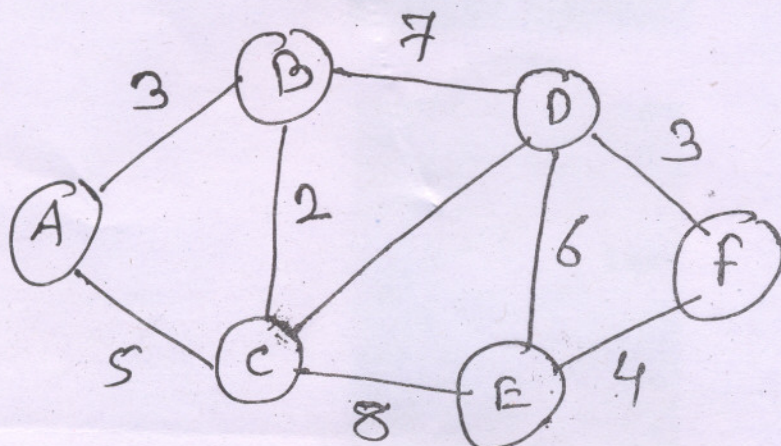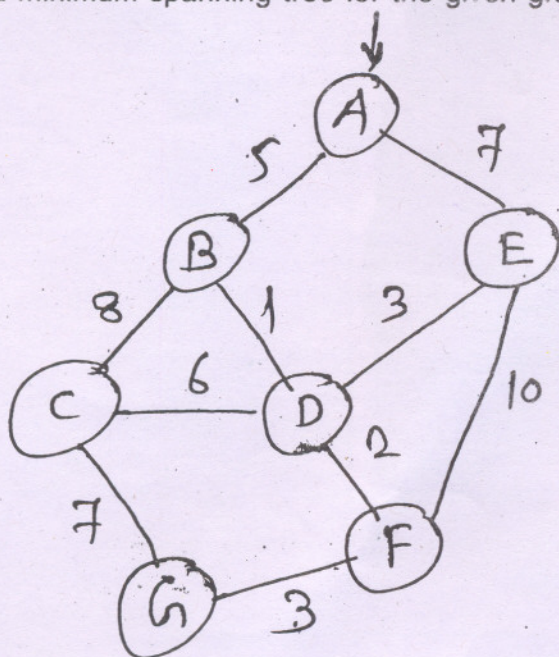(a) To find the worst case complexity of —   **10**
    (i)   Insertion sort
    (ii)   Merge sort.
(b) Write a program to sort the given n numbers using Binary tree sort.   **10**

(a) Write note on interpolation search.   **8**
(b) Explain hash addressing. Which are hashing techniques ? Implement hashing using any   **12** technique.

(a) Explain AVL tree. Construct the AVL tree for given month names :—   **10**
    MAR, MAY, JUNE, JULY, JAN, FEB, AUS, SEPT, NOV, OCT, APRIL, DEC.
(b) Write a functions to implement DFS and BFS graph searching methods.   **10**

To find shortest path from node A to F. Also write a program for shortest path algorithm.   **20**

(a) Write a program to sort given n numbers using "Quick sort". Derive the complexity of Quick   **14** sort.
(b) Explain Index Sequential Searching Method.   **6**

(a) Write a function to implement node delete operation of Binary search tree. Check all possible   **10** conditions.
(b) To find minimum spanning tree for the given graph using PRIM's algorithm.   **10**

Write note on : (any **two**)   **20**
    (a) Back tracking method   (c) Topological sort
    (b) Greedy method   (d) Digital search trees.