INDIAN INSTITUTE OF INFORMATION TECHNOLOGY KOTTAYAM
(*An Institution under the Ministry of Education, Govt. of India governed by an Act of parliament*)
Valavoor (PO), Pala, Kottayam, Kerala - 686635

Admission to Ph.D. Programme – January 2025

IMPORTANT DATES

ONLINE APPLICATION PORTAL OPENS	18th October 2024
LAST DATE FOR RECEIVING APPLICATIONS	30th November 2024
WRITTEN TEST AND INTERVIEW	11-18 December 2024

IIIT Kottayam invites applications from motivated and research-oriented students for the Ph.D. programmes starting in January 2025.

The major areas of research are as follows:

Computer Science and Engineering	Artificial Intelligence (AI): Responsible AI, Explainable AI, Cyber Security ,AI/ML in smart agriculture, health care, social good ;Bioinformatics, NLP, Health Informatics; Computer Networks, Software Define Networking, Network/Cyber Security; Computer Vision, Deep Learning, Deep Learning on Image/Video Processing. Edge/Cloud/Distributed/Fog/Culture Computing; Offensive Security, Web Application Security, Cryptography; Multimedia Forensics; Applied Cryptography, Post Quantum Algebraic Cryptography; Data Science, Optimization; Lightweight Cryptography, IoT Security, Block chain and Security, Ethical hacking, Cyber Physical Systems; Bioinspired algorithms; Digital Forensics and Crime Investigation, IoT Forensics, Mobile Application Forensics and Security; Big Data Analytics; Distributed Database; Information security, Biometric Security, Block chain Technology; Graph Theoretic Algorithms; Data Analytics; Resource management and scheduling for future compute continuum, Machine Learning in Distributed computing systems, Bioinspired optimization for distributed computing systems; Cloud Data Security; Intrusion detection and Prevention; Optimization Problems, Algorithms and Graph Theory; Medical Image Processing, GIS applications, , Video Analytics.

Electronics and Communication Engineering	Wireless Communications, Reconfigurable Intelligent Surfaces, 5G and 6G Wireless Systems(Physical Layer);Physical layer challenges in Wireless communication; Anomaly detection in computer networks traffic, Optimizations in the L3/L4 of Wireless sensor networks; MIMO, Antenna Design, RF and Microwave, Machine Learning, Deep Learning, Image Processing, Signal Processing; VLSI DESIGN; FPGA; Embedded Systems, Electronics ,Circuit Design; Free Space Optics; Visible Light Communication; Photonics; Wireless Communication; Broad area of materials science and smart materials; VLSI and Embedded Systems; Signal Processing; Instrumentation; Computer Vision; ML; Image Processing, Optoelectronics; Quantum Sensing & Metrology, Quantum Materials & Devices, Ocean Optics, Lasers, Spectroscopy; Material-Device-Circuit Co-design for Robust SRAM Cell ;Advanced MOS Devices modelling and simulation; Steep Switching Devices; Digital Integrated Circuit Design; Reliable and Secure Circuits; SRAM Based In Memory Computing;
Computational Mathematics	Scientific Machine Learning, Physics Driven Deep Learning Technique for Differential Equations; Evolutionary algorithms, Surrogate optimization, Advanced Optimization Algorithms for ML\DL\DS; Fuzzy Mathematics; Mathematical and Computational Finance; Fluid Mechanics; Bio Fluid Mechanics; Operation Research;PDE; Graph Theory,

Categories of Ph.D. Students

i) SCHOLARSHIP HOLDERS (FULL-TIME)

A student in this category works full-time for his/her Ph.D. degree. He/she receives assistantship/fellowship from INSPIRE/ CSIR/UGC/NBHM or any other recognized funding agency.

ii) SPONSORED (FULL-TIME)

A candidate in this category is sponsored by a recognized R&D organization, academic institution, government organization, or industry or QIP candidates for doing research in the Institute on a full-time basis. The candidate must be a regular employee of the sponsoring organization with at least **one year** of professional experience in the respective field. The Institute does not provide any financial assistantship/fellowship to such a student. A sponsorship letter must be attached with the application.

iii) SELF-FINANCED (FULL-TIME)

A candidate in this category works full-time towards the Ph.D. Programme. The Institute will not provide any financial assistantship/fellowship to such a student except teaching assistantship to a limited number, on a case-to-case/need basis.

iv) EXTERNAL REGISTRANTS

A candidate of this category working in Industries/Institutes/Research Organisations can register as an External registrant and can pursue a Ph.D. Programme at IIIT Kottayam while continuing the duties of his/her service at the parent organization. The Institute does not provide any financial assistantship/fellowship to such a candidate. No Objection Certificate in the prescribed format must be attached with the application. An external registrant scholar is required to spend a one-semester residential program preferably in the first year, during the course work. Other academic regulations are the same as those applicable to regular students.

Eligibility Criteria for Admission into Ph.D. Programme

For admission to the Ph.D. Programme, a candidate must satisfy the following criteria:

Computer Science and Engineering:	(i) Master's degree in Computer Science and Engineering/Information Technology/Mathematics/Statistics/ComputerScience/ComputerApplications/Electronics and Communication Engineering / Electrical and Electronics Engineering or equivalent area with a minimum Cumulative Grade Point Average (CGPA) of either 6.5 in a 10-point scale or 60% of marks. **OR** (ii) Four-year Bachelor's degree in Computer Science and Engineering/Information Technology/Electronics and Communication Engineering/Electronics and Electrical Engineering/Mathematics or equivalent in a relevant area from an institute of national importance with a minimum CGPA of either 8.0 in a 10-point scale or 75% of marks. Such students will be awarded both MS and Ph.D. degrees on completion of Ph.D. programme without any exit option during the programme.
Electronics and Communication Engineering:	(i) Master's degree in ECE/EEE or equivalent area with a minimum CGPA of either 6.5 on a 10-point scale or 60% of marks in appropriate branches. **OR** (ii) Four-year Bachelor's degree in ECE/Electrical Engineering from any IITs, NITs, and IIITs /Other Institutions of National Importance with a minimum CGPA of either 8.0 in a 10 point scale or 75% of marks. Such students will be awarded both MS and Ph.D. degrees on completion of Ph.D. Programme without any exit option during the programme.
Computational Mathematics:	2 years M.Sc./Integrated M.Sc. in Mathematics/Mathematics and Computing/ Applied Mathematics/Statistics or an equivalent degree with a minimum of 60% aggregate in the qualifying examination.

APPLICATION FEE

An application fee of Rs.**1000/-** for general/OBC and Rs.**500/-** for SC/ST/PWD/Female candidates will have to be paid through State Bank Collect.

SELECTION CRITERIA

Selection of the candidate will be based on the performance in the written test and /or interview. Appearing for the test and/or interview does not entitle any candidate to admission to the Ph.D. programme.

Registrar