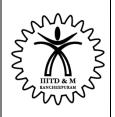|	
भारतीय सूचना प्रौद्योगिकी,अभिकल्पना एवं विनिर्माण संस्थान, कांचीपुरम **INDIAN INSTITUTE OF INFORMATION TECHNOLOGY, DESIGN AND MANUFACTURING (IIITDM) KANCHEEPURAM** Off Vandalur-Kelambakkam Road, Chennai – 600 127 (An Institute of National importance under MHRD, Govt. of India)	
TEL: 91-44-2747 6300	FAX: 91-44-2747 6301

Ph.D ADMISSION BROCHURE

1. THE INSTITUTE

The Indian Institute of Information Technology Design and Manufacturing Kancheepuram (IIITDM) was established in 2007 by the Government of India as a Centre of Excellence in the emerging areas of Design and Manufacturing. The Institute is located in outskirts of Chennai and about 30 km from Chennai's International Airport. All the selected scholars will be provided hostel accommodation and the entire campus is WiFi enabled.

2. ABOUT RESEARCH PROGRAMMES

The Institute offers Ph.D. programmes in the disciplines of Computer Science and Engineering, Electronics Engineering, Mathematics, Mechanical Engineering and Physics. Details of Research Areas for admission during January 2016 under Institute fellowship are provided at **Annexure 'A1'**. In addition, Ph. D admission in select research area is carried out under Visvesvaraya Ph. D scheme and sponsored projects by University of Genova. The details of the same are provided at **Annexure 'A2 & A3'**.

3.Ph.D ADMISSION

3.1 Admission with Financial Assistance (HTRA):

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

(a) The scholars should work for 8 hours per week to earn this assistantship.

(b) 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.

(c) Quantum of financial assistance is as under:

a)	Post Graduate Degree in Basic Science with NET/GATE Qualification or Graduate Degree in Professional Course with NET/GATE Qualification or Post Graduate Degree in Professional Courses	Rs.25,000/- 1st & 2nd Year Upon successful assessment by the review committee after period of two years. Rs.28,000/- - 3rd to 5th year

3.2   Admission without Assistantship (NHTRA):
The candidates may also be considered for admission to the Ph.D programme without assistantship (NHTRA) under **Regular** (Full time) / **External / Internal (Project / Staff)** categories.

Candidates applying for Regular (Full time) Ph.D programme have to enclose a letter along with the Application Form stating that they may be considered for admission even without assistantship (NHTRA).

The eligible qualifications for NHTRA –**External** candidates are:

Must belong to any one of the following category

(i)   Industry/Organization having R&D facilities and recognized by DST, GOI or IITs
(ii)   National Research Laboratories
(iii)   Reputed Universities / Colleges
(iv)   Public / Private sector

For candidates under **External** category:

(i)   Minimum residential period is one semester
(ii)   The parent institute must have sufficient research facilities to carryout research work in the area of research the candidate has registered

3.3   Selection Procedure:
Eligible candidates possessing the minimum educational qualifications (as given in Section 4) and satisfying additional and stiffer criteria set by the institute from time to time will be called for test/ interview.
Based on the academic record and the performance of the candidates in the test and interview, the Selection Committee will recommend to the Chairman of the Senate the names of candidates found suitable for admission to the Ph.D. programme.

3.4   Reservation of Seats
Reservations are applicable to SC/ST/OBC/Candidate with Physical Disability (PD) as per the rules and regulation of the Govt. of India.

3.5   Fee Structure
The Fee structure for the Ph. D Programme is given in *Annexure 'B'*.

3.6   TA for attending Interview for Ph.D programme
Outstation candidates called for Ph.D. interview under the **regular (full time)** category will be paid a second class single to & fro rail fare from their place of communication address to Chennai by the shortest route. A candidate is entitled for a single TA as above even if he/she may attend interview in more than one discipline in the same trip.

3.7   Completing the Qualifying Degree and production of Provisional Certificate:
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 i.e. on or before 30th September for July admission / 31st March for January admission.

