Dec-2022

B.E. (IT) (Sem -VII) (CBCGS) (R-19-20) (C Scher

Time : 3 Hours   Total Marks : 80

N.B. : (1) Question No 1 is Compulsory.
        (2) Attempt any three questions out of the remaining five.
        (3) All questions carry equal marks.
        (4) Assume suitable data, if required and state it clearly.

1   Attempt any FOUR   [20]
   a   Write short note Quantum Cryptography.
   b   Explain different Quantum Applications.
   c   Explain ION Traps.
   d   Explain Quantum circuits with example.
   e   Explain Simon's algorithm.

2   a   Differentiate between Classical and Quantum Computing.   [10]
    b   Explain Quantum Noise and Quantum Operations with suitable examples. [10]

3   a   How Qbits is different from bits. Explain with example.   [10]
    b   Explain Shor Code Algorithm and explain the methods of quantum error [10]
        correction

4   a   Explain how quantum counting is used for speeding up the solution of NP [10]
        complete problems.
    b   Explain in brief the limitations of quantum operations formalizations.   [10]

5   a   Explain Grover's algorithm with example.   [10]
    b   Explain Privacy amplification and information Reconciliation.   [10]

6   a   Explain fault tolerant quantum computations.   [10]
    b   What is Quantum Error Correction? Explain with example.   [10]

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