Question 6 (7 marks)
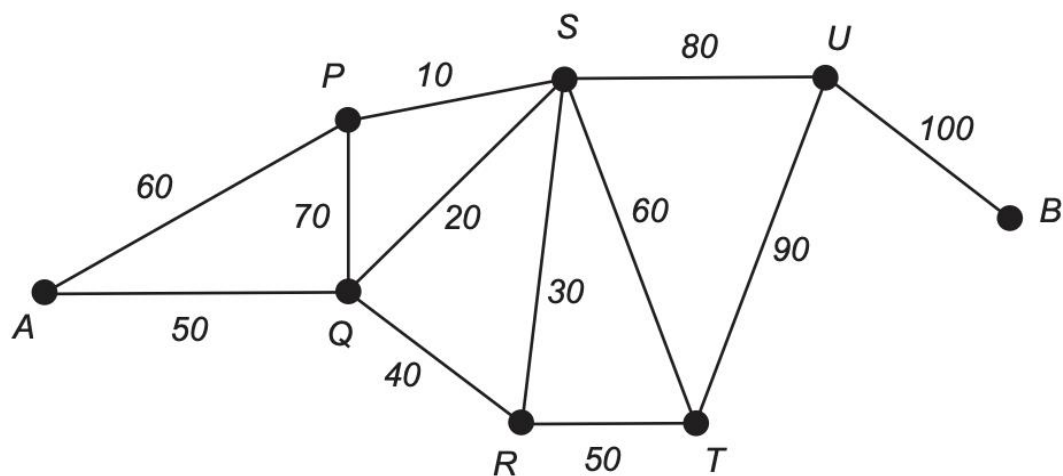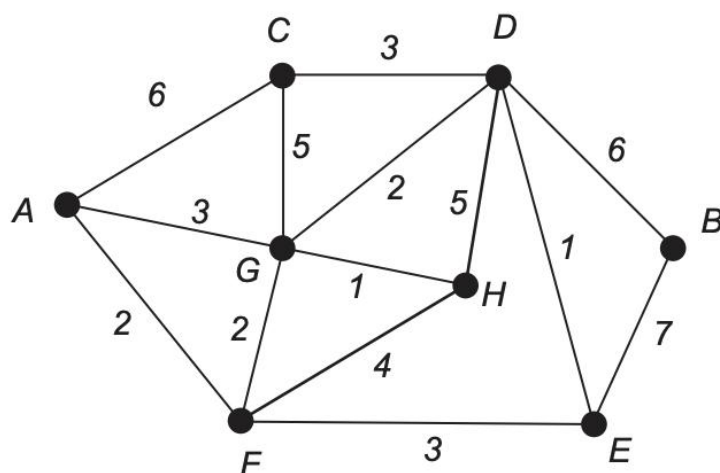
(a) In the network below, the nodes represent towns and the numbers on the arcs represent the time taken (in minutes) to travel between them.
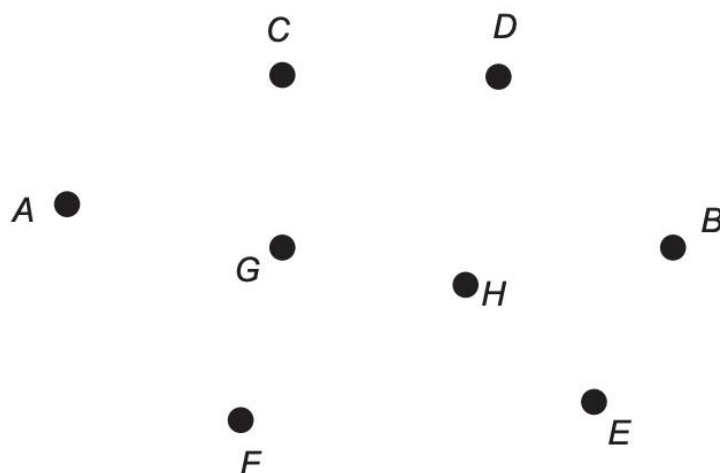

A driver leaves Town A and must deliver goods to all the other towns in the shortest time, finishing at Town B. Determine this shortest time. (A town may be visited more than once). (3 marks)

(b)   The network below shows the distances (in metres) between stations for a model railway
track system.

(i)   Determine the minimal spanning tree for the network and draw this tree on the
diagram below.   (3 marks)

(ii)   State the length of the minimal spanning tree.   (1 mark)