

INFORMATION BROCHURE

(Advt.No.: IIITDM/PhD/Admission/03/01/Jul-2024 dated 15/03/2024)

Ph.D. Programme



**Indian Institute of Information Technology,
Design and Manufacturing, Kancheepuram, Chennai- 127.**

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01) INTRODUCTION

Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram (IIITDM) is an Institute of National Importance under the Ministry of Education, Govt. of India and established in the year 2007 with a vision to promote creative and knowledge-intensive products and processes in the manufacturing sector.

It is strategically located in close proximity to the IT and industrial clusters in Chennai and is away from Chennai Airport by 25 KMs. IIITDM has secured 8th Rank in the NIRF Innovation Ranking 2023 (ARIIA 2023).

IIITDM Kancheepuram offers Undergraduate, Postgraduate and PhD programme in the areas of Computer Science and Engineering, Electronics and Communication Engineering, Mechanical Engineering, Smart Manufacturing and Interdisciplinary Design and Innovation. It functions with the vision to groom engineers with design and manufacturing skills. The institute gives a significant amount of emphasis to practice courses and theory concepts are also explored along with the relevant laboratory course. In concise, the motto of the institute is “**Learning by Doing**”.

02) ABOUT RESEARCH PROGRAMMES

The Institute offers research program in the disciplines of Computer Science and Engineering, Electronics and Communication Engineering (Including Electrical Engineering, Biotechnology, and Biomedical Engineering), Mechanical Engineering, Mathematics, English, Physics, and Interdisciplinary Product Design.

Details of Research Areas for admission are provided in **Annexure ‘A’**.

03) INFRASTRUCTURE AND OTHER FACILITIES

It is a green campus having digital classrooms and well-equipped laboratories catering to UG/PG/PhD students. The institute is also well-equipped with experimental and computational facilities.

The Library has a good collection of books, printed journals, magazines, leading newspapers, e-Journals, NPTEL course materials and video content. The Library maintains a separate collection of reference books. The institute also subscribes to leading e-journals viz IEL (IEEE & IEE) and Elsevier Science.

The institute has separate hostels for both boys/girls on campus. Students residing in the hostels are provided with an exclusive dining facility. The entire campus is Wi-Fi enabled.

The Institute is also having academic – research collaborations with reputed Indian and foreign Universities.

04) CATEGORY OF PH.D. ADMISSION (HTRA, NHTRA, Project, External, PEE, Fellowship, Visvesvaraya PhD Scheme Full time & Part time)

I. HTRA (Regular Full-Time Program with Institute Scholarship):

Scholars under the **HTRA** category are eligible for Half-Time Research Assistantship (HTRA) provided by the Institute under the following regulations:

- a) The scholars need to carry out Teaching Assistantship (TA ship) for at least 8 hours per week.
- b) Renewal of assistantship for every subsequent semester will be contingent on enrolment, satisfactory progress in research work, and good performance during the preceding semester.
- c) The assistantship under HTRA is Rs. 37,000 per month during the first and second year and Rs. 42,000 per month during 3rd - 5th year period subject to fulfillment of external assessment at the end of second year, and having a satisfactory performance. Enhancement of assistantship, if any, will be in line with the norms of Ministry of Education. The scholars are permitted to continue their research even after submission of thesis and fellowship is provided till completion of their viva or 5 year period whichever is earlier.

II. NHTRA (Regular Full-Time Program without Institute Scholarship):

- a) Scholars under the **NHTRA** category are not eligible for any Half Time Teaching assistantship at the Institute.

III. Project (Regular Full-Time Program with Financial Support from Sponsored Project):

- a) Scholars under the **Project** category are eligible for an assistantship from Sponsored Research project under the regulations of the Sponsored Research Office of IITDM Kancheepuram. The admission to this category is contingent upon the successful selection of the candidate as JRF by the Sponsored Research Office of IITDM Kancheepuram. On completion of project funding, institute assistantship may be considered subject to conditions stipulated by the Senate.
- b) The candidates are required to submit a NOC from PI/Dean at the time of admission.

IV. EXTERNAL (Part-Time Program without Institute Scholarship):

- a) The candidates employed and sponsored by the national laboratories, public sector companies or private industry/organization having R&D facilities and recognized by Govt. of India are eligible to apply under this category. Such organizations must be listed in the R&D Brochure of Department of Science and Technology (Refer to DST-R&D Brochure)
- b) Research scholars under this category will normally carry out part or all of his / her research work in his/her own organization under the supervision of a co-guide, must be a Ph.D holder, employed in the same organization and a Guide from IITDM Kancheepuram. The candidate must have at least two years of regular service in the respective organization.
- c) The candidates are required to submit a Relief certificate, NOC & Sponsorship certificate at the time of admission.
- d) These candidates are to complete the courses as advised by the DC during the first year of their program.

V. Professional with Extensive Experience (PEE):

- a) Candidates working as scientist in DRDO, ISRO and PSUs, and other R&D Organizations recognized by Govt. of India (DST) are eligible to apply under this category. (Refer to DST-R&D Brochure)
- b) Candidate shall have M.Tech. / MS (Research) / Equivalent degree with at least 10 years of professional experience.
- c) Candidate having B.Tech. / Equivalent degrees are required to have at least 12 years of

professional experience.

- d) Candidates should have demonstrated research potential through research papers in reputed journals / patents / technology transfer.
- e) These candidates are expected to discuss with prospective research supervisors at the institute before submitting their application. These candidates are to attend courses (In-house courses, Self-study courses, NPTEL) as advised by the DC during the first year of their program.
- f) No residency requirement for such candidates.
- g) Research scholars under this category will normally carry out part or all of his / her research work in his/her own organization under the supervision of a Guide from IITDM Kancheepuram and such scholars need not have a co-guide in their organization.

