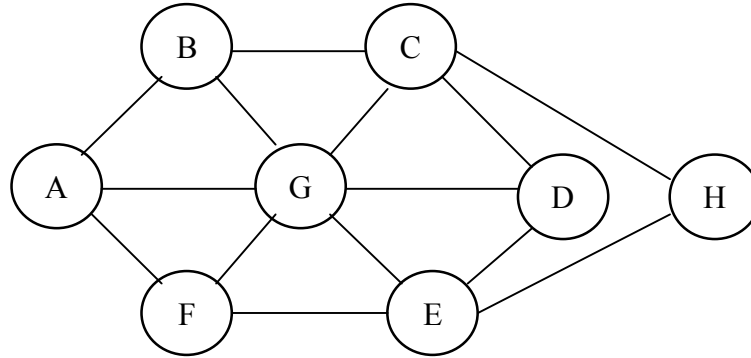


7. Consider the following undirected graph G.



- (a) Assuming node A is the root, list the sequence in which vertices of G are visited by a *depth-first* search algorithm. [2 marks]
- (b) Assuming node A is the root, list the sequence in which vertices of G are visited by a *breadth-first* search algorithm. [2 marks]
- (c) Using pseudocode or otherwise, describe *Dijkstra's algorithm* for finding a shortest path between two nodes in a weighted connected graph. [10 marks]
- (d) Traveller Chris wishes to travel from London to Sydney. His journey involves several legs, and each leg is costed separately by his airline, as follows:

London-Amsterdam: £70  
London-Paris: £60  
Amsterdam-Dubai: £300  
Amsterdam-Kuala Lumpur: £580  
Amsterdam-Hong Kong: £450  
Paris-Dubai: £320  
Paris-Kuala Lumpur: £570