



# भारतीय सूचना प्रौद्योगिकी अभिकल्पना एवं विनिर्माण संस्थान कर्नूल

## INDIAN INSTITUTE OF INFORMATION TECHNOLOGY DESIGN AND MANUFACTURING KURNOOL

(An Institute of National Importance under Ministry of Education, Govt. of India)

Jagannathagattu, Dinnedavarapadu, Kurnool-518008, Andhra Pradesh

Ph: 08518-289-111 Fax: 08518-289-127

No. IIITDMK/Ph.D. Admission /2023-24

Date: 26.04.2023

### **Admission to Ph.D. Programme (Full/Part-time) commencing in July 2023**

#### **1. THE INSTITUTE**

Indian Institute of Information Technology, Design and Manufacturing (IIITDM) Kurnool is an Institute of National Importance, established in 2015. It is fully funded and managed by the Ministry of Education, Government of India. It is aimed to become a Centre of Excellence for pursuing Design and Manufacturing oriented Engineering Education and Research domains. As on date, the Institute is offering 4 B. Tech programmes in Computer Science and Engineering, Artificial Intelligence and Data Science, Electronics and Communication Engineering, and Mechanical Engineering and 3 M. Tech programmes in Computer Science and Engineering with specialization in Data Analytics and Decision Sciences, Electronic System Design, and Smart Manufacturing. In addition, Ph.D. programmes, in Science and Engineering departments are being offered.

#### **2. ABOUT RESEARCH PROGRAMMES**

The Institute offers full-time/part-time Ph.D. programmes in the Departments of Computer Science and Engineering, Electronics and Communication Engineering, Mechanical Engineering, Sciences (Mathematics, Physics, and English). Details of broad research areas for admission are provided at **Annexure 'A' and Annexure 'B'**.

#### **3. EDUCATIONAL QUALIFICATIONS & ELIGIBILITY**

##### **3.1 Full time Ph.D. admission [Under Institute Fellowship]**

###### **3.1.1 Ph.D. in Engineering:**

**(a) Applicants holding Master's degree:** Candidates with a M. Tech/M.S. (Research) degree in Engineering/Technology in the appropriate branch of study with a good academic record. (First class with a minimum of 60% aggregate marks or CGPA  $\geq$  6.5 (out of 10) in UG and PG)

Sl. No.	Department	Eligibility
1	Computer Science and Engineering	Master's degree in Engineering/Technology. Preference will be given to those with M.Tech. /M.E. /M.S. degree in Computer Science and Engineering or equivalent. <b>Should have been qualified in GATE exam any-time</b>

2	Electronics and Communication Engineering	Master's degree in Electronics and Communication Engineering or equivalent. <b>Should have been qualified in GATE exam any-time.</b>
3	Mechanical Engineering	Master's degree in Mechanical Engineering, Aerospace Engineering, Automobile Engineering, Energy Engineering, Industrial Engineering, Instrumentation, Metallurgical Engineering, Production/Manufacturing Engineering, Mechatronics, CAD/CAM/CIM and other allied areas. <b>Should have been qualified in GATE exam any-time</b>

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

Candidates who have Bachelor's degree in Engineering/Technology with exceptionally good academic record will be considered for direct admission to Ph.D. Programme in the engineering departments subject to anyone of the following conditions:

- A B. Tech degree holder from IIT with a minimum CGPA of 8.0 on a 10-point scale or with a valid GATE score.
- A Bachelor's degree holder in Engineering/Technology from any other University who is among the top 10 rank holders in the University and having a valid GATE score. (Proof of Top 10 rank holder certificate should be attached).
- A Bachelor's degree holder in Engineering/Technology from a reputed R&D organization with minimum 60% aggregate marks or CGPA  $\geq 6.5$  (out of 10) and having a proven research record.

**3.1.2. Ph.D. in Sciences**

S.No:	Department	Eligibility
1.	Physics	Master's degree in Physics/Applied Physics/Material science. (First class with a minimum of 60% aggregate marks or CGPA $\geq 6.5$ (out of 10) in UG and PG). Should have been qualified in GATE/CSIR-NET exam any-time.
2.	Mathematics	M.Sc. in Mathematics/Applied Mathematics with a good academic record. (First class with a minimum of 60% aggregate marks or CGPA $\geq 6.5$ (out of 10) in UG and PG). Should have been qualified in GATE/CSIR-NET exam any-time.

Additional criteria other than the minimum educational qualifications given in section 3.1 may be set by the Selection Committee from time to time for short listing candidates to be called for test and/or interview.