VI. Fellowship (Regular Full-Time Scholars with Govt./Semi-Govt. Fellowship Award):

- a) 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 and subsequent period may also apply for Ph.D programme under the Fellowship category subject to fulfilling the eligibility criteria for admission to various departments.

VII. Visvesvaraya PhD Scheme (Full-Time):

- a) Scholars under the Visvesvaraya PhD Scheme category are eligible for fellowship under Visvesvaraya PhD Scheme by MEITY.
- b) The terms and conditions and the Standard Operating Procedures of the Scheme issued by the MEITY are provided in **Annexure B**.

VIII. Visvesvaraya PhD Scheme (Part-Time):

- a) The professionals working at a reputed place/organization are eligible to apply under this category.
- b) The candidates are required to submit a NOC at the time of admission.
- c) These candidates are to complete the courses as advised by the DC during the first semester/year of their program.
- d) The other terms and conditions and the Standard Operating Procedures of the Scheme issued by the MEITY are provided in **Annexure B**.

05) COMMON MINIMUM ELIGIBILITY CRITERIA FOR Ph.D. ADMISSION: (HTRA / NHTRA / PROJECT / External Category / Fellowship / Visvesvaraya PhD Scheme Full time & Part time)

I. For applicants holding a PG degree:

- a) Candidates with a Master's degree in Engineering/Technology (ME / M. Tech / M Des) or a Master of Science (MS) degree by Research in Engineering/Technology or 5-year integrated Masters with a good academic record.
- b) Candidates with a Master's degree in Sciences/Arts with a good academic record and of exceptional merit are eligible for the relevant Engineering discipline and with a valid GATE score or CSIR UGC NET/NBHM/DAE-JEST or equivalent qualification in the relevant area tenable for the year of registration.

II. Direct Ph.D. (for applicants having a UG degree and no PG degree):

Candidates who have qualified for the award of a Bachelor's degree in Engineering/Technology with an exceptionally good academic record in an eligible discipline will be considered for **direct admission to Ph.D. Programme** as a regular full-time scholar subject to the following conditions:

- a) Bachelor's degree holder in Engineering/Technology from Centrally Funded Technical Institutes (CFTIs) with a minimum CGPA of 8.0 on a 10.0-point scale (or equivalent).
- b) Bachelor's degree in Engineering/Technology from NonCFTIs with a valid GATE score or other equivalent national exam qualification (Validity required at the time of joining) and CGPA of at least 8.0 out of 10.0 (or equivalent)
- c) A Bachelor's degree holder in Engineering/Technology and employed in a reputed R&D organization recognized by Govt. of India (Refer to R&D Brochure of DST), for at least 2 years with an excellent research record.

06) MINIMUM EDUCATIONAL QUALIFICATION FOR ADMISSION TO Ph.D. PROGRAMME IN DIFFERENT DEPARTMENTS / SCHOOLS/ DISCIPLINES

An applicant should possess the following minimum qualifications in appropriate areas to be eligible to apply for admission to the Ph.D. program of the Institute.

I. Computer Science and Engineering

Master's degree in Computer Science and Engineering/Computer Engineering/Information Technology/Artificial Intelligence/Machine Learning/Data Science/Cyber Security and relevant areas.

(Candidates with only MCA / M.Sc. / M.Phil. are not eligible)

II. Electronics and Communication Engineering (Including Electrical Engineering, Biotechnology, Biomedical Engineering)

Master's degree in Electrical Engineering / Electrical and Electronics Engineering / Electronics Engineering / Electronics and Communication Engineering / Instrumentation Engineering or Master's degree in Physics followed by a Master's degree in Engineering in an area relevant to the research.

Master's in Biotechnology, Biomedical Engineering

III. Mechanical Engineering

Master's degree in Mechanical Engineering / Design / Thermal Engineering / Production / Manufacturing Engineering / Aerospace Engineering / Automobile Engineering / Energy Engineering / Industrial Engineering / Instrumentation / Maintenance / Management / Metallurgy / Biomechanical Engineering / Mechatronics/ CAD/CAM/ CIM, Robotics and Automation and other related areas depending on the research topics.

IV. Mathematics

Master's Degree in Mathematics/ Statistics/ Physics/ Computer Science with GATE/UGC/CSIR/NBHM or M.Tech. (Industrial Mathematics & Scientific Computing) or any M. Tech degree with a Master's degree in Mathematics/Physics/Statistics/ Computer Science.

V. Physics

M.Sc. in Physics/Applied Physics/Mathematics/Material Science/Applied Optics/Optoelectronics with GATE/UGC/CSIR/NBHM or M.Tech. in Solid State Technology / Materials Science / Mechanical Engineering or equivalent.

VI. English

- a) M. A. in English/ English Literature/ English Language Studies or equivalent in a relevant discipline with Qualifying UGC – NET or JRF/ GATE Score.
- b) Master's degree / dual degree or equivalent in a relevant discipline with Qualifying UGC – NET or JRF / CSIR-JRF / GATE Score or equivalent qualification.
- c) Master's degree in Engineering / Technology or 5 year BS + MS Dual degree / 5 year Integrated degree from Centrally Funded Technical Institute with a good academic record.

VII. School of Interdisciplinary Design and Innovation

- a) Master's (ME /M.Tech. /M.Des. /M. Arch./MBA) or equivalent in any discipline
- b) MS / M.Sc. or equivalent in any Science discipline with GATE/UGC/CSIR/NBHM /DAE-JEST.

