

1.	Title of the course	Advanced Data Structures and Algorithms Laboratory
2.	Course number	CS503P
3.	Structure of credits	0-0-3-2
4.	Offered to	PG
5.	New course/modification to	Modification To CS5191/5
6.	To be offered by	Department of Computer Science and Engineering
7.	To take effect from	July 2022
8.	Prerequisite	Nil
9.	<b>Course Objective(s):</b> The main objective of this course is to provide hands-on experience to students, for solving complex computational problems, using suitable and advanced data-structures and algorithms.	
10.	<b>Course Content:</b> Exploration and identification of suitable algorithms and data structures for application programs. Divide and conquer, dynamic programming, greedy algorithms, graph algorithms, hashing, backtracking, branch and bound, amortized analysis, priority queues, and their extensions: binomial heaps, fibonacci heaps, splay trees, tries, network flows, Ford-Fulkerson, EdmondsKarp algorithm, bipartite matching, randomized algorithms, exact exponential-time algorithms, datadriven algorithms	
11.	<b>Textbook(s):</b> 1. Steven S Skiena, <i>The algorithm design manual</i> , 2nd Edition, Springer (2008).	
12.	<b>Reference(s):</b> 1. Thomas H. Cormen, <i>Algorithms Unlocked</i> , MIT Press (2013).	