Indian Institute of Information Technology Design and Manufacturing Kurnool

# Information Brochure

# Ph.D. Admissions

# June 2026 Session

## Department of Mechanical Engineering


## A Brief about the Department:

Mechanical Engineering with specialization in Design and Manufacturing (MDM) offered by IIITDM Kurnool augments the existing Mechanical Engineering curricula offered by IITs by offering design courses on conceptualization, visualization, and engineering simulations. Equipped with well-structured instruction and learning resources and research facilities, the institute aims to disseminate education in the inter-disciplinary areas of design and manufacturing engineering. Design visualization imparted through graphic art practice and product design practice enable students to conceptualize, design, simulate and develop tangible products. Students undergo interdisciplinary courses such as embedded systems, instrumentation, controls, automation and advanced manufacturing technology that will help them to design and develop innovative engineering products. Students can choose courses among electives and pursue their interests. The program offers a blend of courses that impart knowledge on design thinking and interdisciplinary engineering in addition to basic sciences.

For more details, visit dept. page: https://iiitk.ac.in/Academics/Mechanical-Engineering/page

## Specializations:

Design, Manufacturing, Thermal Engineering,

## Eligibility Criteria for Full-Time Ph.D.:

### Applicants holding Master's degree: in ME or allied Branches only

- Minimum Education Qualifications: Applicants with a postgraduate degree (M. Tech. / M.E. /M.S. (Research) or equivalent) in a relevant branch/specialization from any institute with a CGPA of 6.5/10 or 60% for UR/OBC/EWS category and CGPA of 6.0/10 or 55 % for SC/ST/PwD category.
- Screening and Selection: Entrance Test* and/or Interview. (* based on the number of applications

received)

**Direct admission to PhD with Graduation (B.E. / B. Tech.): in ME or allied Branches only**

Minimum Education Qualifications:

- Applicants with a Bachelor's degree (B. Tech. / B.E. or equivalent) in a relevant branch/specialization from any CFTI with a CGPA of 7.5/10 or 70% for UR/OBC/EWS category and CGPA of 7.0/10 or 65 % for SC/ST/PwD category. (**GATE Qualification is not Mandatory**)
- Applicants with a Bachelor's degree (B. Tech. / B.E. or equivalent) in a relevant branch/specialization from any **non-CFTI** with a CGPA of 7.5/10 or 70% for UR/OBC/EWS category and CGPA of 7.0/10 or 65 % for SC/ST/PwD category. (**GATE Qualification is Mandatory**)
- Screening and Selection: Entrance Test* and/or Interview. (* based on the number of applications received)

- In cases where the candidates are directly admitted to the PhD programme in Engineering /Sciences with a Bachelor's Degree in Engineering/Technology, the scholar should successfully complete prescribed courses (Coursework) with a minimum of 24 Credits.

**Eligibility Criteria for Part-Time Ph.D.:**

**Educational Qualifications:**

M.TECH/M.E /M.S. (by Research) degree in the appropriate branch of study with first class and a minimum 60% aggregate marks or CGPA ≥ 6.5 (out of 10) in UG and PG.

Note: For engineering departments, candidates with B.Tech. /B.E. degree may also be considered, if the candidates have at least 6 years of experience with a proven track record of research experience.

**Essential experience:** (Candidates should satisfy any one of the below-mentioned criteria)

Permanent employees who can submit "No Objection Certificate" (NOC) from their employer and are working in the cadre equivalent to Scientist-C/Assistant Professor/Lecturer in Government R&D laboratories /Government organizations / Government industries/ PSUs / State Govt. Undertaking with at least three years of experience are eligible.

(OR)

Permanent/ Regular Employees from Private organization /Industries/Education Institutions with R & D facilities (i.e., established at least five years before the last date of applying for PhD (Part-time) admission as per the advertisement) with membership in CII/ ASSOCHEM or any other equivalent membership having at least three years of experience are eligible.

(OR)

Permanent employees of IIITDM Kurnool, having at least 3 years of experience.

Screening and Selection:

1. Respective Departments will conduct the shortlisting and selection process.
2. Eligible candidates possessing the minimum educational qualifications and satisfying additional criteria set by the institute from time to time only will be called for the written test and/or Interview.

3. **An entrance examination shall be conducted for all the applicants (Full-Time and Part Time) who does not have GATE or NET qualification.**
4. The syllabus for the written test and/ or Interview is **GATE 2026 syllabus in respective subject.**
5. **Applicants with a valid GATE or CSIR/UGC-NET qualification will be directly eligible for the interview.**
6. The question paper for written exam will consist of 50 MCQ based on the GATE/NET syllabus.
7. Each question will carry 2 marks, with a negative marking of 0.5 marks for every incorrect answer.
8. The cut-off marks shall be determined in line with the GATE 2026 standards.
9. The exam will be conducted either in CBT (Moodle) mode or offline based on number of applications.
10. Based on the academic record and the performance of the candidates in the written test and/or Interview test**,** the selection committee will finalize the applicants for admission to the Ph.D. programme.