07) SELECTION PROCEDURE

I. Selection Procedure for HTRA/NHTRA/Project Category/ Fellowship/ Visvesvaraya PhD Scheme Full-Time

- a) Eligible candidates possessing the minimum educational qualifications and satisfying **additional and stiffer criteria set by the institute** from time to time will be called for a written test/ interview.
- b) Selection will be purely based on the academic record and the performance of the candidates in the written test and/or interview.
- c) All rules and regulations as given in the Ph.D. Ordinance are available on the institute website and other guidelines issued by the institute/MoE from time to time are applicable to Scholars of all Categories.

II. Selection Procedure for EXTERNAL Category

- a) External candidates are required to submit a detailed research proposal along with their application indicating therein a Supervisor available for guidance in the parent Organization/Industry.
- b) The proposal should have been approved by the research Organization/Industry in which the candidate is employed.
- c) The Organization/Industry should be allowing the candidate to carry out the research where he/she is employed.
- d) The proposal will be scrutinized by the respective Dept. before shortlisting for test/ interview.
- e) Candidates are required to attend an interview conducted by the respective Department and their selection is purely based on their performance and research proposal.
- f) All rules and regulations provided in the PhD Ordinance are available on the institute website and other guidelines issued by the institute from time to time are applicable to Scholars under this Category.

III. Selection Procedure for Visvesvaraya PhD Scheme – Part-Time Category

- a) Visvesvaraya PhD Scheme – Part-time candidates are required to submit a detailed research proposal along with their application.
- b) The proposal will be scrutinized by the respective departments before shortlisting for test/ interview.
- c) Candidates are required to attend an interview conducted by the respective department and their selection is purely based on their performance and research proposal.
- d) All rules and regulations provided in the PhD Ordinance are available on the institute website and other guidelines issued by the institute from time to time are applicable to Scholars under this Category.

IV. Selection Procedure for Professional with Extensive Experience Category

- a) Professional with Extensive Experience (PEE) are required to submit a detailed research proposal along with their application.
 - b) The proposal should have been approved by the research Organization/Industry in which the candidate is employed.
 - c) The Organization/Industry should be allowing the candidate to carry out the research where he/she is employed.
 - d) The proposal will be scrutinized by the respective Dept. before shortlisting for interview.
 - e) Candidates are required to attend an interview conducted by the respective Department and their selection is purely based on their performance in the interview and research proposal.
 - f) All rules and regulations provided in the Ph.D Ordinance are available on the institute website and other guidelines issued by the institute from time to time are applicable to Scholars under this Category.
- V. Candidates who wish to apply for more than one department should submit a separate application and subject to fulfilling the eligibility criteria for applying to the concerned department/research programme mentioned in **Annexure A**.

08) NORMS FOR THE PhD STUDENTS SEEKING RELIEF WITHOUT COMPLETION OF THE PROGRAM

The institute expects all the students joining the Ph.D. Program to fulfill the objective of the program, such as publication of research papers in reputed journals; patent filing, and completing their research work within the stipulated period. However, if a scholar under HTRA category wants to discontinue the Ph.D. Program mid-way, the scholar is required to pay back half of the HTRA amount received until then or Rs. 1 Lakh whichever is less to the Institute. Students at the time of admission are to execute an indemnity bond in this regard.

09) APPLICATION FEES

No application fee is required.

10) COURSE FEE STRUCTURE for PhD

Description	Amount (in Rs.)
I. Institute Fees	
A. One-time Fees:	
Admission Fee	500
Certificate/Thesis Fee	1500
Student welfare fee	1000
Infrastructure Development Fee	1000
Alumni Life Membership Fee	500
Publication Fee / Library Fee	1500
Total (A)	6000
B. Semester Fees:	
Tuition fee (*)	37000 (*)
Examination fee	500
Registration	500
Sports Fee	1000
Medical Fee	1000
Student Amenities	3000
Total (B)	43000
C. Medical Insurance Premium (per annum)	
Medical Insurance premium p.a.	540
Total (C)	540
Grand Total [A+B+C]	49540
II. Hostel Fees (+)	
A. Hostel Fees & Mess Charges per semester	
Hostel Admission fee	700
Hostel Seat Rent	3500
Hostel Maintenance Charges	9000
Dining charges - Advance	16900 (**)
Establishment B Charges	1000
Development Fee	1000
Total (A)	32100 (**)
TOTAL (I + II)	81640

(*) SC/ST students are exempted from payment of tuition fee irrespective of their parental income.

2. Hostel is compulsory for all students. If exemption is granted by the Institute, then day scholars will have to pay the above mentioned Institute fees (Except Hostel Fees).

3. (**) There may be variation on account of maintenance and dining charges based on tendering value.

Revised fee structure if any, shall be uploaded accordingly. The fee will be charged each semester as per

Institute rules/ norms applicable from time to time.

