



**GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY,
EAST DELHI CAMPUS,
SURAJMAL VIHAR-110092**

Semester: 5th												
Paper code: AIDS353/AIML353								L	T/P	Credits		
Subject: Design and Analysis of Algorithms Lab								0	2	1		
Marking Scheme:												
1. Teachers Continuous Evaluation: As per university examination norms from time to time												
2. End term Examination: As per university examination norms from time to time												
INSTRUCTIONS TO EVALUATORS: Maximum Marks: As per university norms												
1. This is the practical component of the corresponding theory paper.												
2. The practical list shall be notified by the teacher in the first week of the class commencement under the intimation to the office of the HOD/ Institution in which they appear is being offered from the list of practicals below.												
3. Instructors can add any other additional experiments over and above the mentioned in the experiment list which they think is important.												
4. At least 8 experiments must be performed by the students.												
Course Objectives:												
1.	To teach students how to analyses solution space of problems											
2.	To design algorithms based on dynamic programming and greedy algorithms.											
Course Outcomes:												
CO1	Apply important algorithmic design paradigms and methods of analysis in problem solving.											
CO2	Design and develop dynamic programming and greedy algorithms.											
Course Outcomes (CO) to Programme Outcomes (PO) Mapping												
(Scale 1: Low, 2: Medium, 3: High)												
CO/PO	PO01	PO02	PO03	PO04	PO05	PO06	PO07	PO08	PO09	PO10	PO11	PO12
CO1	2	2	2	2	1	-	-	-	-	-	-	1
CO2	2	2	2	2	1	1	1	1	1	1	1	2

List of Experiments:

- Sort a given set of elements using the quick sort algorithm and find the time complexity for different values of n.
- Implement merge sort algorithm using divide & conquer method to sort a given set of elements and determine the time and space required to sort the elements.
- Write a program to implement knapsack problem using greedy method.
- Program to implement job sequencing with deadlines using greedy method.
- Write a program to find minimum cost spanning tree using Prim's Algorithm.
- Write a program to find minimum cost spanning tree using Kruskal's Algorithm.
- Implement 0/1 Knapsack problem using dynamic programming.
- Write a program to perform Single source shortest path problem for a given graph.
- Program for finding shortest path for multistage graph using dynamic programming.
- Program to implement 8-queens problem using backtrack method.