**Specializations and Research areas:**

| Name of the Department | Ph.D. Category | Broad research areas |
|---|---|---|
| Mechanical Engineering | HTRA (Full-Time / Part–Time) | • Machining, Multi-Criteria Decision Making, Optimization;<br>• Al/Mg based Hybrid composite, Advanced Metal Forming-Conventional-Micro-Macro-Forming, Shape memory alloys;<br>• Solid State Additive Manufacturing, Sustainable Manufacturing, Solid State Joining, Welding, (Metal Recycling);<br>• Additive Manufacturing, Defence and Aerospace Applications, Space Application, Application of AI for Defence and Aerospace Modules<br>• Bio-Inspired Engineering, Bio-Medical Devices; Thermo-Mechanical Virtual Processes, Sensors & Semiconductor Technology, Metal Additive Manufacturing;<br>• Abrasive Machining & Finishing, Post-Processing of Additive Manufactured Components, Robotics Manufacturing, Machining Dynamics;<br>• Manufacturing, Tribology, Surface Engineering, Coating, Machining, Precision Engineering, Water treatment;<br>• Robotics, Machine Learning, Deep Learning, Wire Arc Additive Manufacturing;<br>• Data Driven methods, Structural Dynamics, Meta-material and Structure, Smart Materials and structures, Constitutive modelling, Numerical Method, Soft materials, bio-inspired material, Medical applications using Machine learning, Fluid-structure Interaction.<br>• Under actuated Robotics, Soft Robotics, Probabilistic Robotics, Evolutionary Robotics, Robot motion planning, Bayesian Statistics, Inverse Methods in Engineering, Image processing and computer vision;<br>• Vibrations, Dynamics and control, Data Driven Dynamical Systems, Nonlinear dynamics, computational material science, Micro-scale devices, Scanning probe microscopy;<br>• Cyber Physical Systems, Digital Twins, Deep Learning, Data Driven Methods, Autonomous Systems, Robotics and Automation, Smart Manufacturing, Industry 4.0, SCM, Processes, Automated Inspection; |

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|---|---|---|
| | | • Thermal energy storage, Solar Energy, Phase Change Material (PCM), Thermal management, Heat Transfer, Computational Fluid Dynamics (CFD), Jet Impingement, EV Battery Charging;<br>• Heat Transfer, Fluid Mechanics, IC Engines, Thermal Engineering |

## For Ph.D. Admissions under Sponsored Project:

| Sl. No | Project Title | Broad Research Areas | Funding availability with Designation | Pay details | Eligibility Criteria |
|---|---|---|---|---|---|
| 1 | ABD 900 superalloy for Aero engine application using additive manufacturing technology | Laser powder bed fusion and Direct energy deposition technologies | 3 years (JRF – 1st & 2nd years & SRF-3rd year) | JRF - (Rs 37000/- + HRA)<br><br>SRF – (Rs 42000/- + HRA) | M.E/M. Tech/M.S (by research)/ Integrated PG degree in Mechanical/Manufacturing/Design/Materials or equivalent with first class marks in aggregate from a recognized technical institute/university as a full-time program. |
| 2 | Indigenous development of IN939 superalloy powder for additive manufacturing of aero-engine components | Laser powder bed fusion and Direct energy deposition technologies | 3 years (JRF – 1st & 2nd years & SRF-3rd year) | JRF - (Rs 37000/- + HRA)<br><br>SRF – (Rs 42000/- + HRA) | M.E/M. Tech/M.S (by research)/ Integrated PG degree in Mechanical/Manufacturing/Design/Materials or equivalent with first class marks in aggregate from a recognized technical institute/university as a full-time program. |
| 3 | Freeform finishing of metal additive manufactured parts for aero-engine applications | Laser powder bed fusion and corrosion science knowledge | 2 years (JRF –2nd years & SRF-3rd year) | JRF - (Rs 37000/- + HRA)<br><br>SRF – (Rs 42000/- + HRA) | M.E/M. Tech/M.S (by research)/ Integrated PG degree in Mechanical/Manufacturing/Design/Materials or equivalent with first class marks in aggregate from a recognized technical institute/university as a full-time program. |
| 4 | Development and validation of a novel Biomimetic 3D-printed Dental Implant-based on the Voronoi algorithm for early osteointegration | Laser powder bed fusion and bio-medical implants knowledge | 2 years (Project research scientist – 2nd years & 3rd year) | 2nd years & 3rd year (56000/- + HRA) | M.E/M. Tech/M.S (by research)/ Integrated PG degree in Mechanical/Manufacturing/Design/Materials/Nanotechnology or equivalent with first class marks in aggregate from a recognized technical institute/university as a full-time program. |

**Facilities in the Department:**

The latest and cutting-edge research facilities are available in the Laboratories: Design and Dynamics Laboratory; Thermal and Fluids laboratory; Design Realization Laboratory, Additive and Advanced Manufacturing Systems (DREAAMS) Laboratory; Quality Inspection and Product Validation Laboratory; Computational laboratory; Robotics Laboratory, Materials Processing and Technology Laboratory, Precession Manufacturing Laboratory.

**Convener/coordinator of Ph.D. admissions and contact details:**

Dr. Ashwani Pratap, Ph: 08518-289100 (Ext: 211)

**Online application portal link**: https://iiitkadm.samarth.edu.in/

**Scan for Online Application:**

# Bank Account Details and Payment QR Code:

Account Name: **IIIT DESIGN AND MANUFACTURING**
Account Number: **37806955974**
IFSC Code: **SBIN0064655**
**Branch: IIITDM KURNOOL CAMPUS.**

yono SBI | SBI Payments

MERCHANT NAME: IIIT DESIGN AND MANUFACTURING
UPI ID: 37806955974@SBI

SCAN & PAY

BHIM SBI Pay
BHIM UPI

## Important Dates:

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|---|---|
| Web notification of the Ph.D. Advertisement | 8th April 2026 |
| Online application registration process start date | 13th April 2026 |
| Last date for the submission of online Application form | 17th May 2026 |
| Notification of shortlisted candidates for Interview/ Written Test | 20th May 2026 |