11) INSTRUCTION FOR FILLING ONLINE APPLICATION

The candidates are required to register and submit an ONLINE application by accessing the website www.iiitdm.ac.in. No Hardcopy of the application will be entertained. The candidates are also required to upload the scanned copy of the following self-attested documents:

1	File containing your recent color photograph (Jpg)
2	Scanned copy of your signature (Jpg)
3	Scanned copy of your PG degree certificate (pdf) if the course is completed. If you do not have the final degree certificate, please upload a copy of the final year mark sheet or the provisional certificate. If the course is not completed, a certificate from the principal of the college or the Head of the department as per Annexure C should be uploaded.
4	Scanned copy of your UG degree certificate (pdf) and upload a copy of the mark sheets (pdf)
5	Upload a scanned copy of your Higher Secondary Certificate (pdf).
6	Upload a scanned copy of your birth certificate or proof of date of birth (school leaving certificate or Class 10 certificate) (pdf).
7	Upload the scanned experience certificate if applicable (pdf)
8	Upload the scanned Community Certificate for OBC-NCL/SC/ST/EWS. (Annexure D, Annexure E and Annexure F)
9	Candidates who are applying in the PwD category should upload a valid medical certificate issued by the appropriate authority as per Annexure G (pdf).
10	The prescribed format for submission of the Sponsorship/Endorsement Certificate and particulars of Co-guide are provided as Annexure H and I respectively.
11	Candidates who are applying under Project category should upload a NOC in the prescribed format provided as Annexure J
11	The size of each document should not be more than 2 MB, scanned documents should be 200 dpi or above.
12	Candidates under the External category and Professional with Extensive Experience category are required to submit a detailed research proposal along with the application and a detailed resume

The Institute shall not be responsible for wrong entries and technical error(s) while making the online application.

It may be noted that the application received without requisite documents will be summarily rejected without any further intimation.

12) IMPORTANT DATES:

Dates	Events
15 th March 2024	Portal OPEN for submission of online application
15 th April 2024	LAST DATE for submission of online application
17 th April 2024	Shortlisting of Applications
22 nd April 2024	Intimation to shortlisted candidates for Test / Interview on the Institute website.
Tentative dates for test/interview (for shortlisted candidates) <i>Venue: Seminar Hall, Admin Building, IIITDM Kancheepuram.</i>	
13 th May to 17 th May 2024	Computer Science and Engineering
	Electronics and Communication Engineering
	Mechanical Engineering
	Interdisciplinary Product Design
	Sciences and Humanities: Mathematics, Physics, English
24 th May 2024	Declaration of selected candidates on the website (www.iiitdm.ac.in)
05 th June 2024	Acceptance of the offer by the selected candidates.
29 th July 2024	Physical Reporting and Enrollment.

Candidates are requested to apply online only and there is no requirement for submission of a hard copy of the application.

The candidates are advised to visit the institute website and the respective department portal for details (syllabus and/or other details) regarding written tests/other updates.

13) Other Points for Consideration:

- i. The admission of candidates is purely based on merit by conducting a due selection process.
- ii. Candidates joining Ph.D. programme in July-December/January-June session have to submit their original mark/grade sheets along with provisional certificates at the time of admission. They should also produce their required degree certificate for having passed the qualifying examination within three months from the date of registration.
- iii. Reservations are applicable to SC/ST/OBC/Economically Weaker Section (EWS) and admission of Persons with Disabilities (PwD) will be as per the rules and regulations of the Govt. of India.
- iv. The Institute reserves the right to restrict the number of candidates to be called for test/interview to a reasonable number, on the basis of qualifications and or experience.

- v. All the candidates are requested to bring valid Govt. ID proof along with all Educational documents at the time of selection process.
- vi. All entries should be carefully made at the time of application and IITDM Kancheepuram shall not be responsible for any wrong entries. Candidates shall be solely responsible for the correctness and authenticity of the information/documents provided in the online application.
- vii. Candidates must fill/enter their CGPA or percentage of marks as issued by their institute/college/university. Candidate must not convert their CGPA into percentage and vice-versa.
- viii. In the case of candidates applying under the External category, the Co- guide shall be recognized holding doctoral degree from any university. He/She will be an invitee to the Doctoral Committee meetings at IITDM, Kancheepuram.
- ix. Teaching professionals working in private colleges/universities are not eligible to apply under the external/PEE category.
- x. Online applications submitted by the candidates shall be considered final and binding. Requests for making corrections in the online application at a later stage shall not be entertained.
- xi. The last date for submission of the online application shall not be extended under any circumstances. Therefore, candidates are advised to submit their applications well in advance without waiting until the last date.
- xii. Students admitted under the program shall be governed by Ordinances/ Rules and Regulations in vogue during the course of their program.
- xiii. Candidates are advised to fill up their correct and active e-mail addresses in the online application as all the correspondences will be made by the Institute through email/online only. All information regarding the Test / Interview will be uploaded on the Institute/Department website only. No separate communication will be made.
- xiv. The candidates should ensure that they fulfill all the eligibility conditions as specified. Their admission will be purely provisional till verification/fulfillment of prescribed eligibility conditions.
- xv. The selection is provisional at all stages of the admission process till submission/verification of all the documents/fulfillment of prescribed eligibility.
- xvi. If selected, all the original documents will be verified during physical reporting for admission. If anything is found to be not in order, the applicant's admission shall stand cancelled.
- xvii. Those who wish to avail of Hostel and mess facilities on the day of the test/Interview. may Contact: hosteloffice@iitdm.ac.in
- xviii. For further information, please contact: phdadmission@iitdm.ac.in

