Branch: B.Sc(IT)	Semester-II
Subject Code: 2202	Lecture: 02 Credit: 02
Course Opted	Core Course -5 Practical
Subject Title	Data Structures using 'C' LAB

Course Objectives:

- To introduce the concepts of data structures including arrays, linked list, stack and queues.
- To design and implement various data structure algorithms.
- To introduce various techniques for representation of the data in the world.
- To create programs using data structure algorithms and also techniques of sorting and searching.

Course Outcomes:

- Select appropriate data structures as applied to specified problem definition.
- Implement operations like traversing, insertion, deletion and searching etc. on various data structures.
- Students will be able to implement linear and non - linear data structures.
- Implement appropriate sorting and searching techniques for given problems.

Modules	Sr.No.	Topic and Details	No. of Lectures/Practicals Assigned	Marks Weightage %
UNIT-I	1	**Arrays:** Implementations of Array and Operations- Insertion, deletion of an element from one dimensional array, Traversing of array	2	4
UNIT II	2	**Linked Lists: Singular** Implementation of List and Linked List and Operations- Inserting, Deleting of nodes etc	2	4
	4	**Stack:** Stack Implementation, Operations on stack(Push Pop). Implementation of stack using pointer,	4	8
UNIT-III	5	**Queue:** Implementation of Queue Implementation, Operations on queue(Insertion and deletion)	3	6
	6	**Trees:** Implementation of tree as Array and Linked lists and Traversal (Inorder, Preorder, Postorder)	4	8

UNIT-IV	7	**Graphs:** Implementation of Graph traversal (BFS, DFS Shortest path)	3	6
	8	**Searching & Sorting:** Implementation of searching (Sequential, Binary search) Sorting (Bubble sort, Selection sort, Insertion Sort.)	**4**	**8**
		Total	**25**	**50**