

Time: 3 hours

Max. Marks: 80

Instructions:

- i. Question 1 is compulsory.
- ii. Solve any three from remaining.

Q1.

- A Give a write-up on general Quantum Operations. (10)
- B How does Quantum computing differ from Traditional Computing? (10)

Q2.

- A What is Quantum Teleportation? (10)
- B Explain the Quantum Circuit Model of Computation. (10)

Q3.

- A Compare Quantum Supersampling (QSS) with Conventional Supersampling? (10)
- B Discuss Quantum Gates. (10)

Q4.

- A What is the benefit of QPU in the field of Computer Graphics? (10)
- B How is linear Algebra performed in Quantum Computing? (10)

Q5.

- A Write a note on circle notation for Multi-Qubit Registers. (10)
- B Write a brief note on Orthogonal Projectors and Orthonormal Bases. (10)

Q6.

- A Explain Quantum Arithmetic briefly. (10)
- B What are the various Quantum state transformations? (10)