Details of Research Areas available for Ph. D admission during July 2024

Department / School	Research Areas
Computer Science and Engineering	<ul style="list-style-type: none"> • Image Processing, Computer Vision, Medical Image Processing, Biometrics • Artificial Intelligence, Machine Learning, Deep Learning, Data Mining, Data Analytics, Hardware for AI • Human Computer Interaction (HCI) • Edge Computing, Reconfigurable computing, Computer Architecture, Memory Technologies, Network System Design • Combinatorial Optimization, Heuristics, Meta – Heuristics • Autonomous Robotics, Robotic Vision • IoT and Cloud Computing, Fog Computing, Membrane Computing • Applied Cryptography, Blockchain Technology • Real time scheduling in Cyber Physical Systems, Algorithms for Smart Grids and Electric Vehicle problems
Electronics and Communication Engineering	<ul style="list-style-type: none"> • Wireless Communications / Networks • Signal Processing / Biomedical Image Processing / Machine Learning • Quantum Devices and Technology • Optoelectronic Intelligence • Memory Devices • Neuromorphic Computing • Power electronic converters for renewable energy system and Electric vehicles • Application of Machine learning and Artificial intelligence in power system • IoT in Home Energy Management • Smartgrid • RF & Microwave • Antennas • Bioelectronics and Biosensors • Novel optical tools for clinical diagnosis • Wireless Communications / Networks • Biomedical Signal and Image Processing • Applications with machine learning and Deep learning • PROJECT - MeitY C2S Project on FPGA/ASIC/PSoC Development of Identification of stages of sleep in critical neurological illness cases from continuous EEG signal using Neuromorphic circuit • PROJECT: Instrumentation, Signals and System ("Artificial Intelligence and IoT based Smart Vet Ecosystem for Animal Health, Patient Care and Precision Livestock Farming")

Mechanical Engineering

- Digital Twin for Materials
- Multiscale Modelling
- AI/ML
- Computational Mechanics
- Heat transfer / Fluid mechanics, Fluid Flow, Computational Fluid Dynamics
- Engineering Design with Polymers and Composites
- Manufacturing of Thermoplastic Composite Products
- Fatigue and Fracture of advanced engineering materials
- Structural Optimization
- Sustainable Machining
- Additive Manufacturing, Design for Additive Manufacturing
- Surface Engineering
- Subtractive Manufacturing
- Iso-geometric Analysis
- Experimental and Computational Orthopedic Surgery
- Smart Supply chain Management
- Optimization Techniques
- Circular economy in Supply chain
- Advanced Manufacturing
- Biomedical Devices
- Robotics and automation
- Serial-parallel-compliant mechanisms
- Smart materials and structures
- Smart Manufacturing
- AI-IoT-Machine vision
- Robot control
- Manufacturing Science
- Fluid flow
- CFD
- Heat Transfer
- Wind Turbine
- Thermoelectric devices, Smart Materials – Modelling and Devices
- Advanced Finite Element Methods
- Cold Spray Coating
- Lightweight materials
- thermal management of EV battery module
- Vibration Isolation
- Dynamic characterization
- Fatigue behaviour of materials
- 3D printed Electronics
- Bioprinting, 4D printing
- Design for remanufacturing
- Fracture and impact in composites
- Composites for energy storage
- Designing with advanced materials

	<ul style="list-style-type: none"> • Sustainable supply chain management • Metal forming and joining
School Of Interdisciplinary Design And Innovation (SIDI)	<ul style="list-style-type: none"> • Quantum computer cooling • Hydrogen storage and Transport • Data center cooling • Sustainable space technology • Point-of-care biosensors • Biomaterials in Healthcare • Lab-on-a-chip technology • Micro-fluidics • Surgical robotics • Soft robotics • Medical Devices • Compliant mechanisms • Photonic medical diagnostics • Non-invasive Devices • Machine vision sensors • Quantum sensors and materials • Biomimicry and technologies • Design for extreme events like impact and crashworthiness • Design for sustainability and lightweighting • Additive manufacturing • Machinery development for processing agro-wastes • Sustainable materials • Design & embodied cognition • Generativity in design • Product service systems • Experience design
Sciences And Humanities-Research Areas	
Mathematics	<ul style="list-style-type: none"> • Graph Theory and Algorithms • Numerical Methods, Differential Equations, Linear Algebra, Data Science • Number Theory, Combinatorics
English	<ul style="list-style-type: none"> • English Language Education • Applied Linguistics

Physics

- Studies on supercontinuum generation in fibre micro/nano-wires,
- Micro/nano photonic sensors for biomedical applications
- Nonlinear dynamics
- Science of fluid
- Nuclear Astrophysics
- Nanomaterials for Hydrogen evolution and storage
- Mxenes for energy storage
- Electrocatalytic water splitting
- Functional Materials for Energy Conversion and Storage
- Metal-based nanostructures for photodetector and gas sensor devices
- Computational Materials Science
- Materials Design for sustainability
- Computational catalysis
- Theoretical and Experimental Studies on Magnetoelectric Multiferroics

Research Areas for Ph. D admission in July 2024 under Visvesvaraya Scheme

ESDM/IT/ITES

- Artificial Intelligence
- Block chain
- Quantum Computing
- Semi-Conductor
- Material Technology
- Circuits Design and Fabrication
- PROJECT - MeitY C2S Project on FPGA/ASIC/PSoC Development of Identification of stages of sleep in critical neurological illness cases from continuous EEG signal using Neuromorphic circuit

COURSE COMPLETION CERTIFICATE

(On letterhead of Institute / College)

This is to certify that _____ studying /
studied in _____ Discipline/
specialization has completed / will be completing the _____ semester / year
regular full time _____ programme (Name of the
Degree) from the _____ UGC/AICTE
recognized institute _____ on and has
passed with an aggregate mark of _____ percentage/ CGPA up to and
including _____ semester / year.

His / Her Character and Conduct are _____.