### **3.2 Full Time Ph.D. Admission [Under Sponsored Project]**

#### **3.2.1 Ph.D. in Engineering:**

**a) Applicants holding Master's degree:** Candidates with a M. Tech/M.S. (Research) degree in Engineering/Technology in the appropriate branch of study with a good academic record. (First class with a minimum of 60% aggregate marks or CGPA  $\geq$  6.5 (out of 10) in UG and PG)

<b>S. No.</b>	<b>Department</b>	<b>Eligibility</b>
1	Computer Science and Engineering	Master's degree in Engineering/Technology. Preference will be given to those with M.Tech /M.E./M.S. degree in Computer Science and Engineering or equivalent. <b>Should have been qualified in GATE exam any-time.</b>
2	Electronics and Communication Engineering	Master's degree in Electronics and Communication Engineering or equivalent. <b>Should have been qualified in GATE exam any-time.</b>

#### **3.2.2. Ph.D. in Sciences**

<b>S. No:</b>	<b>Department</b>	<b>Eligibility</b>
1.	Physics	Master's degree in physics/Applied Physics/Material science. (First class with a minimum of 60% aggregate marks or CGPA $\geq$ 6.5 (out of 10) in UG and PG). Should have been qualified in GATE/CSIR-NET exam any-time.

### **3.3 Full Time Ph.D. Admission [Self-Financed - without Institute Fellowship]**

A candidate in this category works full-time towards the Ph.D. Programme. The Institute does not provide any financial assistantship/fellowship.

#### **3.3.1 Ph.D. in Engineering:**

**a) Applicants holding Master's degree:** Candidates with an M. Tech/M.S. (Research) degree in Engineering/Technology in the appropriate branch of study with a good academic record. (First class with a minimum of 60% aggregate marks or CGPA  $\geq$  6.5 (out of 10) in UG and PG)

<b>SI. No.</b>	<b>Department</b>	<b>Eligibility</b>
1	Computer Science and Engineering	Master's degree in Engineering/Technology. Preference will be given to those with M.Tech /M.E. /M.S. degree in Computer Science and Engineering or equivalent.
2	Electronics and Communication Engineering	Master's degree in Electronics and Communication Engineering or equivalent.
3	Mechanical Engineering	M.Tech. /M.E. /M.S. degree in Mechanical Engineering, Aerospace Engineering, Automobile Engineering, Energy Engineering, Industrial Engineering, Instrumentation, Metallurgical Engineering, Production, Manufacturing Engineering, Smart Manufacturing, Mechatronics, CAD/CAM/CIM and other allied areas.

### 3.3.2. Ph.D. in Sciences

S.No:	Department	Eligibility
1.	Physics	Master's degree in physics/Applied Physics/Material science with a good academic record. (First class with a minimum of 60% aggregate marks or CGPA $\geq$ 6.5 (out of 10) in UG and PG).
2.	Mathematics	M.Sc. in Mathematics/Applied Mathematics with a good academic record. (First class with a minimum of 60% aggregate marks or CGPA $\geq$ 6.5 (out of 10) in UG and PG).

### **3.4 Full-Time Ph.D. Admission [Fellowship from external funding agencies (Govt. / Semi-Govt)]**

Candidates who have qualified for JRF from various funding agencies such as UGC / CSIR / INSPIRE / NBHM / DBT / ICMR / MeitY and if it is tenable for the year of registration may also apply for Ph.D. programme under this category subject to fulfilling the following eligibility criteria for admission to various departments.

#### **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.

S.No.	Department	Eligibility
1	Computer Science and Engineering	M.Tech. /M.E. /M.S. degree in Computer Science and Engineering or equivalent.
2	Electronics and Communication Engineering	M.Tech. /M.E. /M.S. degree in Electronics and Communication Engineering or equivalent.
3	Mechanical Engineering	M.Tech. /M.E. /M.S. degree in Mechanical Engineering, Aerospace Engineering, Automobile Engineering, Energy Engineering, Industrial Engineering, Instrumentation, Metallurgical Engineering, Production, Manufacturing Engineering, Smart Manufacturing, Mechatronics, CAD/OCAM/CIM and other allied areas.
4	Sciences	<p><b>i) Mathematics</b> M.Sc./M.A. in Mathematics/Applied Mathematics or equivalent</p> <p><b>ii) Physics</b> Master's degree in Physics/Applied Physics/Material Science</p> <p><b>iii) English</b> MA in English (TESOL/TESL/ELT) (or) MA in English Literature or allied subjects</p>

### 3.5 Part-time Ph.D. admission:

#### **Applicant Eligibility criteria:**

An applicant must satisfy the minimum eligibility criteria, mentioned under (a), (b) and (c) of this section, to consider his/her application for Part-time Ph.D. programme of the institute and additional requirements specific to the departments will be published in website along with advertisement from time to time with the approval from the competent authority.

