



IIT Kanpur, IIT Roorkee, IIT Guwahati,  
NIT Patna, NIT Warangal, IIITDM Jabalpur

## Online Faculty Programme on QT-06: Quantum Communication

**Aug 18 – Sep 11, 2025**  
**Twenty Days (Mon to Sat)**  
**Time: 2 – 4 PM (Daily 2 Hours)**



इलेक्ट्रॉनिक्स एवं  
सूचना प्रौद्योगिकी मंत्रालय  
MINISTRY OF  
ELECTRONICS AND  
INFORMATION TECHNOLOGY



Innovation Centre for Education

### Chairman, EICT Academy & Director MNIT Jaipur

Prof. Narayana Prasad Padhy

### Chief Investigator, EICT Academy

Prof. Vineet Sahula, ECE

### Coordinator, EICT Academy

Dr. Satyasai Jagannath Nanda, ECE

### Co- Chief Investigators, EICT Academy

Prof. Lava Bhargava, ECE

Prof. Pilli Emmanuel Shubhakar, CSE

Dr. Ravi Kumar Maddila, ECE

### 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 specialised FDPs on emerging technologies/ niche areas/ specialised 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.

An intensive **20 day - 40 hours** training programme in **Online Mode** is being organized for faculty and doctoral students in engineering & science institutions. It is also open to industry professionals. The programme will be run for **two hours daily** from **2 PM to 4 PM (Mon to Sat)**. **QT-06: Quantum Communication** is the **fifth** in a series of Faculty Development programmes aligning to the **Minor Course Curriculum on Quantum Computing**, approved by AICTE, DST & IBM.

<https://facilities.aicte-india.org/Minor Quantum Technologies.pdf>

### Experts/Speakers-

- 1) Prof. Anil Prabhakar, Indian Institute of Technology Madras
- 2) Prof. Bhaskar Kanseri, Indian Institute of Technology Delhi
- 3) Prof. R. P. Singh, Physical Research Laboratory, Ahmedabad
- 4) Dr. Mostafizur Rahaman, IBM Quantum Research Scientist, Bengaluru
- 5) Prof. Sandeep Kumar Singh, Center for Photonics & Quantum Comm, Indian Institute of Technology Roorkee
- 6) Dr Harish Sahu, Scientist – F, DRDO, New Delhi
- 7) Dr. Anindita Banerjee, Senior Quantum Technologist, CDAC Pune
- 8) Prof. Arnab Kumar Ray, Dhirubhai Ambani University, Gandhinagar
- 9) Prof. Yash Vasavada, Dhirubhai Ambani University, Gandhinagar
- 10) Dr. Aswath Babu, Indian Institute of Information Technology, Dharwad
- 11) Ms. Nivedita Dey, A. K. Choudhary School of IT, University of Calcutta
- 12) Ms. Janani A, Quantum Engineer, IBM Quantum, Bengaluru

### 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.

### Principal Coordinator

**Dr. Rajendra Mitharwal**  
8239633089 (M)

### Joint-Principal Coordinator

**Dr. Kavita Lalwani**  
9549650180 (M)

### Registration:

Registration is open to faculty, working professionals, industry persons, doctoral, postgraduate and graduate students. Participants will be admitted on first-come first-served basis. Register online at-(<http://online.mnit.ac.in/eict/>)



### Certification Fee:

- Academic (Faculty/PhD Scholars) [(India/SAARC/African countries)]: **₹500/-**
  - Professionals / Industry / Others [India / SAARC / African countries]: **₹1000/-**
  - Participants from the **Rest of the World USD: US\$ 60**
- (A) The fee covers online participation, material and certification charges.  
(B) Webinar Classes will be on Cisco **WebEx**, Notes / Slides will be shared and Quizzes / Assignments will be conducted on **Canvas** e- Learning Platform,  
→ For any other query, email us at [fdp.academy@mnit.ac.in](mailto:fdp.academy@mnit.ac.in)

**Malaviya National Institute of Technology (MNIT) Jaipur** one of the oldest NITs, the institute has a rich heritage of sixty years producing world class engineers, managers, architects and scientists. Ranked 43rd nationally in the NIRF ranking-2024 (Engineering), the institute offers learning opportunities for undergraduate, postgraduate students, and researchers in various domains. Having a lush green campus of over 317 acres, the Institute offers a world class teaching infrastructure, state-of-art laboratories and a safe & lively environment.