

**Third Semester B.Sc. IT
Examination Aug/Sep-2015
Mathematics-I**

Time:-3Hours

Max. Marks: - 75

SECTION-A

Answer any five questions:

(5*5)

1. What is the difference between Relation and Function?
2. Mention the fundamental Principle of Counting.
3. Differentiate between Groups & Arrangements.
4. Define Laws of Algebra of Proposition.
5. How many different numbers of two digits can be formed with the digits 1, 2, 3, 4, 5, 6; no digit being repeated?
6. Prove that: $P(n, n) = P(n, n-1)$.
7. Enlist the types of Propositions.

SECTION-B

Answer any two questions:

(10*2)

8. Explain the meaning and types of Vertices with diagram.
9. To prove that: $(A \cap B) \cap C = A \cap (B \cap C)$.
10. Write a detail note on Boolean algebra. How many types of it?

SECTION-C

Answer any two questions:

(15*2)

11. Define the Ring Arithmetic. Explain the properties and structure of Ring Arithmetic with the help of example.
12. Critically explain the meaning and Different types of Logic Circuits with diagram.
13. Explain the meaning & types of Tree Traversal Algorithms with a suitable example.