

MAY 2016

**P/ID 17460/RCK/  
PCAK**

---

Time : Three hours

Maximum : 75 marks

PART A — (5 × 5 = 25 marks)

Answer ALL questions.

1. (a) Give the algorithms for insertion and deletion of elements in the array.

Or

- (b) Discuss on ordered lists with examples.

2. (a) Write about doubly linked list and state the uses.

Or

- (b) Explain the insert and delete operations of queue.

3. (a) What is threaded binary tree? Give its construction.

Or

- (b) Explain binary search tree with example.

4. (a) Write the insertion sort algorithm. Give its complexity.

Or

- (b) Discuss on sorting with tapes.

5. (a) Give the construction of AVL trees.

Or

- (b) Write the uses of red-black trees.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

6. What do you mean by complexity analysis? Explain with examples.
7. Give the representation of arrays in the memory and explain with diagrams.
8. Discuss on stacks and their operations using algorithms.
9. Write about evaluation of expressions.
10. Explain the various binary tree traversals with algorithms and diagrams.
11. Give the Prim's minimum cost spanning tree algorithm and explain with example.
12. Write the merge sort algorithm and explain it.
13. Discuss on hashing.