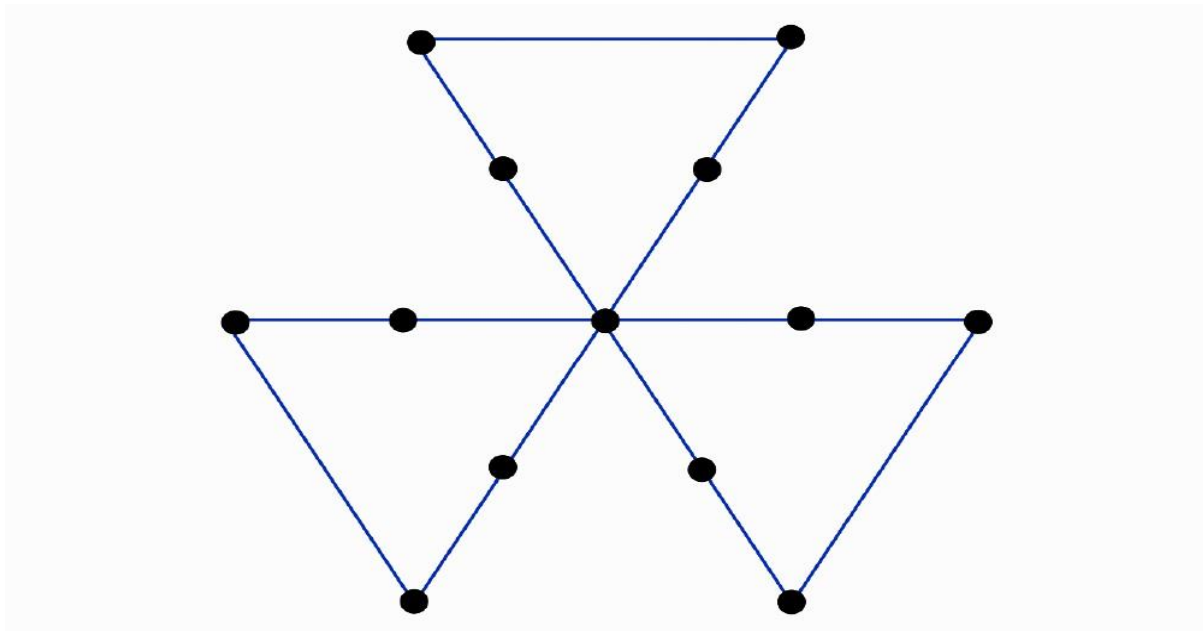## IGT ASSIGNMENT 2
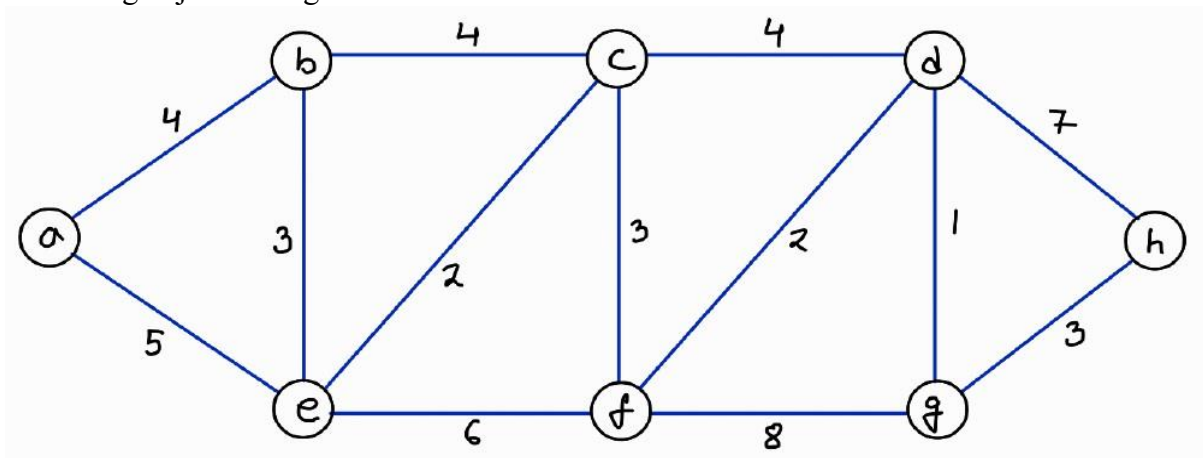
Q.1. Consider a binary tree T that has 175 leaf nodes. Then determine the number of nodes in T that have exactly two children.

Q.2. For the following graph,
    a. Find radius and diameter.
    b. Find the number of spanning trees.
    c. Find a path which is maximal but not maximum.

Q.3. Determine the length of the shortest path from *a* to *h* in the given weighted graph by using Dijkstra's algorithm?

Q.4. Let T be a tree of order n in which every vertex has degree 1 or degree 5. Determine all possible values of n if $n \le 20$.

Q.5. Determine the number of distinct minimum spanning trees for the weighted graph given below and draw them.