

Schedule

Day 1: (19-01-2026)

- Introduction to Quantum Computing.
- Quantum Mechanics Essentials for Computing.
- Superposition & Entanglement.
- Quantum Gates & Circuits.
- Core Algorithms Overview.
- Quantum Hardware & Cloud Platforms.
- Applications & Teaching Guidance.

Day 2: (20-01-2026)

- Quantum RNN and Quantum Long Short-Term Memory.
- Quantum Convolutional Neural Networks plus hands on jupyter notebook for QRNN, QLSTM and QCNN.
- Quantum Transformer and Quantum Federated Learning.
- Real World Applications. Hands on on Jupyter Notebook for Quantum Transformer and Quantum Federated Learning.

Day 3: (21-01-2026)

- Double Slit Experiment and Quantum Vectors.
- Dirac Notation and Qubit States.
- Quantum Gates and Circuits.
- Multilevel Quantum Systems.
- Grover's Algorithm.
- Shor's Algorithm.
- Hands-on: Familiarization with IBM Qiskit, Qiskit notebooks for double-slit simulation.
- Hands-on: Gate circuits, Bell/GHZ states, Grover oracle (N=4/8), Shor's Algorithm demonstration

Day 4: (22-01-2026)

- Deutsch-Jozsa (DJ) algorithm.
- Grover algorithm.
- BB84 protocols - QKD.
- Variational Quantum Eigensolver (VQE).

Day 5: (23-01-2026)

- Applications of Quantum Computing
- Hybrid Quantum ML Workflow + Data Encoding (Hands-on).
- Training Variational QNNs + Model Evaluation.
- Faculty Teaching Kit + Capstone Mini-Project.

About RSST

Managed by Rashtreeya Sikshana Samithi Trust (RSST), RV Educational Institutions envision promoting innovative learning, instil a spirit of enquiry, inducing healthy challenges, encouraging sustainable accomplishments and ensuring enriching rewards to all students, parents, teachers and associates. RSST believes that every individual from each stratum of society needs the education to fulfil their aspirations. Following this belief, Sri. M. C. Sivananda Sarma, a renowned freedom fighter, educator, and administrator laid the foundation of RV Educational Institutions in the year 1940. Today, RV has become one of India's largest educational consortium with 29 institutions and more than 30,000 students to realize the vision of creating an atmosphere of involved learning, RSST successfully established one of its most ambitious projects, RV Institute of Technology and Management (RVITM) in 2019.

About RVITM

The RV Institute of Technology and Management (RVITM) is a prestigious institution under the RV Educational Institutions, dedicated to preparing students for the world beyond the classroom. RVITM offers undergraduate programs in Computer Science Engineering (CSE), Information Science Engineering (ISE), Computer Science and Engineering (AI-ML), Electronics and Communication Engineering (ECE), and Mechanical Engineering (ME), as well as a postgraduate program in Master of Computer Applications (MCA). These programs emphasize experiential learning through an ICT-enabled curriculum and are supported by state-of-the-art infrastructure. RVITM is affiliated with Visvesvaraya Technological University in Belagavi and is approved by the Government of Karnataka and the All India Council for Technical Education (AICTE), New Delhi. The institute adopts a holistic approach to education, equipping students to face global challenges effectively. RVITM provides an excellent learning environment with cutting-edge facilities and highly motivated, dedicated faculty members, all aligned with the VTU Curriculum. The institution encourages participation in co-curricular and extracurricular activities for overall development and fosters a research culture among students through supportive mentoring.

About Department of Computer Science & Engineering

The Department of Computer Science and Engineering, established in 2019, offers a Bachelor of Engineering (B.E.) program affiliated with Visvesvaraya Technological University (VTU) in Belagavi, with an intake of 180 students, the department features experienced faculty and state-of-the-art laboratories for academic and research purposes. It organizes various activities, including Faculty Development Programs (FDPs) conferences, workshops, expert lectures, and student initiatives. Strong industry connections through Memorandums of Understanding (MoUs) enhance students' professional readiness. Notable achievements include securing two VTU ranks, excellent placement records in top-tier companies, and significant faculty contributions to research published in prestigious journals. The department is committed to developing skilled, industry-ready professionals for the evolving technological landscape.



