M.Tech (CS) and Ph. D. ALGORITHMS COURSE TENTATIVE SCHEDULE JULY-DEC 2019

DATE	TOPIC	ADDITIONAL
18 JULY	Introduction	
23 JULY	O Notation and Recurrence relations	
25 JULY	Quiz on Sorting : Complexity Analysis: Best, Worst and Average case analysis; Amortized analysis	
30 JULY	Quiz: Heaps ; Priority queues	
1 AUG	Divide and Conquer : Binary Search, Quick Sort Complexity Analysis	Assignment -1(D&C: other sorting algos, closest pair of points)
6 AUG	Merge Sort; Analysis	
8 AUG	Knapsack (KP) Problem - Discussion of Greedy Strategy	
13 AUG	0/1 KP - DP	
15 AUG		HOLIDAY
20 AUG	0/N KP Problem Coin Changing Problem	
22 AUG	Chained Matrix Multiplication	
27 AUG	TSP; OBST Discussion on DP	
29 AUG	Exploring Graphs by BFS	
3 SEPT	~~MINOR - 1~~	Rescheduled
5 SEPT	MST(Greedy); Complexity Analysis	
10 SEPT		HOLIDAY
12 SEPT		MINOR-1
17 SEPT	Exploring Graphs by DFS	
19 SEPT	Applications of DFS: Articulation Points	
24 SEPT	DFS on Directed Graphs: Topological Sorting	Assignment – 2 (DP: LCS, triangulation,
26 SEPT	Strongly connected components	
29 SEPT	Shortest Paths: Dijkstra	
1 OCT	Shortest Paths: Floyd Warshall, Singlesource-O(N) algo	
3 OCT	Bellman-Ford algorithm	
8 OCT		HOLIDAY
10 OCT	~~MINOR-2~~	Rescheduled
15 OCT	MINOR - 2	
17 OCT ,	Applications of DFS: Backtracking	DA Group Assignment

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22 OCT	Backtracking	
24 OCT	Branch and Bound : KP revisited	
29 , 31 OCT	Theory of NP-Completeness	
5 NOV	Theory of NP-Completeness	
7 NOV	GA Presentations	
9 NOV	GA Presentations	SATURDAY
14 NOV		

Evaluation :
Minor 1 and 2 : 20 Marks each
Minor 3: Assignments + GA (20 Marks) (Compulsory)

Internals (40) : Best of Minors 1, 2 (20 Marks) + Minor 3 (20 Marks)
Major : 60 Marks