B.C.A. DEGREE EXAMINATION,APRIL 2018
II YEAR - III SEMESTER
Core Major- Paper IV - DATA STRUCTURES AND ALGORITHMS

Time : 3 Hours **Max.marks :75**

Section A $(10 \times 2 = 20 marks)$

Answer any **TEN** questions

1. What is Data Structure?
2. List the Composite Data Types.
3. Define Stack.
4. What is Priority Queue?
5. What is Complete Graph?
6. Define Binary Tree.
7. Give Advantages and Applications of Linked List.
8. Define Hash Table.
9. Define an Algorithm.
10. What is Recursion?
11. Define Ordered List.
12. What is Binary Search?

Section B $(5 \times 5 = 25 marks)$

Answer any **FIVE** questions

13. Describe Asymptotic Notation.
14. Write the procedure for infix to postfix conversion.
15. Explain and write the procedure for Polynomial Addition.
16. How to convert forest to binary Tree?
17. Write a note on Divide and Conquer Method.
18. Explain Hashing Function with example.
19. Discuss Maze problem

P.T.O.

Section C $(3 \times 10 = 30 marks)$

Answer any **THREE** questions

20. Define Array. Explain operations on Arrays.

21. Explain Queue and its operations with example.

22. Explain and give procedure for Addition and Deletion Operations in Doubly Linked List.

23. Explain Tree Traversal with example.

24. Explain Merge Sort with example.