

**2023**

**COMPUTER SCIENCE — HONOURS — PRACTICAL**

**Paper : CC-3P**

**(Data Structure using C)**

**Full Marks : 30**

**Set - 2**

**Marks Distribution**

<b>Algorithm :</b>	<b>5</b>
<b>Source Code :</b>	<b>10</b>
<b>Output :</b>	<b>5</b>
<b>Laboratory Notebook :</b>	<b>4</b>
<b>Viva voce :</b>	<b>6</b>

Answer *any one* question.

1. Write a program in C to create a Binary Search Tree and perform the following operations :
  - (a) Display
  - (b) Deleting a node from any position.
  
2. Write a program in C to create a singly linked list and perform the following operations on it :
  - (a) Display the list.
  - (b) Delete an item at user specified position.
  
3. Write a program in C to insert an element in a circular queue (implemented by array).

4. Write a program in C to evaluate a postfix expression using stack.
  
  5. Write a program in C to create a Binary Search Tree, and perform the following operation using a menu :
    - (a) Display its level by level traversal.
    - (b) Count the number of leaf nodes.
  
  6. Write a program in C to sort a set of numbers (integers) using merge sort (non-recursive).
  
  7. Write a program in C to create a Binary Search Tree (BST) and include in-order traversal operation (non-recursive) and pre-order traversal operation (recursive).
  
  8. Write a program in C to reverse a single linked list.
  
  9. Write a program in C to sort a list of integer numbers using selection sort.
  
  10. Write a program in C to subtract a single variable polynomial from another single variable polynomial using singly linked list. Display three polynomials.
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