

Online Winter Faculty Development Programme

Quantum Computing

February 28 to March 22, 2025 (2:00 PM to 4:00 PM) live streaming

Jointly Organized by

NIT Warangal



IIITDM Jabalpur



IIT Roorkee



NIT Patna



MNIT Jaipur



and hosted by

Indian Institute of Information Technology Nagpur



In association with

Electronics and ICT Academy

Pandit Dwarka Prasad Indian Institute of Information Technology, Design and Manufacturing, Jabalpur

Schedule and Course Contents

- 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

Coordinators

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RESOURCE PERSONS

- Dr. Mani Madhukar, IBM India
- Team of Instructors / Trainers from IBM

Registration Details

Registration link – Please fill in the registration form using the following link:

<https://tinyurl.com/fdp-qc-2025>

Registration fee: INR 500/-

Last Date for Registration: February 15 2025

Contact Details

Email: jtembhurne@iiitn.ac.in; tdiwan@iiitn.ac.in

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Online payment details:

Internet Banking:

Beneficiary Name: Indian

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Technology, Nagpur General

Bank Name: SBI, VRCE Branch

A/C No. : 41759739179

IFSC Code: SBIN0006702

