

Course Code	Course Name	Course Type	Cd	L	T	P	Marks		
							Sessional	Final Exam	Total
COM-211	Data Structures using C Lab	PCC	2	0	0	4	50	0	50

**COURSE OUTCOMES**

At the end of the course the student will be able to: -

CO1	Implement lists, stacks, queues and trees using arrays in C.
CO2	Create the different types of linked lists and perform its operations using C.
CO3	Create tree data structure and perform its operations using C.
CO4	Identify the data structure to develop programs for real world applications.
CO5	Assess the applicability of given data structure for a particular use-case scenario.

**List of Activities for Data Structures Using C Lab**

S. No.	Activities
1	Implement a List using Array and develop functions to perform insertion, deletion and linear search operations.
2	Implement a Stack using Array and develop functions to perform push and pop operations.
3	Write a program to check if a given expression is correctly parenthesized using Stacks.
4	Write a program to evaluate postfix, prefix and infix expressions using Stacks.
5	Write a program to convert an infix expression to its corresponding postfix and prefix expressions and vice-versa.
6	Implement a Queue using Array and develop functions to perform enqueue and dequeue operations.
7	Implement a Singly Linked List and develop functions to perform insertion, deletion and linear search operations.
8	Implement a Doubly Linked List and develop functions to perform insertion, deletion and linear search operations.
9	Implement a Circular Linked List and develop functions to perform insertion, deletion and linear search operations.
10	Implement a Stack using Linked List and develop functions to perform push and pop operations.
11	Implement a Queue using Linked List and develop functions to perform enqueue and dequeue operations.
12	Implement a Priority Queue using Linked List and develop functions to perform enqueue and dequeue operations.
13	Implement a Binary Tree using Array and develop functions to perform traversal, searching, insertion and deletion operations.
14	Implement a Binary Search Tree using Array and develop functions to perform traversal, searching, insertion and deletion operations.
15	Implement a Binary Tree using Linked List and develop functions to perform traversal, searching, insertion and deletion operations.
16	Implement a Binary Search Tree using Linked List and develop functions to perform traversal, searching, insertion and deletion operations.