

PROFESSOR'S NAME	Prof. Sourav Mukhopadhyay
DEPARTMENT	Mathematics
INSTITUTE	IIT Kharagpur
COURSE OUTLINE	<p>Learning outcome: This course provides an introduction to mathematical modelling of computational problems. It covers the common algorithms, algorithmic paradigms, and data structures used to solve these problems. The course emphasizes the relationship between algorithms and programming, and introduces basic performance measures and analysis techniques for these problems.</p> <p>Course outline</p> <ol style="list-style-type: none">1. Sorting and time complexity2. Solving Recurrence3. Divide and Conquer4. Quicksort5. Heap Sort6. Linear Time Sorting7. Order Statistics8. Hash Function9. Balanced Binary Search Tree10. Data Structure Augmentation11. Computational Geometry & Dynamic Programming12. Graphs: Minimum Spanning Tree13. Shortest Path14. BFS & DFS