Place:

Signature of the Head of the Institute with seal

Date:

Office Seal

OBC Certificate Format

**FORM OF CERTIFICATE TO BE PRODUCED BY OTHER BACKWARD CLASSES
APPLYING FOR APPOINTMENT TO POSTS / ADMISSION TO CENTRAL
EDUCATIONAL INSTITUTES (CEIs), UNDER THE
GOVERNMENT OF INDIA**

This is to certify that Shri/Smt./Kum . _____ Son/Daughter of Shri/Smt. _____ of Village/Town State belongs to the

- (i) Resolution No.12011/68/93-BCC(C) dated 10/09/93 published in the Gazette of India Extraordinary Part I Section I No. 186 dated 13/09/93.
- (ii) Resolution No.12011/9/94-BCC dated 19/10/94 published in the Gazette of India Extraordinary Part I Section I No. 163 dated 20/10/94.
- (iii) Resolution No. 12011/7/95-BCC dated 24/05/95 published in the Gazette of India Extraordinary Part I Section I No. 88 dated 25/05/95.
- (iv) Resolution No. 12011/96/94-BCC dated 9/03/96.
- (v) Resolution No.12011/44/96-BCC dated 6/12/96 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 11/12/96.
- (vi) Resolution No. 12011/13/97-BCC dated 03/12/97.
- (vii) Resolution No. 12011/99/94-BCC dated 11/12/97.
- (viii) Resolution No. 12011/68/98-BCC dated 27/10/99.
- (ix) Resolution No.12011/88/98-BCC dated 6/12/99 published in the Gazette of India Extraordinary Part I Section I No. 270 dated 06/12/99.
- (x) Resolution No. 12011/36/99-BCC dated 04/04/2000 published in the Gazette of India Extraordinary Part I Section I No. 71 dated 04/04/2000.
- (xi) Resolution No.12011/44/99-BCC dated 21/09/2000 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 21/09/2000.
- (xii) Resolution No. 12016/9/2000-BCC dated 06/09/2001.
- (xiii) Resolution No. 12011/1/2001-BCC dated 19/06/2003.
- (xiv) Resolution No. 12011/4/2002-BCC dated 13/01/2004.
- (xv) Resolution No.12011/9/2004-BCC dated 16/01/2006 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 16/01/2006.
- (xvi) Resolution No. 12015/2/2007-BCC dated 18/08/2010.
- (xvii) Resolution No. 12015/2/2007-BCC dated 11/10/2010.
- (xviii) Resolution No. 12015/13/2010-BC-II dated 08/12/2011.
- (xix) Resolution No. 12015/05/2011-BC-II dated 17/02/2014.
- (xx) Resolution No. 12011/6/2014-BC-II dated 07/12/2016.

Shri/Smt./Kum. _____ and/or his family ordinarily reside(s) in the _____ District/Division of State. This is also to certify that he/she does not belong to the persons/sections (Creamy Layer) mentioned _____ in Column 3 of the Schedule to the Government of India, Department of Personnel & Training O.M. No. 36 012/22/93-ESTT.(SCT) dated 08/09/93 which is modified vide OM No. 36033/3/2004 Estt.(Res.) dated 09/03/2004.

Dated:

District Magistrate/ Deputy Commissioner, etc.

Seal

NOTE:

- (a) The term 'Ordinarily' used here will have the same meaning as in Section 20 of the Representation of the People Act, 1950. The authorities competent to issue Caste Certificates are indicated below:
 - (i) District Magistrate / Additional Magistrate / Collector / Deputy Commissioner / Additional Deputy Commissioner / Deputy Collector / First Class Stipendiary Magistrate / Sub-Divisional magistrate / Taluka Magistrate / Executive Magistrate / Extra Assistant Commissioner (not below the rank of Ist Class Stipendiary Magistrate).
 - (ii) Chief Presidency Magistrate / Additional Chief Presidency Magistrate / Presidency Magistrate.
 - (iii) Revenue Officer not below the rank of Tahsildar and
 - (iv) Sub-Divisional Officer of the area where the candidate and/or his family resides.

FORMAT FOR SC/ST CERTIFICATE

A candidate who claims to belong to one of the Scheduled Caste or the Scheduled Tribes should submit in support of his claim an attested/certified copy of a certificate in the form given below, from the District Officer or the sub-Divisional Officer or any other officer as indicated below of the District in which his parents(or surviving parent) ordinarily reside who has been designated by the State Government concerned as competent to issue such a certificate. If both his parents are dead, the officer signing the certificate should be of the district in which the candidate himself ordinarily resides otherwise than for the purpose of his own education. Wherever photograph is an integral part of the certificate, the Commission would accept only attested photocopies of such certificates and not any other attested or true copy.

(The format of the certificate to be produced by Scheduled Castes and Scheduled Tribes candidates applying for appointment to posts under Government of India)

This is to certify that Shri/Shrimati/Kumari* _____ son/daughter of _____ of village/town/* in District/Division _____ of the State/Union Territory* _____ belongs to the Caste/Tribes Castes/Scheduled _____ which is recognized as a Scheduled Tribes* under:-

The Constitution (Scheduled Castes) order, 1950 _____
 The Constitution (Scheduled Tribes) order, 1950 _____
 The Constitution (Scheduled Castes) Union Territories order, 1951 * _____
 The Constitution (Scheduled Tribes) Union Territories Order, 1951* _____

As amended by the Scheduled Castes and Scheduled Tribes Lists(Modification) order, 1956, the Bombay Reorganization Act, 1960 & the Punjab Reorganization Act, 1966, the State of Himachal Pradesh Act 1970, the North-Eastern Area(Reorganization) Act, 1971 and the Scheduled Castes and Scheduled Tribes Order(Amendment) Act, 1976.

