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KN-261

BCA (Part-I) Examination, 2022

THEORETICAL FOUNDATION OF COMPUTER SCIENCE

(Discrete Mathematics)

[Paper : First]

Time Allowed : Three Hours

Maximum Marks : 50

Minimum Passing Marks : 17

Note : Attempt all the **five** questions. **One** question from each unit is **compulsory**.

Unit-I

1. What is statement? What do you understand by truth value and symbols of statements? [10]

OR

Explain the algebra of prepositions.

Unit-II

2. What do you understand by Boolean Algebra? Explain with examples. [10]

OR

Explain various logic circuit.

Unit-III

3. State and prove Boolen's theorem. [10]

OR

Convert the function $f(x, y) = (x' + y') \cdot (x' + y) \cdot (x + y')$ in to disjunctive normal form.

Unit-IV

4 What do you understand by Cartesian product of two sets? [10]

OR

Write short notes :

(a) Composition of Mapping

(b) Inverse Maping

Unit-V

5. Explain isomorphism of two graphs. [10]

Or

Explain various operations on graphs.

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