AICTE Approved Minor Program on Quantum Computing

Faculty Development Programme

QT-06: Quantum Communication

Aug 18 – Sep 10, 2025 (Mon to Sat) 2 PM – 4 PM

इलेक्ट्रॉनिकी एवं सूचना प्रौद्योगिकी मंत्रालय
MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY
सत्यमेव जयते

IBM Innovation Centre for Education

Jointly organized by Electronics and ICT Academies
Established by the Ministry of Electronics and Information Technology, Govt. of India

MNIT Jaipur | IIITDM Jabalpur | IIT Guwahati | IIT Kanpur | IIT Roorkee | NIT Patna | NIT Warangal

Objective (Electronics & ICT Academy-Phase II)

1. To conduct specialized FDPs for faculty/mentor training in line with the vision of MeitY by promoting emerging areas of technology and other high-priority areas that are pillars of both the "Make in India" and the "Digital India" programs.
2. To promote synergy and collaboration with industry, academia, universities and other institutions of learning, especially in emerging technology areas.
3. To support the National Policy on Electronics 2019 (NPE 2019) which envisions positioning India as a global hub for ESDM sector, including MeitY Schemes/policies such as Programme for Semiconductors and Display Fab Ecosystem; India AI; National Programme on AI, Production Linked Incentive Scheme for IT Hardware & Large-Scale Electronics Manufacturing; EMC; SPECS; Chips to System (C2S); etc.
4. To promote standardization of FDPs through Joint Faculty Development Programmes.
5. To support the vision of the National Education Policy (NEP 2020), which mandates that Indian educators go through at least 50 hours in professional development programmes per year.
6. To design, develop & deliver specialized FDPs on emerging technologies/ niche areas / specialized modules for specific research areas for Faculty in Higher Education Institutions (HEI), besides FDPs on multi-disciplinary areas connected with ICT tools and technologies and other digital hybrid domains, covering a wide spectrum of Engineering. and non-engineering colleges, polytechnics, ITIs, and PGT educators.

Joint -Principal Coordinator

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Principal Coordinator

Dr. Rajendra Mitharwal
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An intensive **20 Day - 40 Hour** training programme in online mode is being organized for faculty and doctoral students of various domains, including engineering, science, management and finance. It is also open to working professionals from industry/R&D organizations. The programme will run **02:00 PM to 4:00 PM (Mon-Sat).**

QT-06: Quantum Communication is the sixth in a series of Faculty Development programmes aligning to the courses in the recently approved Minor Course Curriculum on Quantum Computing by AICTE, DST and IBM.
https://facilities.aicte-india.org/Minor Quantum Technologies.pdf

Resource Persons

1) **Prof. Arnab Kumar Ray, Dhirubhai Ambani University**
2) **Prof. Yash Vasavada, Dhirubhai Ambani University**
3) **Dr Harish Sahu , Scientist -F, DRDO**
4) **Prof. Sandeep Kumar Singh, Center for Photonics and Quantum Communication, IIT Roorkee**

Programme Modules:

Foundation of Optical Physics: Polarization Optics, Light-Matter Interaction, Quarter Wave and Half-Wave Plates, Polarizing Beam Splitters.
Classical Communication Theory: Detectors, Quadrature Amplitude Modulation, Basics of Digital Communication, Information Theory, Source Coding
Quantum Communication: Quantum Information, Qubits, Superposition, Measurement, Quantum Entanglement and Bell States, Quantum Teleportation: Theory and Protocol, Quantum Dense Coding: Concept and Implementation.
Quantum Networks: Quantum Internet, Network Topologies and Protocols, Free-Space Quantum Communication, Satellite-Based Quantum Communication, Fiber-Optic Quantum Communication, Overview of Quantum Hardware: Sources, Detectors, and Interfacing, Review, Open Problems, and Future Directions in Quantum Communication.

Registration Link: https://forms.gle/Exu3LcxLTZ3UtvzX7

PDPM IIITDM JABALPUR
SCAN & PAY
UPI ID : iiitdmj@indianbk

Beneficiary Name -PDPM IIITDM Jabalpur
Bank Name - INDIAN BANK
A/C No. - 50018692852
IFSC Code - IDIB000M694

Last Date of Registration- 16th August 2025

Certification Fee: Academic (Faculty / Students): ₹ 500/-
Industry Professionals / Others: ₹ 1500/-
Participants from the Rest of the World USD: US$ 60
The fee covers course material and certification charges.

Contact for queries: Mr. Durgesh Kushwaha 789 867 0354
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