



STUDENT PROJECT PARTICIPATION AND COMPLETION LETTER

Date: 26-10-2026

Reference No.: QFQ/2026/101

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Master TATA MAITHRINATH**, a student of Class XII (CBSE) at **Delhi Public School, Vijayawada, Andhra Pradesh, India**, undertook a guided technology project with Qbit Force titled **“Quantum Computing in Practice: Quantum Circuit Design, Algorithm Simulation and Computational Analysis.”**

The project was designed to provide the student with practical exposure to the fundamental principles of quantum computing and an introductory understanding of how quantum algorithms are developed, simulated and evaluated as part of emerging computational technologies.

Under appropriate technical guidance, the student explored the following areas:

1. **Quantum Computing Fundamentals:** Studied the fundamental concepts of quantum information processing, including superposition, entanglement, quantum measurement and the differences between classical and quantum computing.
2. **Qubit Representation and Quantum Gates:** Explored the representation of qubits and the operation of basic quantum gates, including Hadamard, Pauli-X and controlled-NOT gates, to understand how quantum states are manipulated.
3. **Quantum Circuit Development:** Designed and simulated basic quantum circuits using an appropriate quantum computing software framework, examining how sequences of quantum gates produce different computational outcomes.
4. **Quantum Algorithm Implementation:** Worked on guided implementations of introductory quantum algorithms, such as the Deutsch–Jozsa algorithm or Grover's search algorithm, to understand their computational principles and potential advantages in specific problem settings.
5. **Simulation and Results Analysis:** Analysed simulated measurement outcomes, explored probability distributions and examined how circuit design and measurement affect computational results.
6. **Introduction to Quantum Hardware:** Studied the principal components and engineering challenges involved in quantum computing systems, including qubit technologies, control electronics, cooling requirements for certain hardware platforms and quantum error correction.
7. **Technical Documentation and Project Presentation:** Documented the project methodology, quantum circuits, simulation results and observations in a structured technical report and presented the key concepts and learning outcomes.



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Through this project, Master TATA MAITHRINATH gained practical introductory experience in quantum circuit development, algorithm simulation and computational analysis. The project helped him understand the interdisciplinary foundations of quantum computing across physics, mathematics, computer science and engineering.

The project also encouraged analytical thinking, computational problem-solving, technical documentation and independent learning in an emerging field of scientific and technological importance.

We appreciate his enthusiasm for advanced computing and his interest in exploring the potential of quantum technologies. We encourage him to continue building his knowledge through further technical projects, academic study and research-oriented learning.

We wish him every success in his future academic endeavours.

Yours sincerely,

For Qbit Force

Chandanesh K

Chandanesh Konakalla
Senior Manager

