

Branch Name:	Information and Communication Technology
Program Code:	ET208
Course Name:	Design and Analysis of Algorithm Practical(Elective – III)
Course Code:	2ET2080301P
Pre-requisite Course:	Fundamentals of Data Structures and Algorithms

Course Objective:

1. To understand and apply the algorithm analysis techniques.
2. To critically analyze the efficiency of alternative algorithmic solutions for the same problem
3. To understand different algorithm design techniques.
4. To understand the limitations of Algorithmic power.

Teaching and Examination Scheme:

Credit	Teaching Scheme Hours per week				Evaluation Scheme(Marks)								Total(Marks)
					Theory(Marks)				Practical(Marks)				
	L	T	P	Total	SEE		CCA		SEE		CCA		
					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
1	-	-	2	2	-	-	-	-	10	25	10	25	50

LAB/Practical

- 1 Implement max-heap sort algorithm.
- 2 Implement knapsack problem using dynamic programming.
- 3 Implement chain matrix multiplication using dynamic programming.
- 4 Implement making a change problem using dynamic programming.
- 5 Implement Floyd's algorithm for shortest paths.
- 6 Implement a knapsack problem using greedy algorithm.
- 7 Implement Graph and Searching (DFS and BFS).
- 8 Implement prim's algorithm.
- 9 Implement kruskal's algorithm.
- 10 Implement LCS problem.
- 11 Find longest common sequence for X = (A, B, C, B, D, A, B) and Y = (B, D, C, A, B, A) using dynamic programming.
- 12 Given integer a₁, a₂, ... find contiguous subsequence whose sum is maximum using any programming language. e.g. If input is {8,-4,13,-2,5} then output is 20.If input is {5,-3,4,-2,-1,6} then output is 9.
- 13 Given a set of n integers does it contain a pair of elements a, b such that a+b=0?