B.C.A DEGREE EXAMINATION,NOVEMBER 2019
II Year III Semester
Data Structures and Algorithms

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

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

Answer any **TEN** questions

1. Define data structure.
2. Pen down the symbols used in asymptotic notation.
3. Convert : (A+B)*C to postfix.
4. What is the purpose of circular queue.
5. Write down different types of linked list.
6. List out the application of linked list.
7. Define tree.
8. List out different types of graphs.
9. Define algorithm.
10. What is time complexity?
11. List out any four primitive data types.
12. Write down different conditions in stack.

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

Answer any **FIVE** questions

13. Give an account on linear and non-linear data structures.
14. Write down different applications of stack, and explain any one.
15. How to perform polynomial addition using linked list?
16. Explain hashing function with example.
17. Write an algorithm for binary search.
18. Discuss in detail about Dijkstra's Algorithm.
19. Explain recursion.

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

Answer any **THREE** questions

20. Explain operations on arrays in detail.
21. Discuss on algorithm for queue operations.
22. How to perform insertion and deletion in singly liked list?
23. Discuss in detail about different binary tree traversal.
24. Write down an algorithm to perform merge sort.

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