II Year I Semester	**L**	**T**	**P**	**C**
Code: 17CS312	**3**	**1**	**0**	**3**

DATA STRUCTURES LAB

OBJECTIVES:

1. To develop skills to design and analyze simple linear and non linear data structures
2. To Strengthen the ability to identify and apply the suitable data structure for the given real world
3. problem
4. To Gain knowledge in practical applications of data structures

List of Experiments:

1. Implementation of Singly linked list.
2. Implementation of Doubly linked list.
3. Implementation of Multistack in a Single Array.
4. Implementation of Circular Queue
5. Implementation of Binary Search trees.
6. Implementation of Heaps.
7. Implementation of Breadth First Search Techniques.
8. Implementation of Depth First Search Techniques.
9. Implementation of Prim's Algorithm.
10. Implementation of Dijkstra's Algorithm.
11. Implementation of Kruskal's Algorithm
12. Implementation of MergeSort
13. Implementation of Quick Sort
14. Implementation of Data Searching using divide and conquer technique

OUTCOMES:

At the end of this lab session, the student will

• Be able to design and analyze the time and space efficiency of the data structure

•Be capable to identity the appropriate data structure for given problem

Have practical knowledge on the application of data structures

List of Mini Projects

1.Book Shop management System
2.Hotel management System
3.Phone Book management System
4.Student Report card System
5.SuperMarket Billing System
6.Telephone Directory System

Advanced

7.Digital Clock
8.Snakes & Ladders Game
9.Polynomial Operations