



# Indian Institute of Technology Indore

## Advertisement for Admission to Ph.D. Program through Visvesvaraya PhD Scheme for Electronics & IT (MeiTY) for Spring Semester of Academic Year (AY) 2025-26 (In-person Admission Test and Interview)

IITI/Acad/Visvesvaraya PhD Admissions/25-26

September 10, 2025

IIT Indore invites applications from highly motivated and research-oriented students for admission to its PhD program through Visvesvaraya PhD Scheme for Electronics & IT (MeiTY) in the domain of Electronics System Design and Manufacturing (ESDM) and Information Technology/IT Enabled Services (IT/ITES) for the Spring Semester of Academic Year (AY) 2025-26 as per the below schedule.

Candidates are strongly advised to carefully review **Annexure A** before applying to the PhD program. It provides a tentative list of project areas along with the respective departments offering these projects.

### Time Schedule of PhD selection process:

Last date of online application through <a href="https://academic.iiti.ac.in:8443/nregistration.jsp">https://academic.iiti.ac.in:8443/nregistration.jsp</a> (Select <b>Visvesvaraya PhD Scheme</b> while filling in online application form)	September 23, 2025 (Tuesday) Latest by 23:59 hrs. IST
Last date of receiving recommendations of two referees (to be sent by referees to <a href="mailto:convener-meityschemes@iiti.ac.in">convener-meityschemes@iiti.ac.in</a> )	September 23, 2025 (Tuesday)
Dates of PhD selection process (In-person Admission Test and Interview)	September 25, 2025 (Thursday)

### Minimum Educational Qualifications (MEQs) and Qualifying Examination (QE)

Master's degree (M.Tech./M.E./M.S.) in Computer Science and Engineering, Information Technology, Electronics and Electrical Engineering, Electronics and Communication Engineering, Instrumentation and Control Engineering, Mathematics and Computing, or a related discipline (with first division\*).

Or

M.Sc. or MS degree in Mathematics/Physics (with first division\*)

Or

Bachelor's degree (BE/BTech) in Computer Science and Engineering, Information Technology, Electronics and Electrical Engineering, Electronics and Communication Engineering, Instrumentation and Control Engineering, Mathematics and Computing, or a related discipline (with first division\*).

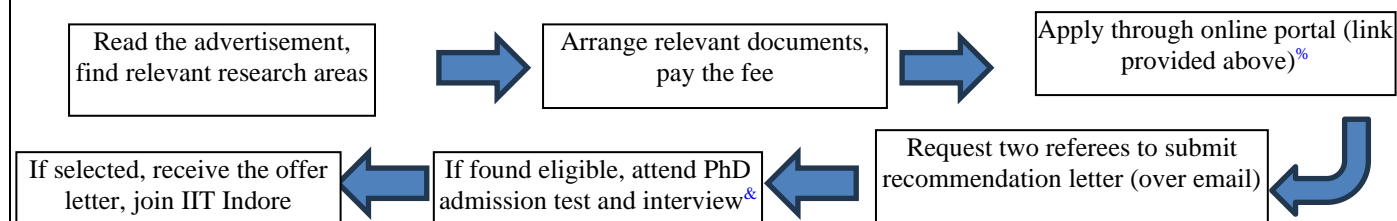
\*The definition of first division in a qualifying degree, as per IIT Indore's rules, is as follows:

- A minimum of 60% (55%#) marks in aggregate, OR
- A First class as specified by the university, OR
- A minimum Cumulative Grade Point Average (CGPA) / Cumulative Performance Index (CPI) of 6.0 (5.5#) on a scale of 0 – 10, OR
- An equivalent to 6.0 (5.5#) CGPA/ CPI on other corresponding proportional requirements when the scales are other than 0 – 10.

# for SC/ST/PwD category

Applicants will be allocated to a department based on their fulfillment of the respective MEQs. Additionally, candidates with a BE/BTech/M.Sc. degree must either possess a valid GATE score (in CS, EC, DA, or EE) or hold a BTech degree from an IIT with a CGPA of 8.0 (7.5 for SC/ST/PwD category) or above.

### Admission Procedure



%Select the category of admission: FA

& Candidates are requested to carefully review the MEQ and EQ requirements. **Those who meet the eligibility criteria are strongly advised to attend the PhD admission process as per the schedule mentioned above. No separate email communication will be sent in this regard.** During the admission test, candidates may be asked questions from subjects related to CS, EC, DA, and EE GATE papers.