The Constitution (Jammu & Kashmir) Scheduled Castes Order, 1956 _____
 The Constitution (Andaman and Nicobar Islands) Scheduled Tribes Order, 1959 as amended by the Scheduled Castes and Scheduled Tribes order (Amendment Act), 1976*.
 The Constitution (Dadra and Nagar Haveli) Scheduled Castes order 1962.
 The Constitution (Dadra and Nagar Haveli) Scheduled Tribes Order 1962 @.
 The Constitution (Pondicherry) Scheduled Castes Order 1964 @
 The Constitution (Scheduled Tribes) (Uttar Pradesh) Order, 1967 @
 The Constitution (Goa, Daman & Diu) Scheduled Castes Order, 1968 @
 The Constitution (Goa, Daman & Diu) Scheduled Tribes Order 1968 @
 The Constitution (Nagaland) Scheduled Tribes Order, 1970 @
 The Constitution (Sikkim) Scheduled Castes Order 1978 @

The Constitution (Sikkim) Scheduled Tribes Order 1978 @
 The Constitution (Jammu & Kashmir) Scheduled Tribes Order 1989 @
 The Constitution (SC) orders (Amendment) Act, 1990 @
 The Constitution (ST) orders (Amendment) Ordinance 1991 @
 The Constitution (ST) orders (Second Amendment) Act, 1991 @
 The Constitution (ST) orders (Amendment) Ordinance 1996
 The Scheduled Caste and Scheduled Tribe Orders(Amendment) Act 2002.
 The Constitution (Scheduled Caste) Orders(Amendment) Act 2002.
 The Constitution(Scheduled Caste and Scheduled Tribe) Orders(Amendment) Act 2002.
 The Constitution (Scheduled Caste) Order (Amendment) Act 2007.

%2. Applicable in the case of Scheduled Castes, Scheduled Tribes persons who have migrated from one State/Union Territory Administration.

This certificate is issued on the basis of the Scheduled Castes/ Scheduled tribes

Certificate issued to Shri/Shrimati _____ Father/mother of Shri/Srimati/Kumari*
_____ of village/town* _____ in
District/Division* _____ of the State/Union Territory* _____ who belong to
the _____ Caste/Tribe which is recognized as a Scheduled Caste/Scheduled Tribe in the State/Union
Territory* issued by the _____ dated _____.

%3. Shri/Shrimati/Kumari and /or * his/her family ordinarily reside(s) in village/town* _____ of
_____ District/Division* _____ of the State/Union Territory
of _____

Signature _____

** Designation _____
(with seal of office)

Place _____

Date _____

* Please delete the words which are not applicable @ Please quote specific presidential order

% Delete the paragraph which is not applicable.

NOTE: The term ordinarily reside(s) used here will have the same meaning as in section 20 of the Representation of the People Act, 1950.

** **List of authorities empowered to issue Caste/Tribe Certificates:**

- (i) District Magistrate/Additional District Magistrate/Collector/Deputy Commissioner/Additional Deputy Commissioner/Dy. Collector/Ist Class Stipendiary Magistrate/Sub-Divisional Magistrate/Extra-Assistant Commissioner/Taluka Magistrate/Executive Magistrate.
- (ii) Chief Presidency Magistrate/Additional Chief Presidency Magistrate/Presidency Magistrate.
- (iii) Revenue Officers not below the rank of Tehsildar.
- (iv) Sub-Divisional Officers of the area where the candidate and/or his family normally resides.

NOTE: ST candidates belonging to Tamil Nadu state should submit caste certificate ONLY FROM THE REVENUE DIVISIONAL OFFICER.

INCOME & ASSET CERTIFICATE TO BE PRODUCED BY ECONOMICALLY WEAKER SECTIONS

Certificate No. _____

Date: _____

VALID FOR THE YEAR _____

This is to certify that Shri/Smt./Kumari. _____ son/daughter/wife of

_____ permanent resident of _____,

_____ village/street _____ Post Office _____

District _____ in the State/Union Territory _____ Pin Code.

_____ whose photograph is attested below belongs to Economically Weaker Sections, since the gross annual income* of his/her family** is below Rs.8.00 lakh (Rupees Eight Lakh only) for the financial year

_____. His/her family does not own or possess any of the following assets*** :

- (i) 5 acres of agricultural land and above.
- (ii) Residential flat of 1000 sq. ft. and above.
- (iii) Residential plot of 100 sq. yards and above in notified municipalities.
- (iv) Residential plot of 200 sq. yards and above in. areas other than the notified municipalities.

2. Shri/Smt./Kumari _____ belongs to the _____ caste which is not recognized as a Scheduled Caste, Scheduled Tribe and Other Backward Classes (Central List).

Signature with Seal of office

Name _____

Designation _____

Recent
passport
size
photograph

*Note 1: Income covered all sources i.e. salary, agriculture, business, profession, etc.

** Note 2: The term 'Family" for this purpose include the person, who seeks benefit of reservation, his/her parents and siblings below the age of 18 years as also his/her spouse and children below the age of 18 years.

*** Note 3: The property held by a 'Family' in different locations or different places/cities have been clubbed while applying the land or property holding test to determine EWS status.

The form of certificate to be produced by PwD candidates applying for appointment to posts under the Government of India

1. NAME & ADDRESS OF THE INSTITUTE/HOSPITAL

Certificate No _____ Date: _____

Recent
passport size
photograph

DISABILITY CERTIFICATE

Recent Photograph of the candidate showing the disability duly attested by the Chairperson of the Medical Board.

