

School of Computing Science and Engineering

Department of Computing Science and Engineering
Mid Term Examination

Exam Date: 29 Sep 2023

Time : 90 Minutes

Marks : 50

Sem VII - CSCF4700 - Quantum Cryptography

Your answer should be specific to the question asked

Draw neat labeled diagrams wherever necessary

- 1) Compare between classical and quantum information theory in Quantum Computing K2 (2)
- 2) Compare and contrast quantum annealing and gate-based quantum computing. K1 (3)
- 3) Explain Quantum Cryptography with no-cloning theorem K2 (4)
- 4) Sketch briefly about super dense coding and Quantum teleportation. K2 (6)
- 5) What is the significance of no-cloning theorem in quantum computing? K3 (6)
- 6) Show a code in Constructing Quantum Stabilizer codes and with Fault tolerance of error correction. K3 (9)
- 7) Discuss in detail Grover's search algorithm. Distinguish between Simon's algorithm and Shor's algorithm for factoring. K4 (8)
- 8) Show the functionality of Quantum circuits: single qubit gates, multiple qubit gates K4 (12)

OR

Explain any one application of building a Quantum Classifier K4 (12)