3.8 Documents to be enclosed along with the Application Form:

a) Printed copy of application mailed to the candidates after online registration.
b) The completed Application form should accompany online payment receipt (Rs. 250 for GN/OBC and Rs.125 for SC/ST/PD/Female Candidates). Online payment procedure is given in **Annexure 'C'**
c) Self attested copies of all Mark sheets/grade cards, degree certificates beginning from first degree towards proof of qualification.
d) Copy of the Community Certificate in the case of SC/ST/OBC candidates issued by the respective State Government. The OBC candidates have to submit an attested copy of the **valid non-creamy layer** certificate in the prescribed form issued by competent authority. The format is provided as **Annexure 'D'**.
e) Authorised Doctor's Certificate with disability descriptions in the case of Person with Disabled (PD) candidates.
f) Copy of the valid GATE score or NET (UGC-JRF/Lectureship/CSIR/ DAE-JEST) or other fellowship award, as the case may be.
g) Copy of proof of Experience certificate if any

3.9 Whom to send filled in application:

The completed online application with the aforementioned enclosures superscribed as **"Application Form for Ph.D. Programme"** should be sent to

To The Registrar **Indian Institute of Information Technology** **Design and Manufacturing,** **IIITDM Kancheepuram,** **Off Vandalur Kelambakkam Road,** **Melakkottaiyur,** **Chennai – 600 127.**	For any clarification, contact Telephone:(044) 2747 6300 Fax: (044) 2747 6301 Email :admissions@iiitdm.ac.in Website:http://www.iiitdm.ac.in

4. MINIMUM EDUCATIONAL QUALIFICATIONS FOR ADMISSION

4.1 Minimum Educational Qualifications for Ph.D Regular (full time):

Ph.D. in Engineering:

a) Candidates with a Master's degree in Engineering/Technology (ME/MTech/ M Des)with a good academic record or a Master of Science (MS) degree by Research in Engineering/Technology with a good academic record. (Also refer to sec 5.1)
b) Candidates with Master's degree in Sciences with a good academic record and of exceptional merit where eligible, for the relevant Engineering discipline and with a valid GATE score or UGC/CSIR NET/NBHM or equivalent qualification in the relevant area tenable for the year of registration.

c) Candidates who have qualified for the award of Bachelor's degree in Engineering/Technology with 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 B.Tech degree holder from IIT/IIIT with a minimum CGPA of 8.0 on a 10 point scale and with a valid GATE score

- A Bachelor's degree holder in Engineering/Technology from any other University should be among the top 10 rank holders in the University and having a valid GATE score

- A Bachelor's degree holder in Engineering/Technology from a reputed R & D organization with excellent research record

4.2 For candidates under NHTRA category

The minimum educational qualifications are the same as prescribed for Regular (full time) category in 4.1 for admission to the Ph.D. Programme in the respective categories.

5. ELIGIBLE DEGREES FOR ADMISSION TO Ph.D. PROGRAMME

5.1 Eligible Degrees for Admission to Ph.D. programme

Sl.No.	Discipline	Eligibility
1.	Computer Engineering	Master's degree in Engineering/Technology. Preference will be given to those with M.Tech/M.E/M.S degree in Computer Science & Engineering. **(MCA / M.Sc / M.Phil are not eligible)**
2.	Electronics 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 of relevance to the area of research.
3.	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 Master's degree in Mathematics/Physics/Statistics/ Computer Science.
4.	Mechanical Engineering	Master's degree in Mechanical Engineering, Aerospace Engineering, Automobile Engineering, Automotive Engine Tech, Energy Engineering, Industrial Engineering, Instrumentation, Maintenance Management, Metallurgical Engineering, Production/ Manufacturing Engineering/ Mechatronics/ CAD/CAM/ CIM and in related areas depending on the research topics.

6. Accommodation

The students are provided accommodation in the boys/girls hostels in the IIITDM campus located in the Vandalur – Kelambakkam road. The hostel rooms will be provided with a cot, a chair, and a writing table. Students are expected to bring their own bedding. Students residing in the hostels are provided with exclusive dining facility.

Important Dates

➢ On line Registration of Application forms will be open on	…	26.10.2015
➢ Last date for Registration of application through on-line and for submission of completed application form in hard copy	…	16.11.2015
• Tentative dates of test/interview (for short listed candidates)		
➢ Computer Engineering ➢ Computer Science and Engineering (VLSI and Electronics System Design)	…	07.12.2015
➢ Mathematics	…	07.12.2015
➢ Electronics Engineering	…	08.12.2015
➢ Mechanical Engineering ➢ Mechanical Engineering (Robotics and Manufacturing) ➢ Control and operation of agents in a multi-agent fixturing system with swarm control	…	09.12.2015
• Announcement of Results	…	15.12.2015
Selected candidates need to submit / send their acceptance together with the fees for the first semester on or before 23 December 2015 in person or by speed post. Academic session for Jan-May 2016 will starts on 04 January 2016.		

