

- 1 What is Greedy Programming? Does it always give the optimal solution? Explain with example. Write the algorithm for partial knapsack problem. In this the knapsack should be filled by the items with maximum profit per unit of the item.

- 2 Write a note on backtracking algorithm technique. How it is useful in writing efficient algorithms for some useful problems. Write an algorithm for 6-queen problem for a 6X6 chessboard. Where a queen has the property that it can attack in horizontal, diagonal and vertical positions. The solution should contain the queens in the position that they are in non-attacking position.

- 3 Dynamic Programming uses the previous calculations dynamically. Explain. Write an algorithm for the multi stage graph problem, where we need to calculate the overall shortest path from source to target in a multi stage graph.