

Indian Institute of Information Technology  
Design and Manufacturing Kurnool



# Information Brochure

## Ph.D. admissions

## January 2025 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 interdisciplinary 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:

Thermal Engineering, Design, Manufacturing

### Vacancies:

Full-Time:		Part-Time:	
Institute Fellowship (HTRA)	6	Vacancies for applicants from Industry/R&D labs	6
Sponsored Project	1	Vacancies for applicants from Academia	4

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

#### (a) Applicants holding Master's degree:

- M. Tech./M.S. (Research) degree in Engineering/Technology in appropriate branch of study from any CFTI with a minimum CGPA of 7.5/10.0 or 70% aggregate of marks at both UG and PG.
- M. Tech./M.S. (Research) degree in Engineering/Technology in appropriate branch of study with a minimum CGPA of 6.5/10.0 or 60% aggregate of marks at both UG and PG for UR/OBC/EWS category and at least CGPA of 6.0/10 or 55% aggregate of marks at both UG and PG for candidates under SC/ST/PWD category. (**GATE Qualification Mandatory**).

#### (b) Applicants holding Bachelor's degree:

- B. Tech. degree holder of any CFTI with a minimum CGPA of 7.5/10 or 70% aggregate marks.
- B. Tech. degree holder of any CFTI with a **valid GATE score** and with a minimum CGPA of 7.0/10 or 65% aggregate marks for UR/OBC/EWS category and minimum of 60% aggregate marks or 6.5 CGPA for candidates under SC/ST/PWD category.
- B. Tech. degree with **valid GATE score** and at least CGPA of 7.5/10 or 70% aggregate of marks under UR/OBC/EWS category and at least CGPA of 7.0/10 or 65% aggregate for candidates under SC/ST/PWD category.

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

### Educational Qualifications:

Master's/M.S. (by Research) degree in the appropriate branch of study with first class and a minimum 60% aggregate marks or CGPA  $\geq$  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 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/ ASSOCEM 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.

## Specializations and Research areas:

Name of the Department	Ph.D. Category	Broad research areas
	HTRA (Full-Time)	<ul style="list-style-type: none"> <li>• Machining, Multi-Criteria Decision Making, Optimization;</li> <li>• Al/Mg based Hybrid composite, Advanced Metal Forming-Conventional-Micro-Macro-Forming, Shape memory alloys;</li> <li>• Additive Manufacturing, Defence Applications, Drones for Renewable and Defence applications;</li> <li>• Manufacturing, Tribology, Surface Engineering,</li> <li>• Robotics, Machine Learning, Deep Learning, Wire Arc Additive Manufacturing;</li> <li>• Vibrations, Dynamics and control, Data Driven Dynamical Systems, Nonlinear dynamics, Micro-scale devices, Scanning probe microscopy;</li> <li>• Cyber Physical Systems, Digital Twins, Deep Learning, Data Driven Methods, Autonomous Systems, Robotics and Automation, Smart Manufacturing, Industry 4.0, SCM, Processes, Automated Inspection;</li> <li>• Thermal energy storage, Solar Energy, PCM, Thermal management, Heat Transfer, CFD;</li> <li>• Heat Transfer, Fluid Mechanics, IC Engines, Thermal Engineering</li> </ul>
	Part - Time	<ul style="list-style-type: none"> <li>• Machining, Multi-Criteria Decision Making, Optimization;</li> <li>• Al/Mg based Hybrid composite, Advanced Metal Forming-Conventional-Micro-Macro-Forming, Shape memory alloys;</li> <li>• Additive Manufacturing, Defence Applications, Drones for Renewable and Defence applications;</li> </ul>

Mechanical Engineering	<ul style="list-style-type: none"> <li>• Manufacturing, Tribology, Surface Engineering, Coating, Machining, Precision Engineering, Water treatment;</li> <li>• Robotics, Machine Learning, Deep Learning, Wire Arc Additive Manufacturing;</li> <li>• Data Driven methods, Dynamics, Smart Materials, Finite Element method, Medical applications using Machine learning;</li> <li>• Vibrations, Dynamics and control, Data Driven Dynamical Systems, Nonlinear dynamics, Micro-scale devices, Scanning probe microscopy;</li> <li>• Cyber Physical Systems, Digital Twins, Deep Learning, Data Driven Methods, Autonomous Systems, Robotics and Automation, Smart Manufacturing, Industry 4.0, SCM, Processes, Automated Inspection;</li> <li>• Thermal energy storage, Solar Energy, PCM, Thermal management, Heat Transfer, CFD;</li> <li>• Heat Transfer, Fluid Mechanics, IC Engines, Thermal Engineering</li> </ul>
------------------------	---

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

PI/Supervisor details	Title of the project	Funding agency name and Project Duration	Broad Research Areas
Dr. J Krishnaiah	Digital Technologies for Agriculture,	STARS project, Jan 2024 to Dec 2026	Digital Technologies for Agriculture

### Facilities in the Department:

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

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

Dr. Ravi Kumar Mandva, Ph: 9885291316

### Important Dates:

Web notification of the PhD Advertisement	04/12/2024
Online application registration process start date	05/12/2024
Last date for the submission of online Application form	22/12/2024, 11:59PM
Notification of shortlisted candidates for Interview/Written Test	24/12/2024
Tentative dates for Interview/Written Test	30/12/2024
Publication of Final Results	01/01/2025
Last date for seat acceptance and fee payment:	04/01/2025
Reporting to the Institute	09/01/2025