NOVEMBER/DECEMBER 2018

BSSC33 — DESIGN AND ANALYSIS OF ALGORITHM

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is an algorithm?
2. What do you mean by Space Complexity?
3. What is the Maximum and Minimum problem?
4. Define Merge Sort.
5. Define Greedy method.
6. What is Optimal solution?
7. List any features of Dynamic programming.
8. Define Multistage Graph.
9. What are the applications of Backtracking?
10. List any two uses of Search Method.

SECTION B — (5 × 5 = 25 marks)

Answer ALL Questions.

11. (a) Discuss about the Characteristics of an Algorithm in detail.

Or

(b) Write down the advantages and disadvantages of using Randomized algorithms.

12. (a) Write an algorithm for Iterative Binary Search.

Or

(b) Write down the control abstraction for Divide and Conquer method.

13. (a) What are the steps required to develop a Greedy method? Explain.

Or

(b) Describe the Tree Vertex splitting algorithm in detail.

14. (a) Write down the general procedure for Dynamic Programming.

Or

(b) Discuss on the features of Knapsack Problem.

15. (a) Write short notes on Graphic Coloring.

Or

(b) Discuss about General Iterative Backtracking method in detail.

SECTION C — (3 × 10 = 30 marks)

Answer Any THREE Questions.

16. Discuss about the Algorithm Complexity in detail.

17. Explain Quick Sort Algorithm with an example.

18. Discuss about the greedy algorithm for sequencing unit time job with deadlines.

19. Explain Travelling Salesman Problem using Dynamic Programming with example.

20. Briefly explain Depth First Search with example.

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