

CS 701: ALGORITHMS AND COMPLEXITY (4-0-0: 4)

Topics:

- Complexity of Algorithms, Asymptotic Notation.
- Recursive Algorithms, Master Theorem, Divide and Conquer Strategy.
- Dynamic Programming, Greedy Algorithms.
- Graph Algorithms, Shortest Path Problems, Max-flow Problem.
- Polynomials and FFT.
- Basic Ideas of Neural Network and Genetic Algorithm.
- NP-Completeness

References:

1. Cormen, Leiserson, Rivest, Introduction to Algorithms, Addison-Wesley.
2. Sara Basse et al. Computer Algorithms : Design and Analysis, Pearson Publishing.
3. C. Papadimitriou, Computational Complexity, Addison-Wesley.