

7215/A26

OCTOBER 2008

COMPUTER ALGORITHM AND DATA STRUCTURE

Time : Three hours Maximum : 100 marks

PART A — (6 × 5 = 30 marks)

Answer any SIX questions.

1. What is searching? Explain Linear Search Algorithm.
2. Define Preorder traversal.
3. How stacks are useful in evaluating expression?
4. Explain garbage collection.
5. Explain hash function with examples.
6. What is a singly linked list? Explain.
7. Define Knapsack problem.
8. Explain AND/OR graph.
9. Define Game trees.
10. How strings are represented? Explain.

PART B — (4 × 10 = 40 marks)

Answer any FOUR questions.

11. How to insert and delete an element from a stack? Explain.
12. Explain Quick sort.
13. Write the procedure for assigning program to a tape.
14. Define Mazing problem.
15. Explain Greedy method with suitable example.
16. How Binary trees are represented? Explain.

PART C — (2 × 15 = 30 marks)

Answer any TWO questions.

17. Formulate the travelling salesman problem and give procedure to solve it.
18. Discuss in detail :
 - (a) Explain Prim's algorithm.
 - (b) Insertion and deletion of a DLL.

19. Write short notes on :

- (a) Draw Binary search tree with $n = 12$
- (b) Threaded binary tree
- (c) Circular queue
- (d) Sparse matrix.