Seat No.	

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SHIVAJI UNIVERSITY, KOLHAPUR

B.C.A. Part – II Semester – III (CBCS)

Examination Oct/Nov, 2023

Data Structure using C

Sub. Code: 83376

Day and Date: Friday, 10-11-2023 **Total Marks: 70**

Time: 10:30 p.m. to 01.30 p.m.

Instructions: *1) Que.1 and Que. 6 are compulsory*
2) Attempt any three Questions from Que. No.2 to Que. No.5.
3) Figures to the right indicate full marks.

Q 1) A] Select correct alternative and rewrite the sentence. **[10]**

1) Which one of the following is the size of int arr[9] assuming that int is of 4 bytes?
   a) 9 b) 36 c) 35 d) None of these

2) Which of the following is a linear data structure?
   a) Array b) AVL Trees c) Binary Trees d) Graphs

3) Process of removing an element from stack is called?
   a) Create b) Push c) Evaluation d) Pop

4) Which of the following data structure is non-linear type?
   a) Strings b) Stack c) Tree d) Queue

5) Which data structure allows deleting data elements from front and inserting at rear?
   a) Stack b) Queue c) Deque d) Binary search tree

6) Which of the following data structure is non-linear type?
   a) Strings b) Stack c) Tree d) Queue

7) A normal queue, if implemented using an array of size MAX_SIZE, gets full when?
   a) Rear=MAX_SIZE-1 b) Front=(rear+1)mod MAX_SIZE
   c) Front=rear+1 d) Rear=front

8) Binary Search can be categorized into which of the following?

a) Brute Force technique b) Divide and conquer
c) Greedy algorithm d) Dynamic programming

9) Which one of the following is the process of inserting an element in the stack?
a) Insert b) Push c) Add d) None of these

10) In a Queue, if a user tries to remove an element from empty Queue it is called?
a) Underflow b) Empty collection
c) Overflow d) Garbage Collection

Q 1) B] Write short note on following (Any Two) **[10]**

1. Explain queue and types of queue.
2. Explain tree terminology in details.
3. Explain array operation in detail..

Q 2) What is Binary Search? Explain with suitable example. **[10]**

Q 3) What is Data Structure? Primitive and non-primitive data structure. **[10]**

Q 4) Explain Bubble Sort with appropriate example. **[10]**

Q 5) What is Stack? Explain PUSH () and POP () with example. **[10]**

Q 6) Write short note on following (Any Four) **[20]**

1. Linked List
2. Types of array
3. Insertion sort
4. Difference between data and information
5. Tree
6. Selection sort

➡►All the best ➡►