RESEARCH AREAS - PH.D ADMISSIONS JAN 2016 – UNDER INSTITUTE

COMPUTER ENGINEERING
• High Performance VLSI Architectures for Digital Signal Processing
• An Efficient Architectures for Power Line Communication
• Network Function Virtualization and Architectural Support
• High Performance Network System Design

MECHANICAL ENGINEERING
• Production Scheduling, Multi-objective optimization, Supply chain management and Reverse Logistics
• Complexity in product design and innovation
• Autonomous robotics, Intelligent control, and Mechatronics
• Computational Flow and Heat Transfer
• Mathematical Modeling of Materials Behavior
• Fatigue and Fracture of Engineering materials
• Engineering Design with Polymers and
• Composites
• Finite Element based Topology optimization
• Geometric Modelling, and Biomechanics
• Material Modeling, Smart materials and composites, Finite Element Methods, Bio-mechanics.
• Theoretical and experimental study on combined boiling heat and mass transfer at low pressure - Research Application is Vacuum Frying Process and design improvisation.
• Theoretical and experimental study on combined freezing and sublimation heat & mass transfer - Research application is Freeze Drying Process and Design improvisation.
• Heat Transfer enhancement using metal foams - Research application is electronic cooling systems

ELECTRONICS ENGINEERING
• Wireless Communications/Networks
• Intelligent Transportation
• Cognitive Radio Networks
• Maximum Power Point Tracking (MPPT) Algorithms for Wind Energy Conversion Systems
• Sensorless and Torque Ripple Minimization in Permanent Magnet Electrical Drives
• DC to DC Converters

MATHEMATICS
• Combinatorics, Algorithms
• Graph Theory, Algorithms

PH.D ADMISSIONS UNDER VISVESVARAYA PH.D SCHEME

The Department of Electronics and Information Technology (DEITY), Government of India has approved 3 Ph.D positions for IIITDM Kancheepuram under the Visvesvaraya Ph.D scheme in the broad area of IT and electronics.

The scheme is available only for Ph.D candidates in the broad areas of *Electronic Design and Manufacturing (ESDM)* and *IT/IT enabled Services (ITES) sector* and is available as of now only to candidates who join in the year 2015. Please visit the following website for general information regarding this scheme.

http://phd.medialabasia.in

Highlights of Visvesvaraya PhD Scheme are the following:

1. **Fellowship Period**: This is a full-time Ph D program with fellowship for a maximum period of five years.
2. **Fellowship** @ Rs.22,500 per month in 1st and 2nd year, and @ Rs. 25,000 per month in 3rd, 4th, 5th years of Ph. D. (The amounts will be revised soon.)
3. **Annual contingency grant/support** @ Rs. 30,000/- per year per full time PhD candidate for consumables etc.,
4. **Reimbursement of Rent (RoR)**: For those full time PhD candidates who are not provided accommodation or choose not to avail the accommodation provided by the Institution. The RoR would be on a reimbursement basis, based on actual and subject to a ceiling based on location of the Institute registering the PhD candidate. The ceiling would be 30%, 20%, and 10% of the fellowship amount as per the Government of India norms for class X, Y or Z cities respectively.
5. **Support for attending International Conferences**: Support for attending up to two renowned international conferences per full-time PhD candidate: @ up to maximum support of Rs. 50,000/- for each international conference would be provided. The total support under the scheme is for 1000 such participations fulfilling the norms defined in the Visvesvaraya PhD scheme on first come first serve basis.
6. **Infrastructure grant** for up gradation/creation of the laboratory, equipment etc., Rs. 5 lakhs per candidate. This grant would be one-time.

Research Areas:

1. **Computer Science and Engineering** (VLSI and Electronics System Design):
   a. Network Function Virtualization and SDN
   b. Network System Design
   c. High Performance Packet Processing
   d. VLSI architectures for Signal Processing
   e. Power Line Communication System Design

2. **Mechanical Engineering** (Robotics and Manufacturing):
   a. Artificial Intelligence in Swarm Robotics
   b. Artificial Intelligence and Image Processing in Swarm Manufacturing

Selection Procedure:

Eligible candidates possessing the minimum educational qualifications (as given in Section 4 & 5) and satisfying additional and stiffer criteria set by the institute from time to time will be called for test/ interview.

Based on the academic record and the performance of the candidates in the test and interview, the Selection Committee will recommend to the Chairman of the Senate the names of candidates found suitable for admission to the Ph.D. program.

SPONSORED PROJECT IN THE RESEARCH AREA "CONTROL AND OPERATION OF AGENTS IN A MULTI-AGENT FIXTURING SYSTEM WITH SWARM CONTROL" BY UNIVERSITY OF GENOVA, ITALY

The PMAR Robotics Group of DIME (Department of Mechanical Engineering), University of Genova (UG), Italy, is carrying on research and engineering to complete the technology transfer and industrialization of a method of fixturing of work pieces originally developed in the European Union project, "SwarmITFIX".

