2019

MCA

2nd Semester Examination

DATA STRUCTURE LAB

PAPER – 291

Full Marks : 100

Time : 3 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their

Own words as far as practicable.

Illustrate the answers wherever necessary.

Answer any **TWO** of the following questions on lottery basis :   **35x2**

1. Write a program to implement upper triangular sparse matrix .

2. Write a program to implement tri- diagonal sparse matrix .

3. Write a program to remove all negative numbers from an array .

4. Write a program to implement linear search method .

5. Write a program to implement binary search method .

6. Write a program to implement quick sort technique .

7. Write a program to implement merge sort technique .

8. Write a program to implement heap sort technique .

9. Write a program to implement insertion sort policy .

10. Write a program to implement different operations of stack using menu driven policy .

11. Write a program to implement different operations of queue using menu driven method.

12. Write a program to create a linked list for n nodes. (n given by the examiner)

13. Write a program to subtract two polynomial using linked list .

14. Implement the stack using linked list .

15. Implement the queue using linked list .

16. Write a program to display all the elements of a linked list in reverse order .

17. Create the following tree

```
        W
      /   \
    X       Z
      \   /
      B   A
```
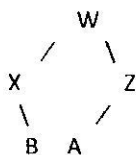
Hence display in

i) inorder traversal

ii) Preorder traversal

iii) Postorder traversal

18. Write a C program to implement queue using linked list. You may use switch case to Implement different operations .

19. Write a C program to implement a circular linked linear list with N number of nodes And perform insert, delete, and display operation .

20. Write a C program to implement a graph by adjacency matrix and list depiction .

[Viva-Voce : 20 marks

Practical Note Book : 10 marks]