

**Maulana Abul Kalam Azad University of Technology, West Bengal**  
*(Formerly West Bengal University of Technology)*  
**Syllabus for B. Tech in CSE (Artificial Intelligence and Machine Learning)**  
 (Applicable from the academic session 2020-2021)

**Design & Analysis Algorithm Lab**  
**Code: PCC-CS494**  
**Contact: 4P**

Name of the Course:	<b>Design &amp; Analysis Algorithm Lab</b>
Course Code: PCC-CS494	Semester: IV
Duration:6 months	Maximum Marks:100
<b>Teaching Scheme:</b>	
Theory: hrs./week	Continuous Internal Assessment
Tutorial: NIL	External Assesement: 60
Practical: 4 hrs./week	Distribution of marks: 40
Credit Points:	2

<b>Laboratory Experiments:</b>	
<b>Divide and Conquer:</b>	
1	Implement Binary Search using Divide and Conquer approach Implement Merge Sort using Divide and Conquer approach
2	Implement Quick Sort using Divide and Conquer approach Find Maximum and Minimum element from a array of integer using Divide and Conquer approach
3	Find the minimum number of scalar multiplication needed for chain of matrix
4	Implement all pair of Shortest path for a graph (Floyed- Warshall Algorithm) Implement Traveling Salesman Problem
5	Implement Single Source shortest Path for a graph ( Dijkstra , Bellman Ford Algorithm)
<b>Brunch and Bound:</b>	
6	Implement 15 Puzzle Problem
<b>Backtracking:</b>	
7	Implement 8 Queen problem
8	Graph Coloring Problem Hamiltonian Problem
<b>Greedy method</b>	
9	Knapsack Problem Job sequencing with deadlines
10	Minimum Cost Spanning Tree by Prim's Algorithm Minimum Cost Spanning Tree by Kruskal's Algorithm
<b>Graph Traversal Algorithm:</b>	
11	Implement Breadth First Search (BFS)
	Implement Depth First Search (DFS)

Any experiment specially designed by the college  
 (Detailed instructions for Laboratory Manual to be followed for further guidance)