BACHELOR OF COMPUTER APPLICATION
SECOND SEMESTER
DATA STRUCTURE
BCA-202
[USE OMR SHEET FOR OBJECTIVE PART]

SET

A

Duration: 1hr. 30 mins.

Full Marks: 35

(**Objective**)

Time: 15 mins.

Marks: 10

Choose the correct answer from the following:

$1 \times 10 = 10$

1. Which of the following is not a type of queue?
   - a. Ordinary queue
   - b. Single ended queue
   - c. Circular queue
   - d. Priority queue

2. In ....search, start at the beginning of the list and check every element in the list.
   - a. Linear search
   - b. Binary search
   - c. Hash search
   - d. None of the above.

3. Inserting an item into the stack when stack is not full is called............. operation and deletion of items from the stack, when stack is non-empty is called.............operation.
   - a. pop, push
   - b. insert, delete
   - c. push, pop
   - d. None of the above

4. 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

5. 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

6. The given array is arr = {1, 2, 4, 3}. 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

7. In................ type of search the list should be on sorted order.
   - a. Sequential search
   - b. Binary search
   - c. Both a and b
   - d. None of the above

8. 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

9. Searching techniques are classified in to.............. types.
   a. 2   b. 3
   c. 4   d. 5

10. Three standard way of traversing a Binary tree T with root R............
   a. Prefix, Infix, Postfix   b. Pre-process ,In-process ,Post-process
   c. Preorder, Inorder, Postorder   d. None of the above

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(Descriptive)

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

1. Define Stack with diagram. Explain Push and Pop function.   2+3=5

2. What is linked list? Explain the type of linked list.   4+6=10

3. Write a 'C' program to arrange the numbers in ascending order using   10
   Bubble Sort technique.

4. a) What is graph? Define undirected, directed and weighted graph.   5+5=10
   b) What is spanning tree? Explain spanning tree with an example.

5. Explain *any two* from the following: 5+5=10
   a) Quick sort
   b) Linear Search
   c) Selection Sort

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