Instructions
- Answer ALL questions. Write your answers in the spaces provided.
- Show your working. You may use a non-programmable scientific calculator.
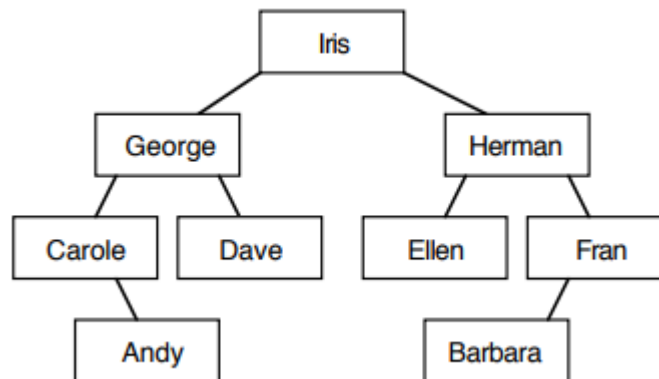
Question 1

Write the correct answer for each statement below.
- (a) A graph with no loops and has some multiple edges.
- (b) A vertex with no children.
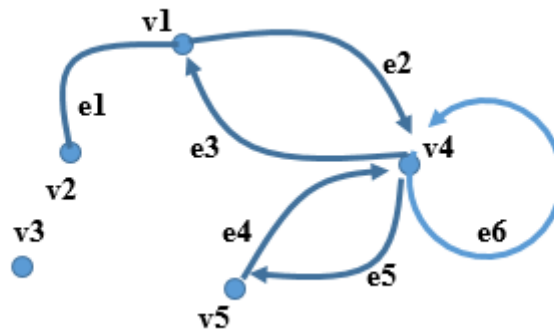- (c) A graph in which neither loops nor parallel edges.

Question 2

The diagram at below is intended to represent the elements of a binary tree. Write the names in the order that would be printed by methods of the following types:

Pre-Order Printing	In-Order Printing	Post-Order Printing

Question 3

Based on the following graph, answer the questions.

(a) Find the degree of vertex v3.
(b) Edges e3 and e2 are associated with both vertex v1 and v4. Name these edges.
(c) Edge e6 is assigned from vertex v4 to itself. Name the edge.
(d) Name the graph as shown above.

Question 4

Refer to the following figure, find a minimal spanning tree using Kruskal's Algorithm.