PVP20

PRASAD V. POTLURI SIDDHARTHA INSTITUTE OF TECHNOLOGY
(Autonomous)
KANURU, VIJAYAWADA-520007
II B.Tech -II SEM CSE(AI&ML)

Algorithms Lab

Course Code	20AM3452	**Year**	II	**Semester**	II
Course Category	PCC Lab	**Branch**	CSE(AI& ML)	**Course Type**	Practical
Credits	1.5	**L-T-P**	0-0-3	**Prerequisites**	DataStructures, Programming for Problem solving using C
Continuous Internal Evaluation :	15	**Semester End Examination:**	35	**Total Marks:**	50

Course Outcomes		
Upon successful completion of the course, the student will be able to		
CO1	Apply different design techniques for solving problems.	**L3**
CO2	Implement programs as an individual on different IDEs/online platforms.	**L3**
CO3	Develop an effective report based on various programs implemented.	**L3**
CO4	Apply technical knowledge for a given problem and express it with effective oral communication.	**L3**
CO5	Analyze outputs using given constraints/test cases.	**L4**

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3:Substantial, 2: Moderate, 1:Slight)

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3											2		
CO2	3				2									
CO3										3				
CO4	2									2				
CO5		3												

Syllabus		
Expt No	**Contents**	**Mapped CO**
1.	Develop and implement an algorithm using Divide and Conquer strategy for a given set of problems.	**CO1,CO2,CO3,CO4,CO5**
2.	Make use of greedy method to implement a solution for a given problem.	**CO1,CO2,CO3,CO4,CO5**
3.	Develop and implement an efficient solution using Dynamic Programming.	**CO1,CO2,CO3,CO4,CO5**
4.	Use Backtracking design technique to implement a solution for a given problem.	**CO1,CO2,CO3,CO4,CO5**
5.	Decelop and implement an algorithm using Branch and Bound technique for solving a given problem.	**CO1,CO2,CO3,CO4,CO5**
6.	Case Study-1: Apply the most appropriate design technique to develop and implement an efficient solution for a given problem.	**CO1,CO2,CO3,CO4,CO5**
7.	Case Study-2: Develop and implement an optimal solution for a given problem by applying a suitable design technique.	**CO1,CO2,CO3,CO4,CO5**
8.	Case Study-1	**CO1,CO2,CO3,CO4,CO5**
9.	Case Study-2	**CO1,CO2,CO3,CO4,CO5**
10.	Case Study-3	**CO1,CO2,CO3,CO4,CO5**

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, Narasimha Karumanchi, CareerMonk Publications, 2018.

e-Resources & other digital material

1. https://www.cs.usfca.edu/~galles/visualization/Algorithms.html
2. https://littlesvr.ca/dsa-html5-animations/sorting.php
3. https://www.youtube.com/watch?v=AfYqN3fGapc