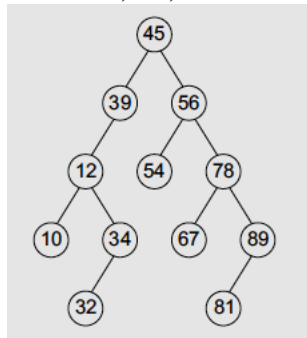


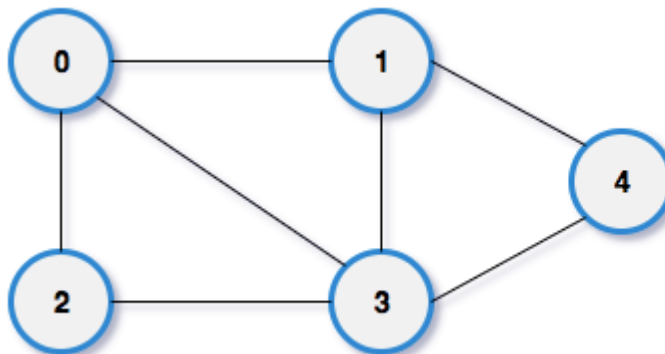
## Programming for Problem Solving Laboratory (ESC 293)

### Section B

- 1) Write a C program to create a structure named **student** having two arrays "name" and "marks", name is the character array of 30 characters that will store the name of the student and marks is the integer array of 5 integers that will store the marks of 5 subjects. Display the total and percentage obtained.
- 2) Using the concept of passing Structures as function arguments and returning a structure from a function in C language, add two numbers.
- 3) Write a C program to Reverse the characters of a string using stack.
- 4) Write a program to convert the expression "a+b\*(c^d-e)" into "postfix expression".
- 5) Write a C program to implement circular queue.
- 6) Write a C program for Evaluation of postfix expression ("231\*+9-") using stack.
- 7) Write a C program to show bubble sort for an unsorted list [60, 50, 90, 30, 70, 10].
- 8) C program to show insertion sort for an unsorted list [60, 50, 90, 30, 70, 10].
- 9) C program to show quick sort for an unsorted list [60, 50, 90, 30, 70, 10].
- 10) Consider the Binary search tree given below and perform the following operations:
  - a. Show the deletion of the nodes 10 and 34
  - b. Insert 11, 22, 33 and 77 in the tree



- 11) Given an undirected Graph of N vertices: 1 to N, and M edges, consider the representation of the input graph such that there is an edge between vertex X and vertex Y, the task is to write a C program to create Adjacency Matrix of the given Graph.



- 12) C program to show the dfs traversal of the graph  
Input is: 5 vertices (starting vertex is marked as 0)

Take graph data in matrix form as follows:

**0 1 0 0 1**

**1 0 1 1 1**

**0 1 0 1 0**

**0 1 1 0 1**

**1 1 0 1 0**

- 13) Write a python program to take age of a person as input and identify whether he/she belongs to senior citizen category or not. (Note: A person belongs to senior citizen if age>60).
- 14) Write a Python program to get the Fibonacci series between 0 to 50.
- 15) Python Program to check whether a given number is Prime or not
- 16) Write a python program to take a number as an input and show whether if it is divisible by 5 or not.