Section-A

I. Answer any FIVE of the following questions. (5x4=20 Marks)

1. Discuss about Algorithm complexity.

2. Explain Huffman codes.

3. Compare Complexities of various sorting algorithms.

4. Explain FFT.

5. Discuss about finite automata.

6. Discuss about NP-completeness.

7. Explain Topological sort.

8. Explain properties of shortest paths.

Section-B

II. Answer the following questions. (4x15=60 Marks)

9. (a) Explain methods of solving Recurrence relations.

(OR)

(b) Explain Matrix chain multiplication using Dynamic programming.

10. (a) Explain Bubble sort and merge sort.

(OR)

(b) Explain Elementary number-theoretic notations.

11. (a) Explain the Rabin-Karp algorithm.

(OR)

(b) Explain the problem of set-covering.

12. (a) Explain Kruskals and Prims algorithm to find minimum spanning tree.

(OR)

(b) Explain Dijkstra's algorithm to solve single source shortest path problem.

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