**RV Institute of Technology
and Management**

Sy. No. 171/5, Kothanur, 8th Phase,
JP Nagar, Bengaluru - 560076, Karnataka, India
080 35095100 | www.rvitm.edu.in

**Know
about us**



Go, change the world



**RV Institute of Technology
and Management**

CSE Cluster

Department of Computer Science and Engineering

organizes

A Five-Day Faculty Development Program

on

Quantum Computing

19th January 2026 - 23rd January 2026

Mode: Offline



Chief Patrons

- Dr. M P Shyam, President, RSST, Bengaluru
- Dr. (h.c) A.V.S Murthy, Hon. Secretary, RSST, Bengaluru
- Sri. D.P Nagaraj, Joint Secretary, RSST, Bengaluru
- Sri. P S Venkatesh Babu, Hon. Treasurer, RSST, Bengaluru
- Sri. P S Nandakumar, Governing Council Chairman, RVITM, Bengaluru

Patrons

- Dr. Nagashetappa Biradar, Principal, RVITM, Bengaluru
- Dr. Manjunath Prasad R, Vice Principal, RVITM, Bengaluru

Convener

Dr. Malini M Patil
Dean, CSE Cluster
RV Institute of Technology and Management

Dr. Hema M S
Professor and Head Dept of Computer Science & Engineering
RV Institute of Technology and Management

Organizing Committee

Dr. Satish Basavaraj Basapur
Associate Professor,
Department of CSE, RVITM, Bengaluru
email: satishbb.rvitm@rvei.edu.in, Phone: +91 98865 63814

Dr. Koushik S
Assistant Professor,
Department of CSE, RVITM, Bengaluru
email: koushiks.rvitm@rvei.edu.in, Phone: +91-98448 26847

Mr. Manjunath K.M.
Assistant Professor,
Department of CSE, RVITM, Bengaluru
email: kmmanjunath.rvitm@rvei.edu.in, Phone: +91-99866 02064

About Quantum Computing FDP

The five-day Faculty Development Program (FDP) on Quantum Computing is designed to provide faculty members and researchers with a strong conceptual foundation and practical exposure to quantum technologies. The program begins by addressing the limitations of classical computing and the motivation for quantum computation, followed by a structured introduction to quantum mechanics concepts essential for computing, such as qubits, superposition, entanglement, and quantum gates.

Participants will gain a comprehensive understanding of quantum algorithms including Deutsch-Jozsa, Grover's, Shor's, BB84 quantum key distribution, and Variational Quantum Eigensolver (VQE). The FDP also covers quantum hardware platforms, noise and decoherence, and hands-on experience with cloud-based quantum tools such as IBM Qiskit. Advanced sessions focus on Quantum Machine Learning (QML), including Quantum Neural Networks, Quantum Convolutional Neural Networks, Quantum Transformers, and hybrid quantum-classical workflows. The program concludes with teaching guidance, lab design strategies, and a capstone mini-project to support effective curriculum integration.

FDP Outcomes

Upon successful completion of the FDP, participants will be able to:

- Explain core principles of quantum computing, including qubits, superposition, entanglement, quantum gates, and circuits.
- Analyze and compare key quantum algorithms such as Grover's, Shor's, Deutsch-Jozsa, BB84, and VQE, along with their computational advantages and limitations.
- Utilize quantum cloud platforms and Qiskit to design, simulate, and execute basic quantum circuits and algorithms.
- Apply quantum machine learning techniques, including QNNs, QCNNs, QRNNs, QLSTMs, and hybrid quantum-classical models, to selected problem types.
- Design hands-on labs, assessment strategies, and mini-projects for teaching quantum computing and QML, aligned with learning outcomes and Bloom's taxonomy.

SCAN TO PAY



RV Institute of Technology
and Management

Sy. No. 171/5, Kothanur, 8th Phase,
JP Nagar, Bengaluru - 560076, Karnataka, India
080 35095100 | www.rvitm.edu.in

Know
about us



Go, change the world

REGISTRATION DETAILS

Registration Fee:

Scan to Register:

Rs. 700/-

Registration fee includes
Registration kit, Tea, Lunch

Note: Registration fee is non-refundable and non-transferable



Last Date for Registration:

10-January-2026

For any queries:



fdp.rvitm@rvei.edu.in



+91-9844826847

+91-9986602064