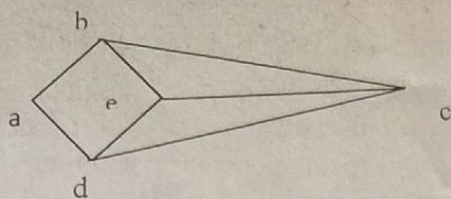
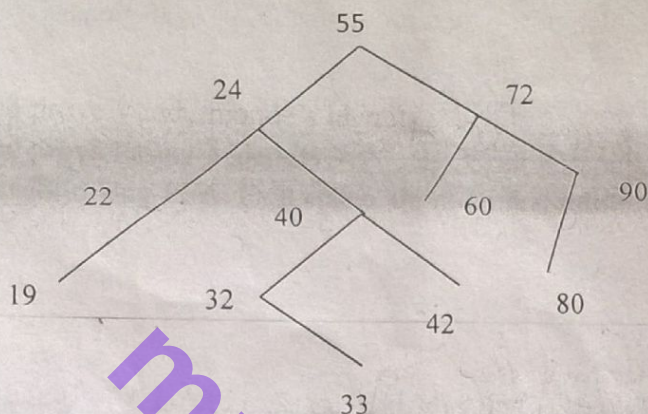


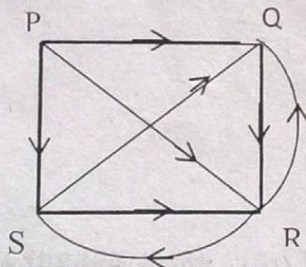
- c) Write the Breadth First Search algorithm. Apply it on the following graph starting with vertex 'a'



- d) Write an algorithm on deleting the value in binary search tree. Use it to delete $V=72$.



- e) i) Build a binary tree for a list
mathematics, geography, physics, geology, biology, chemistry, zoology.
ii) Define connected graph and regular graph with an example.
f) Find the Path matrix for the following graph using Warshall's algorithm



- g) Define the term i) Binary tree ii) Complete binary tree iii) Extended binary tree.
h) i) Construct a tree of the algebraic expression $(X + (Y - (X + Y))) \times ((3 \div (2 \times 7)) \times 4)$
ii) Give the adjacency list and adjacency matrix of complete graph of 5 vertices.

Q 3) Solve the following (any 4)

[20]

- a) State the Inclusion – exclusion principle.

How many positive integers not exceeding 100 are divisible by 2, 3 or 5?