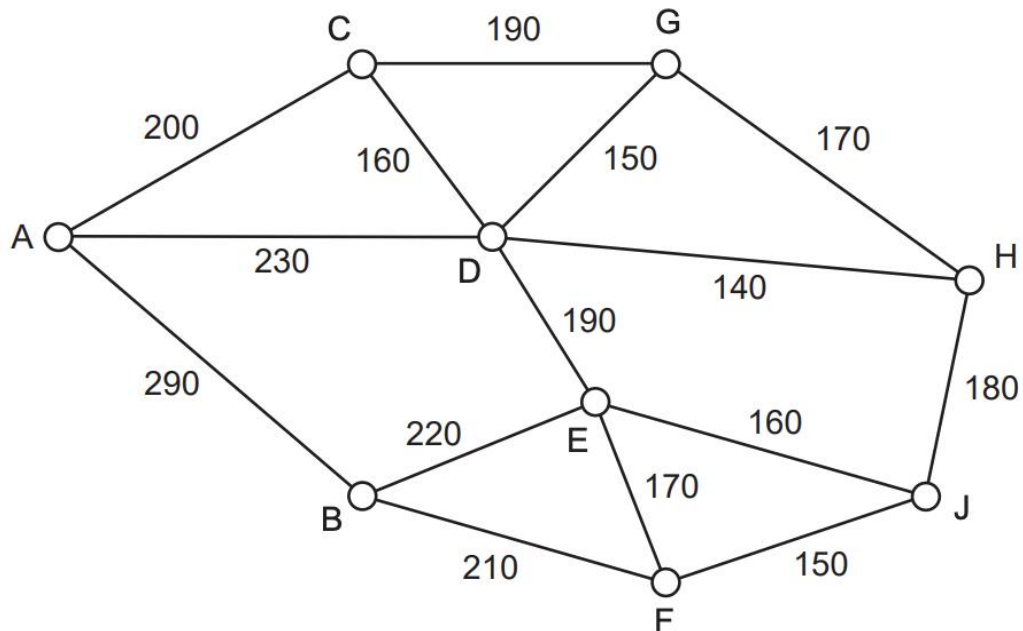


Question 1**(4 marks)**

The weighted network below represents an orienteering map where the vertices represent the various stations and the edges represent bush tracks joining the stations. The distances on the edges are in metres. The organisers wish to install freshwater fountains at each station using the minimum length of piping necessary to connect the stations along the bush tracks.

- (a) Highlight, on the diagram below, the bush tracks where the pipes should be installed. (2 marks)



- (b) Calculate the minimum length of piping required. (2 marks)