Class Test (1) Examination: Fall-2024
Course Code: CIS 122 (Batch: 19)
Course Title: Data Structure
Date: 12/09/2024

Time: 30 Minutes **Total Marks: 15**

1. Briefly explain the primary goals of data structures. Given an array, **char B[8][13]** with base value 220. Now, find the address of A[5][10] with the help of row-major order. [4+4]

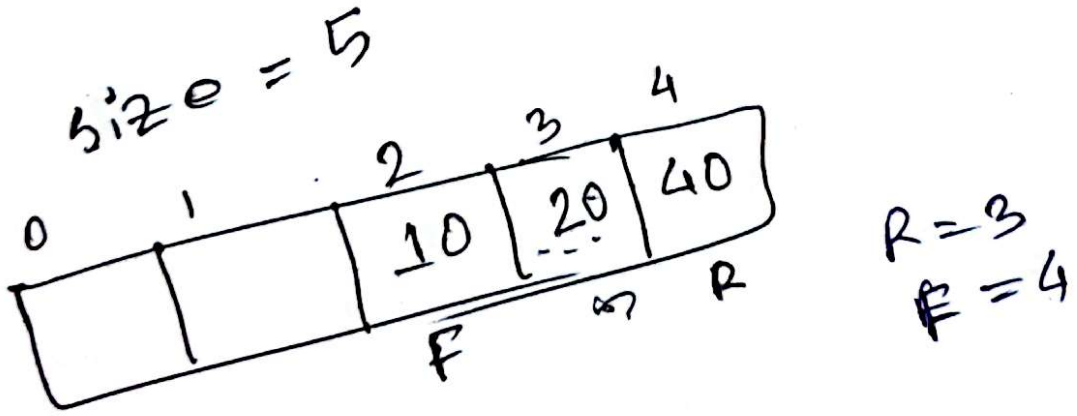
2. Suppose an array **M** contains 10 elements. Draw a flowchart to insert the value 200 at the 6th position of array **M** (using an appropriate array structure). [7]

Class Test (2) Examination: Fall-2024
Course Code: CIS 122 (Batch: 19)
Course Title: Data Structure
Date: 31/10/2024

Time: 30 Minutes **Total Marks: 15**

1. Define a circular queue. Consider the sorted array A[13] = {150, 138, 112, 108, 94, 84, 79, 57, 48, 35, 21, 19, 10}. Now find out the number x=138 from the sorted array utilizing binary search approach. Also compare the results with linear search. [2+6]

2. A circular queue has a size of 5 and has 3 elements 10,20 and 40 where F=2 and R=4. After inserting 50 and 60, what is the value of F and R. Trying to insert 30 at this stage what happens? Delete 2 elements from the queue and insert 70, 80 & 90. Show the sequence of steps with necessary diagrams with the value of F & R. [7]



Class Test (3) Examination: Fall-2024
Course Code: CIS 122 (Batch: 19)
Course Title: Data Structure
Date: 28/11/2024

Time: 30 Minutes **Total Marks: 15**

1. Write a note on a header linked list. Write the declaration of a doubly linked list in C. [3+3]

2. Write a pseudocode which is performed to traverse operation. [Assume that the linked list contains 7 integer values] [3]

3. Write a pseudocode to perform a split operation based on the odd and even positions of the nodes. [Assume that the linked list contains 12 integer values] [6]