

Roll No.

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Total No. of Pages : 02

Total No. of Questions : 07

BCA (2011 & Onward) (Sem.-3)

DATA STRUCTURES

Subject Code : BSBC-302

Paper ID : [B0229]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY** consisting of TEN questions carrying TWO marks each.
2. **SECTION-B** contains SIX questions carrying TEN marks each and a student has to attempt any FOUR questions.

SECTION -A

1. Write briefly :

- a. List major characteristics of an Algorithm.
- b. What is Big O notation?
- c. Difference between Static and Dynamic data structure.
- d. Difference between linear and non-linear data structure.
- e. Write any two Applications of linked List.
- f. Define Stack.
- g. Define Binary Search Tree.
- h. What is Space Complexity?
- i. What is Binary Tree?
- j. List any three data structure operation applicable to all data structure.

SECTION-B

2. What are various types of queues available? Write a brief description of each.
3. Write an algorithm to delete a node from sorted doubly linked list when item to be deleted is given.
4. Explain Merge Sort with example.
5. Draw all possible binary trees that have four terminal nodes and each non-terminal node has two child nodes.
6. Write the difference between dynamic storage management and double linked list.
7. What is a Tree? What are the types of Binary Tree? Explain with example.