

## 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.

## About

### Thapar Institute of Engineering and Technology, Patiala, Punjab

The Thapar Institute of Engineering and Technology (TIET) is one of the premier educational institutions across the world, which provides a steady source of highly skilled talent. Founded in 1956 with a campus spread across sprawling 250 acres, TIET, located in Patiala, Punjab has been a pioneer in engineering education, research and innovation. Our community involves ingenious mind solvers who are eager to make the world a better place.

## Hybrid Faculty Development Programme on Quantum Computing

The goal of this FDP is to bring together renowned experts conducting pioneering research in the field of Quantum Computing for disseminating knowledge to faculty members, research scholars, and post-graduate students who want to explore this new technological frontier. The professionals will share their knowledge and experience to motivate participants in the fields of Quantum Computing.

**Who can attend:** Suitable for faculty from colleges, universities, and technical and professional institutes can attend. Students, fresh graduates, researchers, and industry personnel working in allied disciplines can also attend.

### Important Dates:

**Last Date of Online Registration:** 12<sup>th</sup> Nov, 2025

**FDP Dates:** 17<sup>th</sup> to 22<sup>nd</sup> November, 2025

**Timings:** 09 AM to 01 PM & 02 PM to 06 PM

### Coordinators:

Dr. Neenu Garg, TIET, Patiala

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Dr. Sumit Kumar, TIET, Patiala

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Dr. Shivansh Mishra, IIITDM Jabalpur

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### Organizing Secretary

Dr. Sandeep Verma, TIET Patiala

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## Hybrid Faculty Development Programme on Quantum Computing

(17-22 November, 2025)

Jointly organized by

**Thapar Institute of Engineering and  
Technology, Patiala, Punjab**

*Seeking Excellence Together*



**THAPAR INSTITUTE**  
OF ENGINEERING & TECHNOLOGY  
(Deemed to be University)

and

**Electronics and ICT Academy  
IIITDM Jabalpur**



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



## Chief Patron

Prof. Padmakumar Nair  
Vice-Chancellor  
TIET, Patiala

## Patron

Prof. Ajay Batish  
Pro Vice-Chancellor  
TIET, Patiala

## Workshop Convener

Prof. Neeraj Kumar  
Head, Department of Computer Science &  
Engineering  
TIET, Patiala

## Hybrid Faculty Development Programme on Quantum Computing 17<sup>th</sup>-22<sup>nd</sup> Nov, 2025

## Resource Persons

- Prof. Bimalendu Deb, IACS
- Prof. Goutam Paul, ISI Kolkata
- Prof. Umakant Rapol, IISER Pune
- Dr. Jaskaran Singh, IIT Mandi
- Dr. Amit D. Lad, IIT Mandi
- Dr. Vaibhav Gupta, IIT Mandi
- Dr. Arun B Alosious, IIT Guwahati
- Dr. Ritajit Majumdar, IBM Quantum
- Dr. Debasmita Bhoumik, IBM Quantum
- Other Eminent Personnel from IITs, IIITs, NITs, and Industry experts shall deliver lectures and hands-on sessions.

## Course Contents

- Quantum Machine Learning
- Photonic Quantum Computing
- Quantum Error Correction
- Linear Optics-based Quantum Computation
- Building Qubits with Trapped Ions
- Quantum Communication

## Hands-on Sessions

- Fundamentals of QML and hybrid quantum-classical models using quantum classifiers like Qiskit/PennyLane
- Introduction to photonic qubits and linear optics Use Strawberry Fields (Xanadu) or a similar simulator
- Discussion on bit-flip and phase-flip errors using 3-qubit repetition code in Qiskit
- Basics of quantum key distribution (QKD) using BB84 protocol through simulation (Qiskit or QuNetSim)
- Simulate noisy channels to demonstrate how error correction improves fidelity

## Theory and Lab: 40 Hours

Check our website for updates:

<https://quantumcomputingtiet.netlify.app/>

## Contact us:

Email: [fdp\\_csed@thapar.edu](mailto:fdp_csed@thapar.edu)

WhatsApp Only: +91-9914374003

## Registration Details

- Registration link – Please complete your registration using the following link:  
<https://tinyurl.com/3fszw5zp>
- Registration fee: ₹ 1000/- for offline participation and ₹ 500/- for online participation

**Last Date for Registration: 12<sup>th</sup> Nov 2025**

- Accommodation Link:

<https://forms.gle/xxqPz37dcBveMnX67>

## Online Payment Details

**Mode of payment: Internet banking / UPI**

Beneficiary Name	Thapar Institute of Engineering & Technology
Bank Name	IDBI Bank
A/C No.	0267104000092579
IFSC Code	IBKL0000267

SCAN Here to Pay

