

**BCA [Honours]**

**[CBCS]**

**B.Sc. Third Semester End Examination-2023**

**(Regular & Supplementary Paper)**

**(Practical)**

**PAPER- C5P**

**[Data Structure Lab]**

***Full Marks: 20***

***Time: 02 Hrs***

*The figures in the right hand margin indicate marks*

*Candidates are required to give their answers in their own words as far as practicable*

*Illustrate the answers wherever necessary*

**Answer any one question:**

**1x15= 15**

1. Write a program to search an element from a list using binary search technique.
2. Write a program to sort a list of elements using insertion sort.
3. Write a program to delete a middle node from a singly link list.
4. Write a program to implement stack operations using array.
5. Write a program to search a node in a Binary search tree.
6. Write a program to sort a list of elements using selection sort.
7. Write a program to implement operations of Queue using linked list.

8. Write a program to insert a node at any specified location into a linked list.
9. Write a program to implement operations of stack using linked list
10. Write a program to search an element from a list using linear search technique.
11. Write a program to implement Lower Triangular Matrix using one dimensional array.
12. Write a program to sort a list of elements using bubble sort.
13. Write a program to insert a node after a last node of a doubly linked list.
14. Write a program to implement operations of Queue using array.
15. Write a program to display the nodes in inorder traversal of BST.
16. Write a program to implement symmetric Matrix using one dimensional array.
17. Write a program to remove duplicates elements from a linked list.
18. Write a program to using stack to determine nth element of a Fibonacci Series.
19. Write a program to check a matrix is sparse or not.
20. Create and perform two different operations on Double-ended Queues using linked List implementation.