#### **(a) 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.

S.No.	Department	Eligibility
1	Computer Science and Engineering	M.Tech. /M.E. /M.S. degree in Computer Science and Engineering or equivalent.
2	Electronics and Communication Engineering	M.Tech. /M.E. /M.S. degree in Electronics and Communication Engineering or equivalent.
3	Mechanical Engineering	M.Tech. /M.E. /M.S. degree in Mechanical Engineering, Aerospace Engineering, Automobile Engineering, Energy Engineering, Industrial Engineering, Instrumentation, Metallurgical Engineering, Production, Manufacturing Engineering, Smart Manufacturing, Mechatronics, CAD/OCAM/CIM and other allied areas.
4	Sciences	i) Mathematics M.Sc./M.A. in Mathematics/Applied Mathematics or equivalent ii) Physics Master's degree in Physics/Applied Physics/Material Science

**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.

#### **(b) Relevant Experience**

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

OR

Permanent/Regular Employees from Private Industries/Education Institutions with R & D facilities having at least three years of experience are eligible.

### **(c) Organization Qualifications**

- (i) Government R&D laboratories/Government Educational Institutions/ Government organizations/Government industry/PSUs/State Govt. Undertakings,
- (ii) Private Organization/Industry/Educational Institutions, to which the applicant belongs to, must be of at least 3 years standing (i.e., established at least five years before the last date of applying for Ph.D. (Part-time) admission as per the advertisement) with membership in CII/ASSOCHEM or any other equivalent membership.

## **4. Financial Assistance**

### **4.1 Ph.D. Admission (Under Institute Fellowship):**

The scholars admitted to the Ph.D. programmes under Full-time are eligible for the Half-time Teaching/Research Assistantship (HTRA) under the following regulations:

- The scholars should work for at least 8 hours per week to earn this assistantship.
- Renewal of assistantship every semester will be contingent on enrolment, satisfactory progress in research work and good performance during the preceding semester in the discharge of responsibility as teaching / research assistant.
- Financial assistance is provided to selected scholars based on the prescribed rules of MoE.
  - a) **1<sup>st</sup> and 2<sup>nd</sup> Year: Rs. 31,000/-**
  - b) **3<sup>rd</sup> to 5<sup>th</sup> year: Rs. 35,000\*/-**

(\*The fellowship is awarded based on external assessment after completion of two years).

### **4.2 Ph.D. Admission (Under Project Fellowship)**

Scholars under Project category are eligible for an assistantship from Sponsored Research project under regulations of the respective Sponsored Research Project agency. The admission to this category is contingent upon the successful selection of the candidate for Project. On completion of project funding, institute will not support any assistantship.

### **4.3 Ph.D. admission [Fellowship from external funding agencies (Govt./Semi-Govt.)]**

Fellowship will be as per the norms of the respective external funding agency.

### **4.4 Selection Procedure:**

- 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 Interview and/or written test.
- Based on the academic record and the performance of the candidates in the Interview and/or written test based on GATE 2023 syllabus, the selection committee will finalize the names of candidates for admission to the Ph.D. programme.

### **4.5 Fee Structure:**

- The Fee structure for the Ph. D. programme is given in **Annexure 'C'**.
- No TA/DA will be paid for attending written exam and/or Interview for Ph.D. programme.

#### **4.6 Completing the Qualifying Degree and production of Provisional Certificate:**

Candidates joining Ph.D. programme in July 2023 semester have to submit their original mark/grade sheets along with provisional certificates at the time of admission for verification.

#### **4.7 Application Procedure:**

Interested and eligible candidates shall submit application using online Admission to Ph.D. programme portal available on the Institute website ([www.iiitk.ac.in](http://www.iiitk.ac.in)). Enclosures such as GATE score card, Educational and Experience certificates, online Fees payment receipt, No Objection Certificate (NOC) and sponsorship certificate in support of application are to be uploaded as separate documents (pdf), along with the application form. In case, NOC is not enclosed at the time of online submission, a self-declaration form should be upload by the candidate stating that NOC will be submitted at the time of interview. No Downloadable Forms will be available. After filling the form, you are advised to take a printout of your application and keep the same for your record.

- Application Fee:
  - a) Gen/OBC candidates: Rs.500/-
  - b) SC/ST/PwD candidates: Rs.250/-

Candidates need to pay application fee only through online mode and the account details are as follows.

