About Electronics & ICT Academy at PDPM IIITDM Jabalpur

The Ministry of Electronics and Information Technology (MeitY), Government of India has instituted Electronics and ICT Academies in the year 2015. In the second phase, the academy at PDPM IIITDM Jabalpur aims at scalable training programmes in niche areas of Electronics and ICT for the development of the required knowledge base, skills and tools to unleash the talent of the Indian population. The Academy is identified by the MeitY as a hub of activities for capacity building through training, internships, research, and consultancy programmes in fundamental and advanced topics in electronics, information and communication technologies, the Academy conducts customized academic programmes for students, corporate sectors and researchers.

About IIIT Nagpur

Indian Institute of Information Technology, Nagpur (IIITN) is established under the Public-Private Partnership Scheme by the Ministry of Education (erstwhile Ministry of Human Resource Development), Government of India, and is supported by the Department of Higher Education, Government of Maharashtra, and Tata Consultancy Services as Industry Partner.

IIITN is recognized as an Institution of National Importance by an Act of Parliament in 2017. IIITN started functioning during the year 2016-17, and shifted to its permanent campus sprawling 100 Acres of land near Butibori, Nagpur.

Faculty Development Programme
On
Mathematical Principles in Data Science and Machine Learning

The Faculty Development Programme (FDP) aims to provide a strong mathematical foundation for understanding and analysing modern data-driven and machine learning models. The programme focuses on core mathematical concepts such as linear algebra, optimization, probability, statistics, and stochastic processes, highlighting their relevance in Data Science and Machine Learning applications. This FDP is intended for faculty members and researchers seeking to strengthen their theoretical understanding, improve teaching effectiveness, and support research in Data Science and related interdisciplinary areas.

About the Dept. of Basic Sciences

The **Department of Basic Sciences** at Indian Institute of Information Technology, Nagpur provides a strong foundation in mathematics and basic sciences that underpins all engineering and technology programmes of the institute. The department is actively involved in teaching, research, and interdisciplinary activities, and plays a vital role in curriculum development, research guidance, and capacity-building initiatives in emerging areas of science and technology.

Faculty Development Programme
On
Mathematical Principles in Data Science and Machine Learning

February 16 – 27, 2026

Jointly Organized in Online mode by

Electronics and ICT Academy IIITDM Jabalpur

An Initiative of the Ministry of Electronics and Information Technology, Government of India

and

Indian Institute of Information Technology, Nagpur

Faculty Development Programme
On
Mathematical Principles in Data Science and Machine Learning

Resource Persons

- Sunil Kumar Prajapati, IIT Bhubaneswar
- Geetha Venkataraman, Dr. B. R. Ambedkar University, Delhi
- Amit Kulshrestha, IISER Mohali
- Akshay Kumar Ojha, IIT Bhubaneswar
- Amit Kumar, IIT (BHU), Varanasi
- Mohd. Arshad, IIT Indore
- Akshay Pandey, IIITDM Jabalpur
- Shivansh Mishra, IIITDM Jabalpur

Course Contents

- Linear Algebra and Singular Value Decomposition (SVD)
- Convex sets, Gradient descent, Optimization methods, and LPP
- Probability theory, Random variables and Distribution functions
- Weak Law of Large Numbers and Central Limit Theorem
- Markov Chains and Stochastic Processes
- Statistical Inference, Regression and Classification
- Principal Component Analysis (PCA)
- Applications of aforementioned topics in Data Science and Machine Learning

Hands-On Sessions

- Computational aspects of Linear Algebra and Eigenvalues
- Implementation of Gradient-based methods and Optimization algorithms
- Interpretation and Solution of Real-life problems using Probability theory and Random Variables
- Simulation of Markov Chains and Stochastic Processes
- Data analysis using Regression and Classification models
- Case studies and applications in Data Science and Machine Learning

Key Features of FDP

- Focused on mathematical foundations (Linear Algebra, Probability and Statistics, and Optimization)
- Expert-led sessions by Faculties from premier Institutions
- Sharp combination of theory and hands-on sessions (implementation as well as experiment)
- Designed for Faculty and Researchers

Registration Details

- Registration Link:
  https://forms.gle/X6iCMT8oeykyD54c7
- Registration fee: Rs. 500 per participant

Important Dates & Schedule

- **Last Date of Online Registration:** 14/02/2026
- **FDP Dates:** February 16-27, 2026
- **Daily Sessions:** *Morning* (10:00 AM – 12:00 Noon) and *Afternoon* (03:00 PM – 05:00 PM)

Coordinators

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Online Payment Details

Internet banking

Beneficiary Name	PDPM IIITDM Jabalpur
Bank Name	Indian Bank
A/C No.	50018692852
IFSC Code	IDIB000M694

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