### **Important Instructions**

1. All eligible candidates, fulfilling the minimum eligibility criteria and wishing to do PhD in the ESDM/IT/ITES domain, are strongly advised to apply online through the website (<https://academic.iiti.ac.in:8443/nregistration.jsp>), after going through **Annexure A**.
2. After applying online, the signed application form along with the supporting documents should be sent by email to [convener-meityschemas@iiti.ac.in](mailto:convener-meityschemas@iiti.ac.in).
3. **DO NOT** send hard copies of any form or documents by post.
4. Two Letters of recommendation (LoR) must be sent by referees to the email address [convener-meityschemas@iiti.ac.in](mailto:convener-meityschemas@iiti.ac.in) with the subject line, "**LoR for Admission to Ph.D. Program under Visvesvaraya PhD Scheme for Electronics & IT (MeiTY) in Spring Semester AY 2025-2026**", before the deadline.
5. PhD interview will be conducted on the date mentioned above. The selection process will be conducted **in-person** at **Indian Institute of Technology Indore, Simrol, Madhya Pradesh-453552**. **Eligible candidates are invited to attend the admission process. No separate email will be sent in this regard.** Further, no communication in any form regarding the **change of date, request for conducting online interviews**, etc., will be entertained.
6. Candidates must send the PDF of the application form along with the scanned copies of the fee payment receipt, and self-attested copies of supporting documents (10th marksheet, 12th marksheet, BTech degree mark-sheets and certificate, GATE score card (if qualified), Master's degree marksheets and certificate, Caste Certificate, if applicable, and all other relevant certificates) in the mentioned order to [convener-meityschemas@iiti.ac.in](mailto:convener-meityschemas@iiti.ac.in).
7. Each candidate can upload only one application by selecting the **Visvesvaraya PhD Scheme** against the advertisement.
8. Mere fulfillment of the minimum eligibility criteria does not entitle anyone to admission in Ph.D. Program through Visvesvaraya PhD Scheme for Electronics & IT (MeiTY) at IIT Indore.
9. Fellowship Information: PhD fellowship amount and other Benefits: Rs. 38750/- (1st and 2nd year), Rs. 43750/- (3rd, 4th and 5th year) + HRA, if applicable, as per Funding Agency Norms, Research Contingency grant: Rs. 1,20,000/ year

#### **For any queries, please contact:**

Convener, MeitY Schemes

Indian Institute of Technology Indore, Indore - 453552, India

E-mail: [convener-meityschemas@iiti.ac.in](mailto:convener-meityschemas@iiti.ac.in)

### Annexure A: Proposed Project Areas for PhD Candidates

S. No.	Title of the Project	Name of the Concerned Professor	Department	About the Project
1	Medical Ultrasound Imaging	Dr. Lokesh Basavarajappa	Biosciences and Biomedical Engineering	The research aims to develop an automated system for adjusting ultrasound machine presets for individual patients, addressing challenges faced by novice operators and advancing operator-independent robotic ultrasound systems.
2	Organic Electronics	Dr. Rajneesh Misra	Chemistry, CAE	Design of HTM and ETM for Perovskite solar cells and OLEDs, along with fabrication for improved power conversion efficiency.
3	AgriLLMs for Agricultural Applications	Dr. Aruna Tiwari	Computer Science and Engineering	The project focuses on designing domain-specific Large Language Models (AgriLLMs) to address limitations of general-purpose LLMs in agriculture. It involves curating datasets, integrating knowledge graphs, mitigating hallucination and bias, and optimizing models for tasks like precision advisory, knowledge synthesis, and resource optimization.
4	Autonomous Cyber Physical Systems in Connected Autonomous Vehicles	Dr. Gourinath Banda	Computer Science and Engineering	The research addresses synthetic dataset creation for object/event detection and response in autonomous vehicles and investigates cybersecurity vulnerabilities in communication, sensing, and decision layers. The aim is to advance safety, resilience, and trustworthiness of autonomous mobility systems.

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5	Advancing Brain-Computer Interfaces: Multilingual EEG-to-Text Modeling	Dr. Chandresh Kumar Maurya	Computer Science and Engineering	This research develops an open-vocabulary EEG-to-text dataset and model to decode brain signals into coherent language. It tackles challenges of limited vocabulary and signal noise in BCI by advancing neural signal processing, enabling flexible and accurate brain-to-language translation for multilingual, low-resource communication contexts.
6	Cyber Security in Programmable Dataplanes	Dr. Neminath Hubballi	Computer Science and Engineering	The research aims to detect and mitigate network anomalies in programmable dataplanes (e.g., P4-based switches) by developing efficient, real-time algorithms for anomaly detection at the dataplane level without introducing latency from centralized control.
7	Edge-Cloud Continuum for IoT	Dr. Ayan Mondal	Computer Science and Engineering	The PhD student will work on problems related to task offloading and dynamic resource orchestration in the Edge-Cloud continuum for IoT. The work will also explore the possibility of using Non-Terrestrial Networks (NTN) in IoT environments.
8	Deep Learning Approaches for Overcoming Data and Reconstruction Challenges in Medical Imaging	Dr. Surya Prakash	Computer Science and Engineering	The project develops deep learning frameworks using CNNs, Transformers, GANs, and diffusion models for super-resolution, reconstruction, and synthetic data generation in medical imaging. It leverages self-supervised and semi-supervised learning to reduce annotation costs and harmonize heterogeneous data, enabling clinically reliable and scalable imaging solutions.

