

**BACHELOR OF COMPUTER APPLICATION
SECOND SEMESTER
DATA STRUCTURE
BCA-201**

**SET
B**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 1hr. 30 mins.

Full Marks: 35

Time: 15 mins.

(Objective)

Marks: 10

Choose the correct answer from the following:

1×10=10

1. A data structure in which elements can be inserted or deleted at/from both the ends but not in the middle is?
a. Queue
b. Circular queue
c. Dequeue
d. Priority queue
2. How many children does a binary tree have?
a. 2
b. Any number of children
c. 0 or 1 or 2
d. 0 or 1
3. Finding an element, whether that is present in a list or not. It is called.....
a. Sorting
b. Searching
c. Storing
d. None of the above
4. A graph is a collection of nodes called..... and line segments called arcs or..... that connects pair of nodes.
a. Vertices, Edges
b. Edges, Vertices
c. Vertices, Paths
d. None of the above
5. The number of elements in the adjacency matrix of a graph having 7 vertices is.....
a. 4
b. 14
c. 36
d. 49
6. A queue follows.....
a. FIFO (First In First Out) principle
b. LIFO (Last In First Out) principle
c. Ordered array
d. Linear tree
7. In linked list each node contain minimum of two fields. One field is data field to store the data second field is?
a. Pointer to character
b. Pointer to node
c. Pointer to integer
d. None of the above
8. Visiting root node after visiting left and right sub-tree is called:
a. In-order traversal
b. Pre-order traversal
c. Post-order traversal
d. None of the above
9. The given array is arr = {11, 32, 45, 33}. Bubble sort is used to sort the array elements. How many iterations will be done to sort the array?
a. 4
b. 2
c. 3
d. None of the above

10. Which of the following data structure is non-linear type?
- a. Graph
 - b. Stack
 - c. Lined List
 - d. None of the above

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(Descriptive)

Time : 1 hr. 15 mins.

Marks : 25

[Answer question no.1 & any two (2) from the rest]

1. What is linked list? Explain the type of linked list. 5
2. Find the post-order, pre-order and in-order of the following tree: 4+3+3=10



3. What is the difference between linear search and binary search?
Explain Bubble sort with example. 4+6=10
4. a) Define undirected, directed and weighted graph. 6+4=10
b) Explain Kruskal's algorithm with example.
5. Define Stack with diagram. Explain Push, Pop and Display function. 10

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