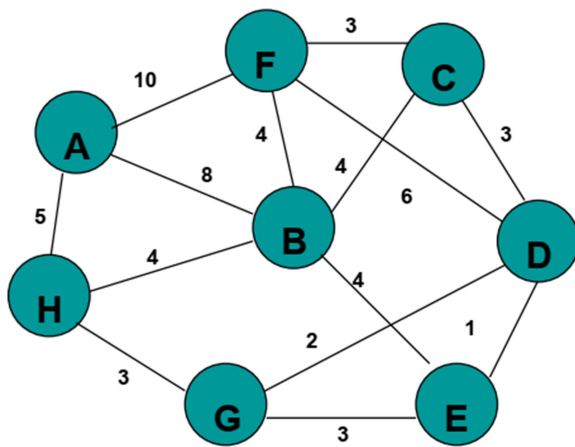
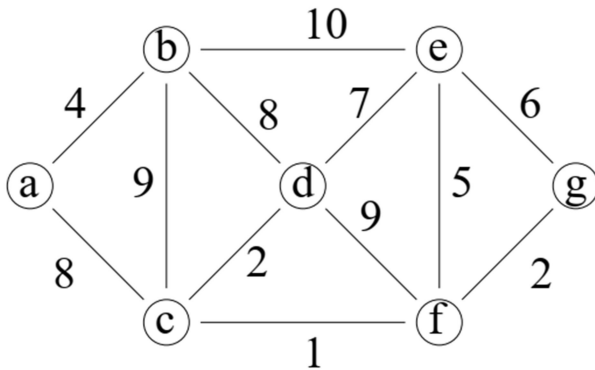


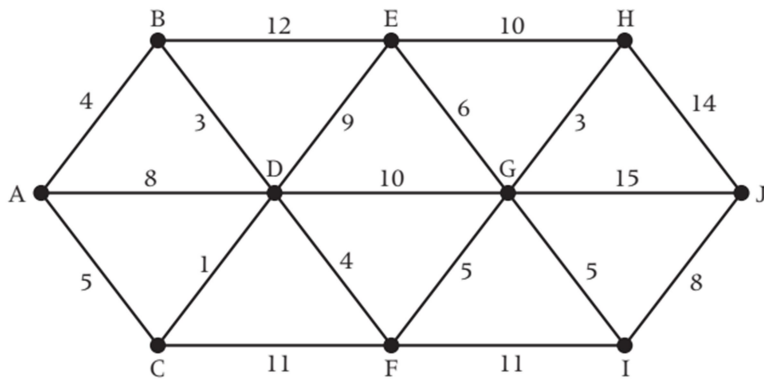
Question 1 :

Use Prim's and Kruskal's Algorithm to find the minimum spanning tree for the following networks:



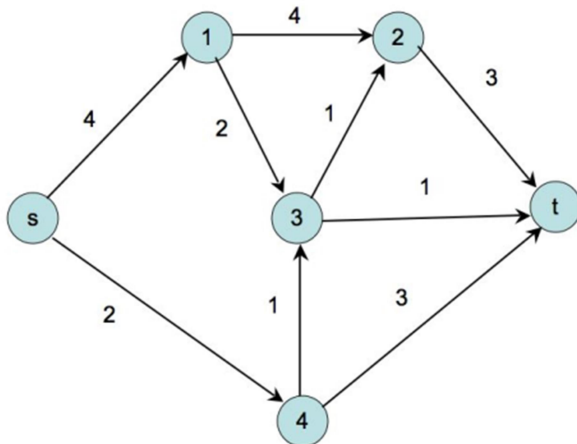
Question 2:

Find the shortest distance from A to J on the network below.



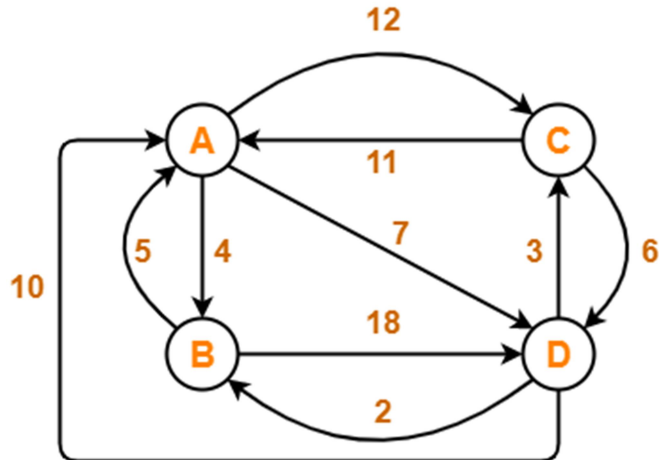
Question 3:

For the following network find the maximum flow from s to t.



Question 4:

Solve the following travelling salesman problem:



Question 5:

Solve:

$$\begin{aligned} \text{Max } z &= 3x_1 + 5x_2 + 3x_3 \\ x_1 + 2x_2 + 2x_3 &\leq 14 \\ 2x_1 + 4x_2 + 3x_3 &\leq 23 \\ 0 \leq x_1 \leq 4, 0 \leq x_2 \leq 5, 0 \leq x_3 \leq 3 \end{aligned}$$