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FIRST SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2025

(CUFYUGP)

BCA1CJ103/BCA1MN 102 Discrete Structures for Computer Applications

2024 Admission onwards

Maximum Time :2 Hours | **Maximum Marks :70**

Section A

All Question can be answered. Each Question carries 3 marks (Ceiling : 24 Marks)

1	Define prepositional logic.
2	Describe cardinality of sets.
3	Define power set.
4	Describe one to one correspondence.
5	Describe about Isomorphism.
6	Analyze the purpose of checking validity of argument.
7	Define chromatic number.
8	Describe about minimum spanning tree.
9	Describe about regular graph.
10	List out any three properties of binary tree.

Section B

All Question can be answered. Each Question carries 6 marks (Ceiling : 36 Marks)

11	Explain about tautology and contradiction with help of examples.
12	Describe about set operations.
13	Explain the importance of quantifiers in propositional logic and provide examples of their use.
14	Explain in detail bout algebra of propositions.
15	Describe about travelling salesman problem.
16	Describe about basic theorems on trees.
17	Describe about trees and its properties.
18	Explain about matrix representations of graphs.

Section C

Answer any ONE .Each Question carries 10 marks (1x10=10 Marks)

19	Explain in detail about relations its types and equivalence relation.
20	Describe about Hamiltonian graph and Euler's graph.