

Course Code	Course Name	Teaching Scheme (Hrs/week)			Credits Assigned			
		L	T	P	L	T	P	Total
MCAL43	Design and Analysis of Algorithms Lab	--	--	2	--	--	1	1
		Examination Scheme						
		Term Work		Practical		Oral		Total
		40		10		10		60

Pre-requisite Course Codes	C++ and Data structures	
Course Outcomes	CO1	To implement greedy and dynamic method
	CO2	To implement backtracking and branch and bound techniques.
	CO3	To demonstrate graph algorithms to a given problem.
	CO4	To demonstrate string matching algorithms.

Sr. no	Experiment details	Ref	Marks
1	To implement Greedy algorithms (prims, kruskal, knapsack)	1,2	5
2	To implement dynamic algorithms (Matrix multiplication, 0/1 knapsack, OBST)	1,2	5
3	To implement Backtracking algorithm (graph coloring, n-Queen , Sum of subset)	1,2	5
4	To implement branch and bound algorithm(Travelling salesman problem, 15 puzzle problem)	1,2	5
5	To implement Single source shortest path(Dijkstra's algorithm, Bellman Ford Algorithm)	1,2	5
6	To implement All pair shortest path (Floyd Warshall algorithm, Johnson's Algorithm)	1,2	5
7	To implement Max Flow Algorithm (Ford-Fulkerson method, Maximum Barpitarte Matching, Push -relabel algorithm)	1,2	5
8	To implement String matching algorithm (Brute Force String matching, Rabin Carp string matching, Knuth- Moris-Pratt algorithm, String matching with Finite Automata)	1,2	5
Total marks			40

References:

- [1] T. H. Cormen, C. E. Leiserson, R. L. Rivest, and C. Stein, "Introduction to Algorithms", MIT Press/McGraw Hill, 2012 Version, 2/E, PHI Learning, 3rd Edition.
- [2] S. Baase, S and A. Van Gelder, "Computer Algorithms: Introduction to Design and Analysis". Addison Wesley, 2000, 3rd edition.