



Online Programme on Quantum Computing

17th – 28th Feb 2025



**Chairman, EICT Academy &
Director MNIT Jaipur**
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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 40 Hours Training Programme in online mode is being organized for faculty and doctoral students of engineering and technological institutions. It is also open to working professionals from industry/organizations. The main theme of training program will be oriented around exploring the state of the art methods for **Quantum Computing**. The programme will be run during **8-10 AM and 5-7 PM daily**.

Experts/Speakers-

1) **Dr. Mani Madhukar, IBM India & his team**

Programme Modules:

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| • Quantum Measurements Density Matrices: Positive-Operator Valued Measure; Fragility of quantum information: Decoherence |
| • Quantum Superposition and Entanglement; Quantum Gates and Circuits; No cloning theorem & Quantum Teleportation; Bell's inequality and its implications |
| • Quantum Algorithms & Circuits; Deutsch and Deutsch-Jozsa algorithms; Grover's Search Algorithm; Quantum Fourier Transform |
| • Shore's Factorization Algorithm; Quantum Error Correction: Fault tolerance; Quantum Cryptography; Implementing Quantum Computing: issues of fidelity |
| • Scalability in quantum computing; NMR Quantum Computing; Spintronics and QED approaches |
| • Linear Optical Approaches; Nonlinear Optical Approaches; Limits of the approaches; Future scope |

Principal Coordinator (MNIT Jaipur):

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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/Students): Rs. 500/-

Working professionals, Industry/Others: 1500/-

(A) Fee once paid will not be refunded back.

(B) The fee covers online participation in the programme, tutorial notes and examination, certification charges.

(C) The organizers should receive the registration amount through online mode-NEFT/UPI, provided at the registration portal.

(D) Detailed schedule will be shared after receiving registration form.

→ For any other query, email us at fdp.academy@mnit.ac.in , academy@mnit.ac.in

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 within the heart of the pink city, close to Jaipur International Airport, the campus offers a safe and lively environment. A world class teaching infrastructure, state-of-art laboratories welcome you at the campus. The institute has a vision to impart education of international standards and conduct research at the cutting edge of technology.