

Lesson Teaching Plan

Subject : Analysis and Design of Algorithms

Branch : MCA

Semester : 4th

Faculty Name : Sasmita Acharya

Module	Topic	No. of classes
1	1. Asymptotic notations and problems	1
	2. Order of growth, best, average and worst cases with examples	1
	3. Amortized Analysis Techniques with examples	2
	4. Recurrence solving techniques with examples	2
	5. Divide and Conquer Technique with examples	2
	6. Dynamic Programming Technique with examples	3
	7. Greedy algorithm design Technique with examples	2
	8. Huffman's algorithm with examples	1
	9. Backtracking Technique with examples	2
2	1. Branch-and-Bound Technique with examples	2
	2. Disjoint-set data structure operations with examples	1
	3. Randomization Technique with examples	1
	4. Building a max-heap from an array and Heap sort examples	1
	5. Worst-case and Average-case analysis of Quick sort algorithm	1
	6. Review of other sorting algorithms	1
3	1. Optimization problem discussion with examples	1
	2. Computational Geometric algorithms with examples	3
	3. String matching algorithms with examples	3
	4. Breadth-First-Search and Depth-First-Search Techniques with examples	1
4	1. Minimum Spanning Tree problems with examples	2
	2. Single Source Shortest Path algorithms with examples	2
	3. All Pairs Shortest Path algorithm with examples	1
	4. Maximum Flow problems, algorithms with examples	2
	5. NP-Completeness theory and problems with examples	3
	6. Approximation algorithms with examples	2
Total no. of classes :		43
