

S.No. 6318

P 16 CS 13

(For candidates admitted from 2016–2021 Batch)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Computer Science

DESIGN AND ANALYSIS OF ALGORITHMS

Time : Three hours

Maximum : 75 marks

PART A — (10 × 2 = 20)

Answer ALL questions.

1. Define Trees.
2. How to analyze Algorithm?
3. Write the properties of Binary search.
4. What is Selection sort?
5. Write the features of Greedy Method.
6. How do you obtain feasible solution?
7. List the traversal techniques available in Tree.
8. What is Spanning Tree?
9. How to define dynamic tree?
10. Write the general form of 8-Queens Problem.

PART B — ($5 \times 5 = 25$)

Answer ALL questions, choosing either (a) or (b).

11. (a) How do you represent graphs? Explain.
Or
(b) Write the procedure to perform Stack Operations.
12. (a) Discuss the characteristics of Divide and Conquer method.
Or
(b) Compare Quick and Selection sort.
13. (a) State the job sequencing deadline problem.
Or
(b) Write short notes on Optimal Merge Pattern.
14. (a) Discuss in detail about Flow Shop Scheduling.
Or
(b) Write short notes on Travelling Salesperson Problem.
15. (a) Write the steps involved in Hamiltonian Cycle.
Or
(b) Discuss about Sum of Subsets in Backtracking techniques.

PART C — ($3 \times 10 = 30$)

Answer any THREE questions.

16. Discuss in detail about Priority Queues.
17. Explain about Binary Search and its Operations in detail.
18. Explain Prim's minimum cost spanning tree algorithm with suitable example.
19. Write a detailed note on Graphical representation and techniques.
20. Describe 0/1 Knapsack problem in branch and bound techniques.
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