

## Teaching Plan

Dept. Of Computer Science

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Discipline : Computer Science (Hons.)  
Semester : Fourth  
Paper Code : CC8T  
Subject : Design and Analysis of Algorithms  
Name of faculty : Rakesh Paul  
Duration: 15th March,2023 to 25th June,2023

Unit	Topics	No. of Lectures	Duration in Hour
1	Basic Design and Analysis techniques of Algorithms, Correctness of Algorithm.	5	5
2	Algorithm Design Techniques, Iterative techniques, Divide and Conquer, Dynamic Programming, Greedy Algorithms.	10	10
3	Lower Bounding Techniques Decision Trees	3	3
4	Balanced Trees: Red-Black Trees	8	8
5	Advanced Analysis Technique: Amortized analysis	4	4
6	Graphs: Graph Algorithms-Breadth First Search, Depth First Search and its Applications, Minimum Spanning Trees.	6	6
7	String Processing: String Matching, KMP Technique	4	4

### Reference Books:

1. Introduction to Algorithms, T.H. Cormen, Charles E. Leiserson, Ronald L. Rivest, Clifford Stein, PHI, 3rd Edition 2009.