24P159

Name: ....

Reg.No: ....

FIRST SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2024

(CBCSS - PG)

(Regular/Supplementary/Improvement)

CC19P CSS1 C02 - ADVANCED DATA STRUCTURES

(Computer Science)

(2019 Admission onwards)

Time : 3 Hours

Maximum : 30 Weightage

Part-A

Answer any *four* questions. Each question carries 2 weightage.

1. Define algorithm.Explain with proper examples.

2. Explain any two array operations.

3. Explain Insertion sort with example. Also mention time complexity.

4. How is linear search performed?

5. What is linked list ? Explain different types of linked list.

6. Explain concept of hashing in data structure.

7. Explain leftist heap with examples.

(4 × 2 = 8 Weightage)

Part-B

Answer any *four* questions. Each question carries 3 weightage.

8. What are Characteristics of Data Structure annd explain it categories and operations.

9. Discuss the basic counting techniques in Data structure.

10. Explain priority queue.

11. Discus different types of Binary tree

12. With examples explain any two shortest path algorithm.

13. Briefly explain the concept of heap in data structure.

14. Explain Skew heap and Binary heap.

(4 × 3 = 12 Weightage)

Part-C

Answer any *two* questions. Each question carries 5 weightage.

15. Illustrate different applications in stack.

16. Explain threaded binary tree and Tries with example.Explain operation to find the inorder successor of binary tree.

17. Give short note on a) Closed addressing b) Extended hashing c) Double hashing d) Quadratic probing

18. Give short note on a) Fibonacci heap b) Splay trees c) Skew heap

(2 × 5 = 10 Weightage)

****