

Course: Introduction to algorithms and analysis

Course Code: noc17-cs20

Session: 2017-18

Duration: 12 Weeks

Assessment procedures: Weekly Assignment (25%) + proctored certification Exam (75%)

Curriculum of the Course:

Week 1: Sorting problem, time complexity, asymptotic analysis.

Week 2: Solving recurrence, Divide-and-Conquer.

Week 3: Quicksort and Heap Sort, Decision Tree.

Week 4: Linear time Sorting, Order Statistics.

Week 5: Hash Function, Binary Search Tree (BST) Sort.

Week 6: Randomly build BST, Red Black Tree, Augmentation of data structure.

Week 7: Van Emde Boas, Amortized analysis, Computational Geometry.

Week 8: Dynamic Programming, Graphs, Prim's Algorithms.

Week 9: BFS & DFS, Shortest path problem, Dijkstra, Bellman Ford.

Week 10: All pairs shortest path, Floyd-Warshall, Johnson Algorithm.

Week 11: More amortized analysis, disjoint set data structure.

Week 12: Network flow, computational complexity.

List of students enrolled

1	Akanksha
2	Sagar Mochi
3	Divya Jain
4	Manish Soni
5	Shubham Kumar
6	Isha Gupta

7	Kishan Sharma
8	Mitali Bajaj
9	Nishant Kumar Nishu
10	Rishav Chetan
11	Harsh Tenguriya
12	K. Vardhajan