1. Discuss various asymptotic notations used to represent complexity of algorithms with examples?
2. Write divide and conquer algorithm for finding minimum and maximum value in a list and derive its time complexity
3. Write quick sort algorithm and derive its worst case time complexity?
4. Discuss the procedure to calculate space complexity of an algorithm with an example?
5. Discuss various conventions used in pseudo code notation to represent algorithms?
6. Write greedy algorithm for finding optimal solution of fractional knapsack problem?
7. Find optimal solution of the following knapsack problem m=10 n=7,(w1, w2, w3, w4, w5, w6, w7) = (1, 4, 3, 2, 3, 6, 7) (p1,p2, p3, p4,p5, p6, p7) = (7, 18, 6, 7, 5, 3, 4)?
8. Write Dijkstra’s algorithm & Bellman Ford Algorithm for finding shortest paths? Explain briefly.
9. Write greedy algorithm for optimal storage on tapes. Find optimal order for storing 13 programs on three tapes T0, T1, T2 where the programs are of length 12, 5, 8, 32, 7, 5, 18, 26, 4, 3, 11, 10, 6?
10. Find shortest paths in the following weighted graph using Bellman Ford algorithm?



1. Write quick sort algorithm and derive its worst case time complexity? And sort elements 13,19,9,5,12,8,7,4,21,2,6,11 by using Divide conquer Method
2. Find optimal solution of the following 0/1 knapsack problem using dynamic programming method n=4, m=25 (p1, p2, p3, p4)=(2, 5, 8, 1) (w1, w2, w3, w4)=(10, 15, 6, 9)?
3. Discuss Dominance or Merging-Purging rules?
4. Find shortest paths in the following graph using Dijkstra’s algorithm?