This is to certify that Shri/Smt/Kumari* _____ son/daughter* of _____ Age ___ years, Registration No. _____ is a case of Locomotor disability/ Cerebral Palsy/ Blindness/ Low vision/ Hearing impairment/ Other disability* and has been suffering from degree of disability not less than _____ % (_____)

A) Locomotors or Cerebral Palsy:

- (i) BL—Both legs affected but not arms
- (ii) BA—Both arms affected
 - (a) Impaired reach
 - (b) Weakness of grip
- (iii) BLA—Both legs and both arms affected
- (iv) OL—One leg affected (right or left)
 - (a) Impaired reach
 - (b) Weakness of grip
 - (c) Ataxic
- (v) QA—One arm affected (right or left)
 - (a) Impaired reach
 - (b) Weakness of grip
 - (c) Ataxic
- (vi) BH—Stiff back and hips (cannot sit or stoop)
- (vii) MW—Muscular weakness and limited physical endurance. B. Blindness or Low

B) Vision:

- (i) B—Blind
 - (ii) PB—Partially blind
- C. Hearing impairment: (i) D—Deaf
- (ii) PD—Partially deaf
- (Delete the category whichever is not applicable)

2. This condition is progressive/non-progressive/likely to improve/not likely to improve.
Reassessment of this case is not recommended/is recommended after a period of years' months. *

3. Percentage of disability in his/her case is Percent.

4. Shri/Smt./Kum meets the following physical requirements for discharge of his/her duties: —

- (i) F—Can perform work by manipulating with fingers. Yes/No
- (ii) PP—Can perform work by pulling and pushing. Yes/No
- (iii) L—Can perform work by lifting. Yes/No
- (iv) KC—Can perform work by kneeling and crouching. Yes/No
- (v) B—Can perform work by bending. Yes/No
- (vi) S—Can perform work by sitting. Yes/No
- (vii) ST—Can perform work by standing. Yes/No
- (viii) W—Can perform work by walking. Yes/No
- (ix) SE—Can perform work by seeing. Yes/No
- (x) H—Can perform work by hearing/speaking. Yes/No
- (xi) RW—Can perform work by reading and writing. Yes/No

(Dr)
Member Medical Board

(Dr)
Member Medical Board

(Dr)
Member Medical Board

Countersigned by the Medical Superintendent/CMO/Head of Hospital (with seal)
Strike out whichever is not applicable.

[To be submitted at the time of Admission]

Certificate from the reputed University / Institution/ Organization sponsoring their employees for Ph. D Programme of IITDM Kancheepuram - External scheme

The application of working as in since is hereby recommended and forwarded for admission under the External Registration Scheme of the Indian Institute of Information Technology, Design and Manufacturing Kancheepuram for Ph.D. Research programme in the Department of

1. This organization has adequate facilities for carrying out the research indicated by the applicant and if he/she is selected, these will be made available to him/her during regular working hours till the completion of the programme.
2. The applicant will be deputed/given leave for the duration of his/her residence period at IITDM Kancheepuram. The applicant will be given permission to attend the required class for completing coursework.
3. Facilities will be made available to the Co-guide to supervise the work of the applicant and to attend the meetings at IITDM Kancheepuram whenever 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, IITDM Kancheepuram will be informed within a month of such transfer. We understand that continuing of registration will depend on the decision of IITDM Kancheepuram in this regard, taking into account all relevant factors.
5. We note that the facilities of the Institute will be made available to him/her for carrying out the research work and that there will be no separate charge (other than the fees prescribed payable by the candidate from time to time) for the use of laboratory, library and other facilities.
6. No part of the work carried out in fulfillment of the Research programme will be utilized commercially or for applying for a Patent without the approval of the Indian Institute of Information Technology, Design and Manufacturing Kancheepuram and other than on terms mutually agreed to by IITDM Kancheepuram and this organization.

Date:

Signature of the Officer:

Seal of the Organization

Name and Designation:

Postal address of the Organization:

[To be submitted at the time of Admission]

Particulars of Co-guide for External Registration Scheme (Ph.D under External category)

In addition to being in a position to ensure technical and logistic support to the scholar in his/her research work in the organization, the Co-guide must be a Ph.D and adequate professional experience in the relevant field. The Co- guide should not himself/herself be a scholar/pursuing for similar higher degree of any university. He/She will be an invitee to the Doctoral Committee at IITDM, Kancheepuram.

1. Name of Proposed Co-Guide :
(in block letters)

2. Academic qualifications of Co-Guide :

3. Membership (if any) in professional Societies for Co-guide :

4. Designation of Co-guide :

5. E-Mail ID and contact number :

Certificate of Co-guide

This is to state that the event of Mr./Ms. _____ of this organization being selected for PhD Programme in the Department of _____ under the External Registration Scheme of IITDM, Kancheepuram. I agree to be his/her Co-guide and shall extend all possible facilities to enable him/her research programme towards the submission of thesis.

Date:

Signature of Co-guide

NOC for the candidates applying under Project category
[To be submitted at the time of applying]

The application of is hereby recommended and forwarded for admission under the Project category of the Indian Institute of Information Technology, Design and Manufacturing Kancheepuram for Ph.D. Research programme in the Department of

DETAILS OF PROJECT AS UNDER

1. Project Number :
2. Title of the Project :
3. Sponsoring Agency :
4. Duration of the project : From: To: (____ Y ____M)
5. Total value of the project :
6. Project Investigator / Co-Project Investigator :
7. Date of Joining as a JRF
8. Fellowship amount details :

There is no objection for him/her to apply for the PhD programme under project category.

Signature of Guide

Dean (SRICCE) / Dean (Sponsor Project)

Date: