

Syllabus

Exp t No	Contents	Mapped CO
1.	Demonstrate recursive algorithms with examples.	CO1 - CO5
2.	Implement various searching techniques.	CO1 - CO5
3.	Develop programs for different sorting techniques	CO1 - CO5
4.	Implement and perform different operations on Single, Double and Circular Linked Lists.	CO1 - CO5
5.	Develop a program to perform operations of a Stack using arrays and linked Lists.	CO1 - CO5
6.	Develop programs to implement Stack applications.	CO1 - CO5
7.	Develop a program to perform operations of Linear Queue using arrays and linked Lists.	CO1 - CO5
8.	Implement Circular Queues.	CO1 - CO5
9.	Develop a program to represent a tree data structure.	CO1 - CO5
10.	Develop a program to demonstrate operations on Binary Search Tree.	CO1 - CO5
11.	Demonstrate Graph Traversal Techniques.	CO1 - CO5
12.	Develop a program to find Minimum cost Spanning tree.	CO1 - CO5

Learning Resources

Text Books

1. *Data Structures and Algorithm Analysis in C*, Mark Allen Weiss, Second Edition, 2002, Pearson.
2. *Introduction to Algorithms*, Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, Clifford Stein, Third Edition, 2010, PHI.
3. *Data Structures and Algorithms Made Easy* by Narasimha Karumanchi, 2020, CareerMonk Publications.

e-Resources & other digital material

1. <https://www.cs.usfca.edu/~galles/visualization/Algorithms.html>
2. <http://www.algomatic.com/algorithm/single-linked-list-insert-delete>
3. <http://www.algomatic.com/algorithm/binary-tree-insert-delete-display>
4. <https://www.youtube.com/watch?v=AfYqN3fGape>
5. <https://www.youtube.com/watch?v=7vw2iIdqHIM>
6. <http://littlesvr.ca/dsa-html5-animations/sorting.php>