

**THADOMAL SHAHANI ENGINEERING COLLEGE**  
**Academic Year 2024 - 25**

**Subject: Analysis of Algorithm Lab**  
**Branch: Computer Engineering**

**Subject Code: CSL401**  
**Semester: IV**

**Assignment 1**

1. Write a short note on NP hard and NP Complete.
2. Explain general methodology of divide and conquer, dynamic programming, greedy approach.
3. Let us consider the capacity of the knapsack  $M = 55$  and the list of provided items in the table below:

	1	2	3	4	5
Profit	100	50	150	200	130
Weight	25	10	20	45	15

Find the maximum profit gained using 0/1 knapsack.

4. Explain Backtracking, Branch and bound.
5. Write a short note on Rabin Karp Algorithm.
6. Short note on job sequencing using deadline.