

**2022
(July)
MCA
(Data Structure and Algorithms Lab)**

Paper Code: MCA-0817

Full Marks: 40

Time: 3 Hours

The figures in the margin indicate full marks for the questions

Answer any two (2) questions

1. Write a menu driven program for a Singly Circular Linked List with the following operations as options: (20)
 - a. Create a list of ' n ' items by appending elements at the end of the list.
 - b. Display the items in the list.
 - c. Delete an element from the beginning of the list.
 - d. An option to exit from the program.

2. Write a program to implement a Double Ended Queue of size ' n ' and implement the following operations: (20)
 - a. Insert an element to the front end.
 - b. Insert an element to the rear end.
 - c. Delete an element from the front end.
 - d. Display the elements in the queue.

3. Write a menu driven program for a Binary Search Tree of ' n ' nodes with the following operations as options: (20)
 - a. Creating the Binary Search Tree.
 - b. Displaying the items of the nodes in in-order traversal.
 - c. Searching for an element in the tree.
 - d. An option to exit from the program.

4. Write a program to convert a given input string in infix form to postfix. The input string should consist of alphabets or single digit numbers as operands and common arithmetic operators. (20)