**Account Holders Name: Indian Institute of Information Technology Design and Manufacturing, Kurnool.**

**Account Number: 50100257542350**

**IFSC Code: HDFC0004159**

**Bank Name: HDFC Bank C Camp Center Branch Kurnool**

Application fee once paid is non-refundable.

- Shortlisted candidates qualified for the Written test/Interview need to submit the following applicable self-attested documents and original certificates are to be produced for verification on the day of Written test/Interview:
  - a) Copies of all Mark sheets/grade cards, degree certificates beginning from SSLC/SSC towards proof of qualification with original certificates.
  - b) Copy of Community Certificate in the case of SC/ST/OBC/Economically Weaker Section (EWS) candidates issued by the competent authority of respective State Government.
  - c) Authorized Doctor's Certificate with disability descriptions in the case of Person with Disabled (PwD) candidates.
  - d) Copy of GATE score or UGC-JRF/NET/CSIR/ DAE-JEST/Inspire fellowship or other fellowship award.
  - e) Copy of proof of Experience certificate, if any.
  - f) Copy of No Objection and Sponsorship certificate

#### **4.8 Reservation of seats:**

Reservations are applicable as per the rules and regulation of the Govt. of India.

**5. Rules and Regulations for the PhD programs (Institute Fellowship, Project and Self-Financed Ph.D. Full time / Part Time) are available in the belowlink: <https://iiitk.ac.in/Ph.D.-Admission/page>**

### IMPORTANT DATES

Web notification of the PhD Advertisement and the Application Registration process starts on	26 – 04 – 2023 (Wednesday)
Last date for the submission of online Application forms	25 – 05 – 2023 (Thursday)
Web notification of the short-listed candidates for written test and/or Interview	29 – 05 – 2023 (Monday)
Tentative dates of written test and/or interview (for short listed candidates)	12 – 06 – 2023 to 15 – 06 – 2023 (Monday to Thursday)
Announcement of Results	19 – 06 – 2023 (Monday)
Last date for the seat confirmation, fees payment for the first semester (selected candidates only) and reporting to the institute.	26 – 06 – 2023 (Monday)
Report to the Institute and Commencement of the Academic Session	03 – 07 – 2023 (Monday)

**For Any queries, the applicants can drop a mail to: [phdadmissions@iitk.ac.in](mailto:phdadmissions@iitk.ac.in)**



**Tentative Broad Research Areas**

**(Under Institution Fellowship/External funding agency/Self-financing)**

<b>Department</b>	<b>Institute fellowship / Self-financing</b>	<b>External Funding Agencies</b>	<b>Part-Time</b>
<b>Computer Science and Engineering</b>	Deep Learning Applications, Natural Language Processing, Computer Vision, Networking, Cloud Computing, Block Chain, Data Mining, Analytics, Cryptography, Theoretical Computer Science, Bioinformatics, and Health Analytics.		
<b>Electronics and Communication Engineering</b>	Communication System, Cognitive Radio Navigation System, MIMO System, SDR, VLSI Embedded System, DSP, Cryptography, Coding Theory, Wireless Communication, SDR, 5G Systems, MIMO Systems, Semiconductor Device Modelling, Analog IC Design, Digital IC Design.		
<b>Mechanical Engineering</b>	Industry 4.0, Digital twin, Cyber-Physical System, Manufacturing, Vibrations, Dynamics and Control, MEMs, and Any other mechanical research areas.		
<b>Mathematics</b>	Mathematical Control Theory, Inverse Problems, Numerical Solution of PDE Parameter Uniform Numerical Method, Algebra- Group Theory & Lie Algebra, (Cryptology-only for part-time).		
<b>Physics</b>	Condensed Matter Physics (Expt.), Nano Sciences Nano Technology, Solar Energy Materials, Hydrogen Fuel Production, CO <sub>2</sub> Reduction, Solar Cells, Batteries, Super Capacitors, Photonics, Fiber Optics FBG Sensors Dynamic Liquid Lenses, Optics	Condensed Matter Physics (Theory and Experiment) Solar Energy Materials, Hydrogen Fuel Cells Nanophotonics, Optical Nanomaterials; Magnetism: Magnetic nanomaterials, Skyrmions, Core-Shell Magnetic nanoparticles, Ferrites; Nano Sciences and Nano Technology, Batteries, Super Capacitors; Photonics, Fiber Optics, FBG Sensors, Dynamic Liquid Lenses, Optics; Computational Physics	Condensed Matter Physics (Expt.); Solar Energy Materials, Hydrogen Fuel Cells Nanophotonics, Optical Nanomaterials; Magnetism: Magnetic nanomaterials, Skyrmions, Ferrites, Core-Shell magnetic nanoparticles; Nano Sciences and Nano Technology, Batteries, Super Capacitors; Photonics, Fiber Optics FBG Sensors, Dynamic Liquid Lenses, Optics;
<b>English</b>		English Language Education/ English Language Teaching	

