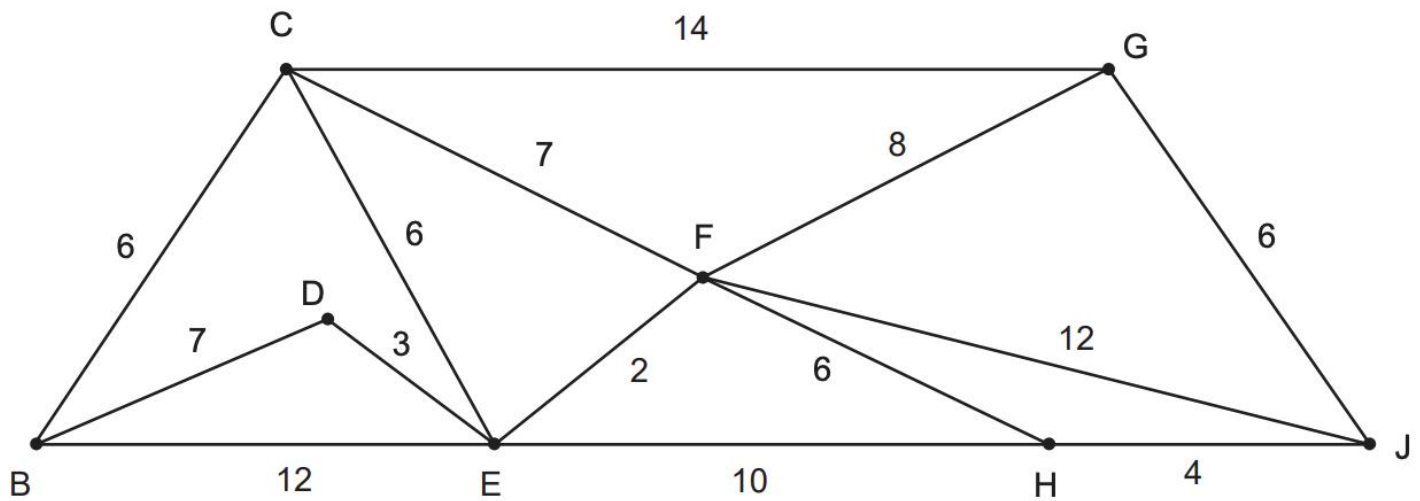


Question 5**(8 marks)**

The network below shows the relative distances, in hundreds of metres, between wi-fi hotspots around a university campus.



The control room for this system of hotspots is located at B. A problem has been reported with the hotspot at J.

- (a) A technician is sent from the control room to solve the problem at J. To get there as quickly as possible, she wants to use the shortest path, travelling from hotspot to hotspot. Determine the required path and its length. (3 marks)

- (b) A second technician is sent from the control room to J to help resolve the problem. The technician uses an open path travelling from hotspot to hotspot. If the technician travels 2700 metres, determine the path he used. (1 mark)

(c) After repairs have been made, all hotspots need to be checked. A technician is sent from the control room, travelling to all hotspots once only, and finishing back at the control room.

(i) State the name given to this type of path. (2 marks)

(ii) Determine the length of the shortest path possible and state the path used. (2 marks)

