

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

**SET
A**

[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. The number of elements in the adjacency matrix of a graph having 7 vertices is.....
 - a. 4
 - b. 14
 - c. 36
 - d. 49
2. Which of the following data structure is non-linear type?
 - a. Graph
 - b. Stack
 - c. Lined List
 - d. None of the above
3. 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
4. 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
5. 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
6. 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
7. 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
8. 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
9. 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

10. A queue follows.....
- a. FIFO (First In First Out) principle
 - b. LIFO (Last In First Out) principle
 - c. Ordered array
 - d. Linear tree

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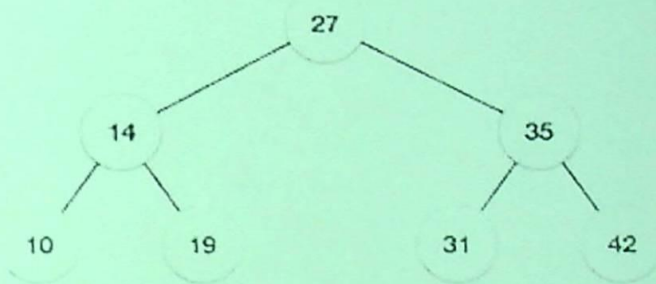
(Descriptive)

Time : 1 hr. 15 mins.

Marks : 25

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

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|---|----------|
| 1. What is linked list? Explain the type of linked list. | 5 |
| 2. Define Stack with diagram. Explain Push, Pop and Display function. | 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.
b) Explain Kruskal's algorithm with example. | 6+4=10 |
| 5. Find the post-order, pre-order and in-order of the following tree: | 4+3+3=10 |



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