of Attendance
-	I	0	Incomplete

- The Earned Credits (EC) are defined as the sum of credits for courses in which 'A+' to 'D' grade has been obtained.
- **Grade Points earned in a semester =**
 $\Sigma (\text{Course Credits} \times \text{Grade Points})$ for courses in which 'A+' to 'D' grade has been obtained
- The Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA) are calculated as given below:
$$\text{SGPA} = \frac{\text{Grade Points earned in a semester}}{\text{Credits registered in the semester}}$$
$$\text{CGPA} = \frac{\text{Grade Points earned from first to current semester}}{\text{Credits registered from first to current semester}}$$
- **Conversion formula from CGPA to Percentage = $10 \times \text{CGPA}$**

14. Fee, Funds and Expenses

Programme Fee

Head	Amount (in Rs)
Registration Fee (One Time)	2,500/-
Academic Fee	25,000/- per semester
Late Fee (within Two Weeks) *	1,000/-
Extension Fees	5,000/- per semester (after 2 nd semester)
Security (Refundable)-One Time	7,000/-
Fees for other Facilities and Services	3,000/- per semester
Examination Fees	4,000/- per semester
Sports Fees	500/- per semester
Alumni Fees (One time)	1000/-

* The student will not be allowed to attend classes after two weeks.

Total Fee to be paid at the time of admission: Rs. 43,000/-

Notes:

- All institute fees, funds, expenses etc. whether recurring/ non- recurring are subject to revision by the institute from time to time.
- Any student who fails to pay institute fees by the prescribed date may be fined, suspended or ultimately removed from the institute rolls. **The decision of the Director of the institute will be final in this regard.**

Hostels Charges (To be deposited at the time of allotment)

S. No.	Category	Charges in Rs.
1	For first year	12,500/- per semester
2	Beyond first year	5000/- per month (Maximum for period of one year) 500/- per day beyond above 1 year for a maximum period of 2 years

Notes:

- Accommodation in Hostel will not be provided to the local students of Chandigarh, Panchkula, Mohali and nearby stations.
- All students are required to conform to all Hostel/Mess Rules which may be enforced by the institute.
- Hostel charges given above are subject to revision from time to time and students shall be required to deposit charges as applicable.

Mess/Canteen Charges

As per approved prevailing rates.

Refund Rules:

Except for the refundable deposit of Rs.7,000/-, no other amount will be refunded if a student leaves the institution after joining the programme. However, if a candidate does not join the institute or surrenders his/her seat without attending the classes within a week of start of the programme, the fee will be refunded as per UGC/AICTE guidelines.

15. Library

The Institute Library provides an extensive collection of information resources, services and facilities to our students and staff for their learning, research and personal development. Library system of the institute is more focused on creating and providing a comfortable and user-friendly environment that enables learning and advancement of knowledge, and also promotes discovery beyond classroom learning. The institute's state-of-the-art library boasts a collection of more than 50,000 books, 10,000 Indian standards, 575 e-books, 4000 bound journals, newspapers, CDs & DVDs, etc. The library collection consists of textbooks, reference books, technical journals, dissertations, e-Journals, encyclopedias and more. The library subscribes to 11 e-resources through the infibnet's Shodh-Sindhu consortium namely ASCE, ASME, IEL, Springers journals, JSTOR, J-Gate etc. The library is fully computerized with Web-OPAC for instant online access to students and staff to use all types of information for their learning research and personal growth. The library occupies an area of 900 sq meters. 100 students can sit and study at a time comfortably in the reading halls of the library.

16. Medical Facilities

The institute has its own dispensary where the medical facilities exist for the students, staff and their families. A part-time doctor and an attendant have been engaged to look after the patients.

17. Hostel

The institute has three hostel blocks. In all, the institute has 108 single rooms in the Chandrashekhar Hall (girls), 80 rooms in Tagore Hall (boys) and 80 rooms in Amartya Hall (boys), accommodating nearly 350 students overall.

18. NITTTR (Deemed to be University), Chandigarh Alumni Association

It is mandatory for all students to become a member of NITTTR (Deemed to be University under Distinct Category), Chandigarh Alumni Association.

NOTE: 1. Academic Calendar will be uploaded on the Institute Website.

2. The institute reserves the right to make any amendment in the prospectus as and when deemed necessary.