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9	EdgeAI and Ubiquitous Systems	Dr. Abhishek Srivastava	Computer Science and Engineering	The research focuses on miniaturizing massive AI models for deployment on constrained architectures such as IoT edge devices. It will explore multiple use cases leveraging edge intelligence for real-world applications.
10	Hardware Security in Machine Learning Accelerators	Dr. Anirban Sengupta	Computer Science and Engineering	The research addresses Trojan attacks on Machine Learning Accelerators, focusing on securing hardware against malicious modifications that can compromise AI performance and safety.
11	Explainable AI for Early Disease Detection Using Imaging, Genomics, and Clinical Data	Dr. M. Tanveer	Mathematics	Leveraging interpretable AI models for healthcare diagnostics by integrating multimodal data sources such as imaging, genomics, and clinical records. The focus is on developing robust algorithms that ensure fairness, transparency, and explainability while achieving high accuracy, with applications in early disease detection.
12	AI-Driven Performance Optimization of PASS with NOMA and ISAC in Industrial IoT Environments	Dr. Vimal Bhatia	Electrical Engineering	The student will research performance bounds for PASS with NOMA and ISAC in IoT communications under challenging factory environments. AI/ML algorithms will be used to achieve optimal system performance for sustainable communications and sensing.
13	Simultaneous Wireless Information and Power Transfer Using Rectenna-Based Systems	Dr. Rinkee Chopra	Electrical Engineering	The research explores simultaneous wireless information and power transfer (SWIPT). By integrating rectennas (antenna + rectifier), the project aims to harvest ambient RF energy and convert it into DC power while enabling communication functions.

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14	Nanoelectronics; Electron Devices and Systems	Dr. Shaibal Mukherjee	Electrical Engineering	(a) Atomic-scale semiconductor and heterostructure-based RRAMs and crossbars for logic circuits, image processing, and neuromorphic computation. (b) Electrochemical sensors for environmental sustainability, healthcare, and agriculture. (c) FETs for sensors. (d) Photodetectors.
15	Differential Game-Theoretic Defense Strategies Against Adversarial Drone Attacks	Dr. Sharad Kumar Singh	Electrical Engineering	The project solves the problem of avoiding an adversarial attack by a drone with the help of defending drones to protect an infrastructure, which is the target of the adversarial attack. We use a differential game theoretic approach to solve the problem, which provides the optimal strategy for each agent involved in the game.
16	Power Electronics Integrated Battery (Pe-Battery) System for Electric Vehicles	Dr. B. Prathap Reddy	Electrical Engineering	The research focuses on active paralleling of battery strings, integrated high-power on-board charging, and bidirectional V2X functionality. It addresses challenges in battery safety, charge equalization, and cost-effective integration of charging functions, aiming to enhance performance and scalability of EV battery systems.
17	VLSI Circuit and System Design	Dr. Santosh Kumar Vishvakarma	Electrical Engineering	The PhD student will work on energy-efficient edge AI hardware accelerators for computer vision. The project includes design, fabrication, and testing of the chip.
18	Advanced Computer Vision for Medical Diagnostics	Dr. Vivek Kanhangad	Electrical Engineering	The research develops advanced computer vision algorithms using deep learning to enhance accuracy and efficiency of automated medical diagnostics. It addresses challenges such as limited annotated data, variability in

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				disease presentation, and real-time prediction requirements.
19	FPGA-Based High-Performance Computing and Signal Processing Solutions	Dr. Srivathsan Vasudevan	Electrical Engineering	The broad area of research is to provide solutions to high-performance computation and signal processing through electronic boards like FPGA. Ultimately, it will be electronic/instrumentation development for specific applications.
20	Energy-efficient cooling strategies for Compact Electronics Components	Dr. S. Dhinakaran	Mechanical Engineering	The project involves CFD simulations to study heat transfer and fluid flow in microfluidic cooling devices for electronic systems. The work will focus on modeling temperature rise, flow distribution and cooling efficiency in microchannel networks. Using multi-physics simulations, the student will develop predictive models that can guide the design of reliable and energy-efficient cooling strategies for compact electronic and IT hardware.
21	Sensors for Structural Health Monitoring	Dr. Shailesh I. Kundalwal	Mechanical Engineering	This project addresses the limitations in understanding the piezoresistive behavior of carbon nanotube yarns (CNTYs), particularly under compressive loads relevant to civil, aerospace, and marine engineering. It aims to establish a facility to comprehensively investigate CNTY-based sensors under compression. Outcomes will contribute to next-generation SHM systems and the broader application of nanotechnology in engineering.

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22	Soft Magnetic Composites (SMCs) for EV and HEV Motors	Dr. Vinod Kumar	MEMS (Materials Science and Engineering)	The research involves design and indigenous development of advanced high-performing soft magnetic composites (SMCs) for electric and hybrid vehicle motors, enhancing efficiency and performance.
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