Jodhpur Institute of Engineering &Technology

SYLLABUS

IV -Semester

Branch: CSE (AI&ML)

4AIML4-22 Analysis of Algorithm Lab

Credit: 1.5 **Max. Marks: 75 (IA: 45, ETE: 30)**

0L+0T+3P **End Term Exam: 3 Hours**

Sr. No.	Experiments
1	Sort a given set of elements using the Merge sort method and determine the time required to sort the elements. Repeat the experiment for different values of n, the number of elements in the list to be sorted and plot a graph of the time taken versus n. The elements can be read from a file or can be generated using the random number generator.
2	Sort a given set of elements using the Quick sort method and determine the time required to sort the elements. Repeat the experiment for different values of n, the number of elements in the list to be sorted and plot a graph of the time taken versus n. The elements can be read from a file or can be generated using the random number generator.
3	Search a given element using the Binary Search method and determine the time required to search the element. Repeat the experiment for different values of n, and plot a graph of the time taken versus n.
4	To implement and analysis 0/1 knapsack problem by finding optimal cost and quantity in knapsack allotment using Dynamic Programming.
5	To implement and analysis of Algorithm to generate Matrix Chain Multiplication.
6	To implement and analysis Longest Common Subsequence using Dynamic Programming.
7	Find Minimum Cost Spanning Tree (MST) of a given undirected graph using Prim's algorithm.
8	Find Minimum Cost Spanning Tree (MST) of a given undirected graph using Kruskal's algorithm.
9	To implement an analysis of N Queens problem using backtracking.
10	To implement an analysis of Rabin Karp String matching algorithm.

Tools/ software/ language : SQL

TEXT BOOKS:
1. Introduction to Algorithms; Cormen, Leiserson, Rivest; Prentice Hall of India.
2. Fundamental of Computer algorithms; Horowitz and Sahani; Computer Science Press.
REFERENCES BOOKS:
1. Design and analysis of Algorithms; Aho A.V, J.D Ulman; AddisonWesley.
2. Fundamental of Algorithmic; Gilles Brassard, Paul Bratley; PHI.