SwarmItFIX *(Self Reconfigurable Intelligent Swarm Fixtures)* with PMAR lab of DIME as coordinator is the development of a multi agent fixture composed of a bench and multi robotic agents that move on it with the aim to support a work piece in an environment where the manufacturing operation is actually performed. The theme of the joint research project is on *"swarm control and operation of multi-agent fixturing system".*

The joint doctoral scholarship of Rs. 25000/- per month (plus HRA or hostel accommodation in lieu of HRA as per Institute rules) **for *one Ph.D position*** will be initially for a period of two years in the form of project support by UG and the subsequent years will be taken care by IIITDM as per Institute norms. The possibility of supporting the Ph.D student to visit UG, Italy, for a short duration after successful completion of two years of programme will be looked into by DIME, Italy.

Selection Procedure:
Eligible candidates possessing the minimum educational qualifications in Mechanical Engineering / Electronics Engineering (as given in Section 4) and satisfying additional and stiffer criteria set by the institute from time to time will be called for test/ interview.

Candidate possessing two years of work/research experience after Master's degree in control/artificial intelligence area is preferred.

Based on the academic record and the performance of the candidates in the test and interview, the Selection Committee will recommend to the Chairman of the Senate the names of candidates found suitable for admission to the Ph.D. program.

Details of Fee:

Category / Particulars	For Hostellers	
	Other Students	**SC/ST Students**
One time Fees	3600	3600

One time Deposits (Refundable)
  a. Institute & Library Deposit
  b. Hostel Deposit
	2500
	2000
		2500
		2000

Semester Fees	21000	6000
Hostel Fees	8700	8700
Advance Dining charges per semester (Subject to actual)	14000	14000
Medical Insurance Premium (p.a.) (Subject to actual)	709	709
Total	**52,509/-**	**37,509/-**

Hostel is compulsory for all students. If exemption is permitted by the Registrar, the day scholars have to pay the Day Scholar fees.

THE PROCEDURE FOR ONLINE PAYMENT OF FEES AS FOLLOWS:

GO TO:

https://www.onlinesbi.com

- select STATE BANK COLLECT

- ACCEPT TERMS & CONDITIONS

- PROCEED

- SELECT STATE – TAMIL NADU

- SELECT TYPE OF INSTITUTE - EDUCATIONAL INSTITUTE

- GO

- DROP DOWN - PICK UP IIITD&M KANCHEEPURAM AC

- SUBMIT

- SELECT CATEGORY

- PH.D. APPLICATION FEES

- YOUR CATEGORY

   (Rs. 250 for GN/OBC and Rs.125 for SC/ST/PD/Female Candidates)

- SELECT PAYMENT CATEGORY

- PROCEED

- Take print of online receipt and enclose it along with filled application

FORM OF CERTIFICATE TO BE PRODUCED BY OTHER BACKWARD CLASSES APPLYING FOR ADMISSION TO CENTRAL EDUCATIONAL INSTITUTIONS (CEIS) UNDER THE GOVERNMENT OF INDIA

This is to certify that Shri / Smt. / Kum. _____Son / Daughter of Shri / Smt. _____, of Village / Town _____, District / Division _____, in the State/Union Territory _____ belongs to the _____Community which is recognized as a backward class under the Government of India, Ministry of Social Justice and Empowerment's Resolution No._____ dated_____*.Shri/Smt./Kum. _____ and/or his/her family ordinarily reside(s) in the _____ District/Division of the _____State/Union Territory. 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. 36012/22/93-Estt. (SCT) dated 08.09.1993**.

District Magistrate
Deputy Commissioner etc.

Dated: _____

Seal

_____ _____

*- **The authority issuing the certificate may have to mention the details of Resolution of Government of India, in which the caste of the candidate is mentioned as OBC.**
-. **As amended from time to time.

Note:-The term 'Ordinarily' used here will have the same meaning as in Section 20 of the Representation of the Peoples Act, 1950.

Declaration / Undertaking – for OBC Candidates only

I _____, son / daughter of Shri _____,
resident of village/town/city _____, district _____State
_____, hereby declare that I belong to the
_____Community which is recognized as a backward class by the
Government of India for the purpose of reservation in admission in Central Educational
Institutions as per orders contained in Department of Personnel and Training Office
Memorandum No. 36012/22/93-Estt.(SCT), dated 8/9/1993. It is also declared that I do not
belong to persons/sections (Creamy Layer) Mentioned in Column 3 of the Schedule to the above
referred Office Memorandum dated 08.09.1993.

Signature of the Candidate

Place:………………………

Date: …………………………

Declaration/undertaking not signed by candidate will be rejected