Q-1   True or False

1.   Tree is a linear data structure.

2.   In a tree data structure, the first node is called as Root Node.

3.   In a tree data structure, the node which is predecessor of any node is called as PARENT NODE.

4.   In a tree data structure, the node which is descendant of any node is called as CHILD Node

5.   In a tree data structure, the total number of children of a node is called as DEGREE of that Node.

6.   A BST is also known as ordered binary tree.

7.   An edge is a connecting link between two vertices.

8.   A weighted egde is an edge with cost on it.

9.   A directed edge is said to be outgoing edge on its destination vertex.

10.   If an edge is directed, its first endpoint is said to be origin of it.

Q-2   Fill in the Blanks

1.   Tree is a _____ type of data structure.

2.   A tree is a structure consisting of one node called the _____

3.   _____ is a application of tree.

4.   In a tree data structure, the connecting link between any two nodes is called as _____

5.   In a tree data structure, nodes which belong to same Parent are called as _____

6.   In a tree data structure, the node which does not have a child is called as _____

7.   In a tree data structure, the node which has atleast one child is called as _____

8.   A tree whose elements have at most 2 children is called a _____ tree.

9.   A tree data structure can be represented_____ and _____ representation.

10.   Formula of Balance Factor = _____

11.   A individual data element of a graph is called as _____

12.   A graph with undirected and directed edges is said to be _____ graph.

13.   Total number of edges connected to a vertex is said to be _____ of that vertex.

14.   A _____ is said to be simple if there are no parallel and self-loop edges.

15.   Graph Data structure is represented   using _____ and _____ representation.

Q-3   Answer the following questions:

1.   Explain root node with example.
2.   Explain Parent,child and siblings nodes with example.
3.   Explain internal nodes.
4.   Explain path in tree with example.
5.   Explain binary tree with example.
6.   Explain Tree Representation with example.
7.   Explain types of binary tree traversals.
8.   Explain BST & AVLwith example
9.   What is Graph? Explain it with example.
10.   Explain types of Edges with example
11.   Explain types of graphs with example.
12.   Explain representation of the graph.
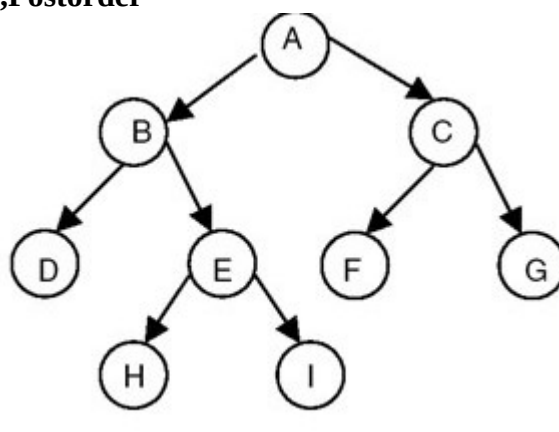
Q-4   Give Full forms:
 1.   BST
 2.   AVL

Q-5   Define the following:
 1.   Height of the tree
 2.   Depth of the tree
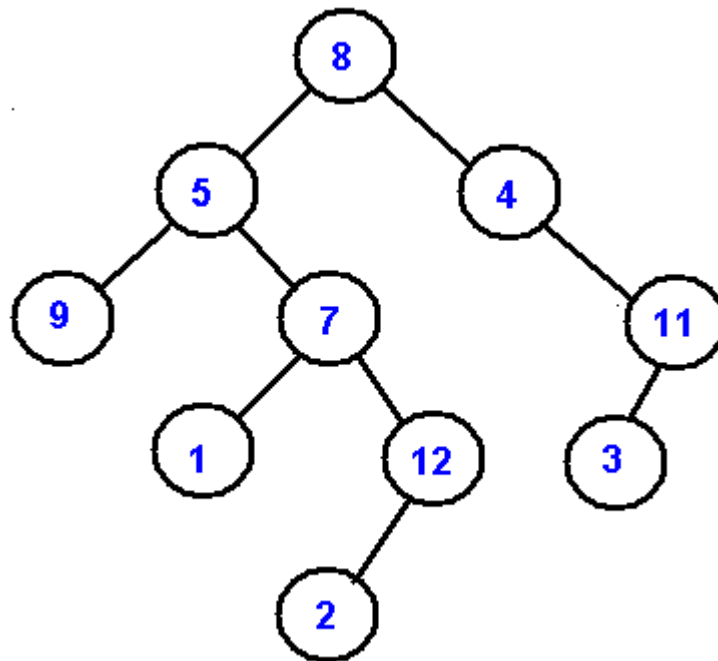 3.   Sub tree
 4.   Self loop
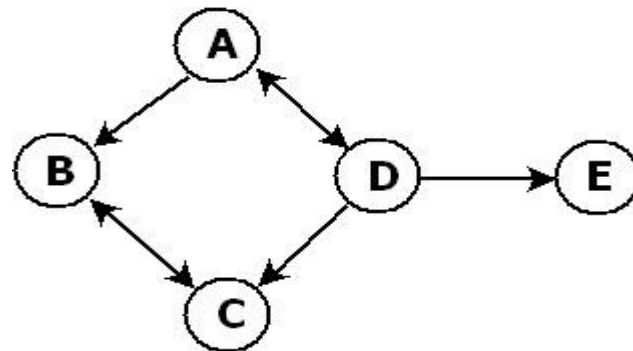 5.   Multiple Edges

Q-6   Find Inorder,Preorder,Postorder

Q.7   Create a binary Tree of the following data.

5,10,6,18,20,1,10,5,-2,-6,9,20,1,19,30

Q.8   Create the following tree into Threaded Binary Tree

Q.9   Represent the following graph into Matrix and List

Q.9   Find BFS & DFS of the following Graph