

**UG-426**

**BCA-15**

**U.G. DEGREE EXAMINATION –  
JANUARY 2009.**

**(AY - 2004-05 batch onwards)**

**Third Year**

**B.C.A.**

**THEORY OF COMPUTER SCIENCE**

**Time : 3 hours**

**Maximum marks : 75**

Answer for 5 marks question should not exceed  
2 pages.

Answer for 10 marks questions should not exceed  
5 pages.

**PART A — (5 × 5 = 25 marks)**

Answer any FIVE questions.

1. Explain the properties of Set operations.
2. Explain the Equivalence Relation partitions.
3. Discuss about Logical connective ness.

4. Explain theory of inference.
5. Discuss about phase structure grammar.
6. Define Adjacency matrix and path matrix of the graph G.
7. Define Directed tree, terminal node and branch node.

PART B — (5 × 10 = 50 Marks)

Answer any FIVE questions.

8. Explain the Various Functions in detail.
9. Discuss about the different Statement in detail.
10. Explain the various Forms in detail.
11. Discuss about Grammar and its types in detail.
12. Explain Turing Machines with examples.
13. Explain digraph with example.
14. Explain the WARSHALL Algorithm in detail.