

Design and Analysis of Algorithms Lab (19IT3451)

CO	Statement	Skill	Levels
CO1	Apply different algorithm design techniques for solving problems.	Apply	L3
CO2	Implement various experiments as an individual or team member	Individual Performance, Self-Learning	
CO3	Develop an effective report based on various programs implemented	Communication	
CO4	Apply technical knowledge for a given problem and express with an effective oral communication	Apply, Communication	L3
CO5	Analyze outputs generated using C programming	Analyze	L4

Course Content

1	Develop and implement an algorithm using Divide and Conquer strategy for a given set of problems.	
2	Make use of Greedy method to implement a solution for a given problem.	
3	Develop and implement an efficient solution using Dynamic Programming.	
4	Use Backtracking design technique to implement a solution for a given problem.	
5	Develop and implement an algorithm using Branch and Bound technique for solving a given problem.	
6	Case Study-1: Apply the most appropriate design technique to develop and implement an efficient solution for a given problem	
7	Case Study-2: Develop and implement an optimal solution for a given problem by applying a suitable design technique.	

Learning Resources

Text Books:

1. Introduction to the Design & Analysis of Algorithms, Anany Levitin, Third Edition, 2011, Pearson Education.
2. Data Structures and Algorithm Analysis in C, Mark Allen Weiss, 2002, Pearson.
3. Algorithm Design Techniques, NarasimhaKarumanchi, CareerMonk Publications, 2018.

e- Resources & other digital material

1. <https://www.cs.usfca.edu/~galles/visualization/Algorithms.html>
2. <http://littlesvr.ca/dsa-html5-animations/sorting.php>
3. <https://www.youtube.com/watch?v=AFYqN3fGapc>