Syllabus

1. **Introduction**: Concept of algorithmic efficiency, run time analysis of algorithms, Asymptotic Notations.
2. **Searching and Sorting:** Structure of divide-and-conquer algorithms; examples: binary search, quick sort,merge sort, and Analysis of divide and conquer run time recurrence relations.
3. **Greedy Method:** minimum cost spanning tree, approximate solutions: Knapsack problem, Kruskal's algorithm and Prim's algorithm for finding Minimum cost, Dijkstra's and Bellman Ford Algorithm.
4. **Dynamic programming:** Principle of dynamic programming. Applications: Floyd-Wars hall algorithm, 0/1 Knapsack Problem, longest Common sequence(LCS),
5. **Back tracking:** Overview, 8-queen problem, and 0/1 Knapsack problem, Subset Sum Problem, Traveling Salesman problem.