Roll No. | | | | | | | | | | | | | **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. Explain the common operations on data structure.

b. Write an algorithm to insert a node in a circular queue.

c. What is linear search?

d. What operations are performed on stack?

e. Define queue.

f. Explain doubly linked list.

g. What is time complexity?

h. What is Garbage collection?

i. What do you mean by sorting?

j. How an element from binary tree can be deleted?

SECTION-B

2. Compare and Contrast the ways of representing priority queue in memory.

3. What is Stack? Classification of stack. Explain with example.

4. Write an Algorithm to search an item from linear linked list. Note that linked list is sorted in descending order.

5. Explain the insertion sort algorithm with an example.

6. Draw all possible binary trees that have four terminal nodes and each non-terminal node has two child node.

7. Define Tree. How trees are stored in memory?