**Tentative Broad Research Areas**

**(Under Project Fellowship)**

<b>Department</b>	<b>Full Time</b>
<b>Computer Science and Engineering</b>	Deep Learning (Aerosol Pollution Prediction using Deep Learning)
<b>Electronics and Communication Engineering</b>	Communication System, Cognitive Radio Navigation System, MIMO System, SDR. VLSI Embedded System, DSP, Cryptography, Coding Theory, Wireless Communication, SDR, 5G Systems, MIMO Systems, Analog IC Design, Digital IC Design.
<b>Physics</b>	Condensed Matter Physics Theory and Experiment, Computational Physics Catalysts, Water Splitting, Quantum dots for Hydrogen Fuel Generation

**FEES PARTICULARS****Ph.D. Fee Structure (Semester Wise)**

Heads/Batch		Amount (in Rs.)
1	Tuition Fee (Semester Wise)	26,400
	<b>Total (1)</b>	<b>26,400</b>
2	<b>Other Fees # (Semester Wise)</b>	
	a) Internet & ICT Fee	1,000
	b) Medical Insurance + PHC	1,875
	c) Student Amenities Fee	3,000
	d) Examination Fee	250
	e) Sports Fee	2,250
	f) Registration Fee	500
	<b>Total (2)</b>	<b>8,875</b>
3	<b>One Time Fees</b>	
	a) Admission Fee	500
	b) Certificate /Thesis Fee	1,500
	c) Student Welfare Fee	1,000
	d) Infrastructure Development Fee	1,000
	e) Alumni Life Membership Fee	500
	f) Publication Fee/Library Fee	1,500
	g) Caution Money*	5,000
<b>Total (3)</b>	<b>11,000</b>	
4	<b>Hostel Fees (Semester Wise)</b>	
	a) Hostel Admission Fee	1,000
	b) Hostel Seat rent	3,500
	c) Hostel Maintenance Charges	9,000
	d) Hostel Development Fee	1,500
	e) Dining Charges -advance^	21,060
<b>Total (4)</b>	<b>36,060</b>	
<b>Grand Total (1+2+3+4)</b>		<b>82,335/-</b>

**Note:**

1. The SC/ST students shall get complete tuition fee waiver as per Govt. of India directives.
2. One Time Fee will be collected only once at the time of Admission.
3. \* Caution Money is refundable at the time of leaving the institute after deducting dues, (if any)
4. ^ Dining Charges -Advance, is subjected to change depending on the Mess contract.
5. # Other fees may vary from time to time – Semester Wise.

**NO OBJECTION CERTIFICATE FROM THE EMPLOYER**

The application from Mr./Ms ..... working as .....  
..... in ..... since ....., is  
here with recommended and forwarded to pursue Ph.D programme under Part-time registration  
scheme in July 2023 at Indian Institute of Information Technology Design and Manufacturing  
Kurnool in the Department of .....

Date:

Signature of the Officer with  
name and address of the Organization

Office Seal

**Sponsorship Certificate**

**(To be submitted in the Official Letter Head by the Ph.D. Part time Registration Candidates)**

The application from Mr./Ms.....working as..... in .....since ..... is herewith recommended and forwarded for admission under part time Ph.D. Program in the Department of ..... at Indian Institute of Information Technology Design and Manufacturing Kurnool.

**Certified that:**

1. Our organization has adequate facilities for carrying out the research as indicated by the applicant and if he/she is selected, these will be made available to him/her till the completion of the programme.
2. The applicant will be deputed/given leave for duration of his/her residence period at IIITDM, Kurnool. (The details of residential requirements are available under RP 3.4 of Part-time Ph.D. - Regulations document on the institute website: <https://iiitk.ac.in/Rules-and-Regulations/page>)
3. Facilities will be made available to the Supervisor (External Research Supervisor) to supervise the work of the applicant and to attend the DC meetings at IIITDM, Kurnool, when necessary.
4. Till the completion of his/her research programme, the applicant will not ordinarily be transferred to another unit or place which may impede his/her work under the scheme. If such a transfer is necessary, IIITDM, Kurnool will be informed at least before one month of such transfer order.
5. No part of the work carried out in fulfilment of the Research programme will be utilized commercially or for applying for a Patent without the approval of Indian Institute of Information Technology, Design and Manufacturing Kurnool.

**Date:**

**Signature of the Sponsoring Authority**

**Name and Designation**

**Seal of the organization/ Institution**