SDM College of Engineering and Technology, Dharwad – 580002

Department of Computer Science and Engineering

Course: Data Structures and Applications Lab (22UCSL303)

Semester: III (A & B)

Academic Year: 2023 – 2024 (ODD SEM)

Duration:20-09-2023 to 13-01-2024

Note: The programs should be well ***indented*** and ***commented*** appropriately**.**

Lab-Termworks

UNIT-I	**1.**	Write a C program to convert a valid infix expression to postfix expression. (Expression includes operators +, -, * and /)
	2.	Write a C program to check whether the given expression is balanced expression or not. Hint: Expression involving ( ), { },[ ]
UNIT-II	**3.**	Write a C program to implement the following on circular queue: i. insert() ii. delete() iii. display()
	4.	Write a C program to implement the following on priority queue, consisting of three queues: i. insert() – start inserting the elements into the queues from the first queue. ii. delete() - start deleting the elements from the first queue. iii. display()
UNIT-III	**5.**	Write a C program to simulate stack and queue using linked list.
	6.	Write a C program to concatenate two doubly linked lists and display the result.

UNIT-IV	**7.**	Write a C program to construct a binary search tree and perform the following operations. i. Inorder traversal ii. postorder traversal iii. preorder traversal
	8.	Write a C program to construct an expression tree for a given postfix expression and evaluate the expression and print the result.
UNIT-V	**9.**	Write a C program to construct 2-3 trees for the given set of data and perform the following operations. i.insert() ii. search() iii. delete()
	10.	Write a C program to construct BST and check whether it is height balanced tree (AVL) or not.