

1. Compare the efficiency of AVL and Red-Black Trees in terms of Deletion, Insertion and Access. Justify your Analysis. (Marks 2.5)
2. Define the following. Also Draw a graph of Eight nodes and 10 Edges and highlight (Solve) the Respective for that Graph. (Marks 2.5)
 - a) Minimum Dominant Set
 - b) Minimum Vertex Cover
 - c) Maximum Independent Set
 - d) Minimum Coloring
 - e) Maximum Clique
3. Write an algorithm for Fractional Knapsack and 0/1 Knapsack. Also evaluate the worthiness of both in context of greedy property. (Marks 2.5)
4. Skip list is an interesting and practical data structure. How different operations work in a skip list. Explain with the help of diagrams. (Marks 2.5)