

**V Semester B.Sc. (I.T.) Examination, June/July 2010**  
**ALGORITHMS**

Time : 3 Hours

Max. Marks : 75

***Instruction*** : Answer ***all*** questions from Part A, and answer ***any five*** questions from Part B.

PART – A

(12×2+1×1=25)

1. How do you test an algorithm ?
2. What is prefixing ?
3. What is the difference between quick sort and bubble sort ?
4. What is the basic method adopted by merge sort ?
5. How do you calculate time and space complexity ?
6. What is searching ?
7. What is the need of optimizing binary search trees ?
8. What is the concept of multistage graph ?
9. How does the graph differ from tree ?
10. State the problem of sum of sets.
11. Name the factors on which the efficiency of back tracking depends on.
12. What is Hamilton cycle ?
13. Define post order traversal.

**P.T.O.**

## PART – B

Answer **any five** :

**(5×10=50)**

1. Explain in detail how to validate and test the algorithm.
  2. What is recursion ? Explain with suitable example program.
  3. What is sorting ? Explain bubble sort with suitable example.
  4. Explain the fundamental concept of quick sort with suitable data.
  5. Write a short notes on
    - i) Spanning tree
    - ii) Two way merge tree
  6. Write an algorithm and explain backward approach.
  7. Write an algorithm and explain inorder and preorder tree traversal methods.
  8. Explain 8 queens problem and seek a solution.
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