

S.No. 578

12PCA11

(For the candidates admitted from 2012–2013 onwards)

M.C.A. DEGREE EXAMINATION, NOVEMBER 2017.

Third Semester

DESIGN AND ANALYSIS OF ALGORITHMS

Time : Three hours

Maximum : 75 marks

PART A — (5 × 5 = 25 marks)

Answer ALL questions.

1. (a) Explain the algorithm for Binary search.

Or

- (b) Write down the algorithm of merge sort using links.

2. (a) Give a short note on optimum storage on tape.

Or

- (b) Explain single-source shortest path.



3. (a) Write a note on depth first search.

Or

(b) Describe multistage graph in dynamic programming..

4. (a) Explain the backtracking algorithm for Hamiltonian cycles.

Or

(b) Write short notes on 8-queens problem.

5. (a) Explain the 15 puzzle problem.

Or

(b) Describe FIFO branch and bound technique.

PART B — (5 × 10 = 50 marks)

Answer ALL questions.

6. (a) Explain performance analysis.

Or

(b) What is partitioning? Explain the quick sort algorithm of partitioning.

7. (a) Explain greedy strategies for the Knapsack problem.

Or

(b) Write about the greedy algorithm to generate shortest path.

8. (a) Explain the traversal and searching techniques for a Binary tree.

Or

(b) Discuss on Breadth first search with example.

9. (a) Explain the backtracking algorithm for Knapsack problem.

Or

(b) How do you generate next color in a graph? Explain with an algorithm.

10. (a) Discuss on LC branch and bound techniques.

Or

(b) Explain the Traveling Salesman problem.