Computer Networks (Code: CS3001)   **Quiz Date: December 5, 2022**

Total Marks: 10   **Duration: 20 -Minutes**

Name --- Roll #--------------------------------- Section --------

Instructions: Answer the question(s) on this sheet. You can make use of rough sheet (not to be attached).

Q1: Apply Dijkstra algorithm to find the set of shortest paths from node 4 to other nodes by considering the network shown below. Show all the steps of Dijkstra algorithm. What is the shortest path tree? **(6+4 =10) [CLO 4]**
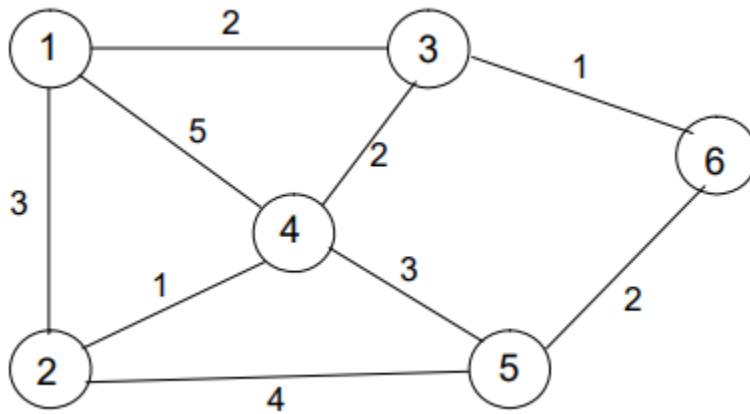
Solution: Check all the steps of the algorithm
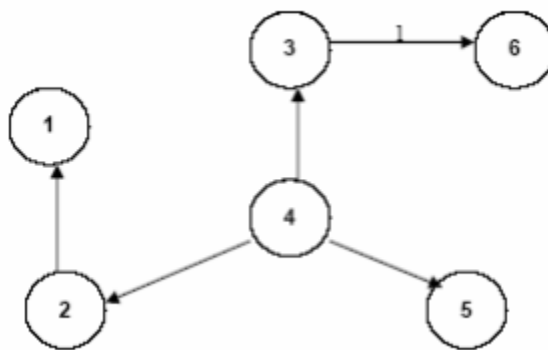
Q2: Apply the distance-vector algorithm and show the distance table entries at node G (initial one and after 1st iteration) by considering the network shown below. Moreover, assume that each node initially knows the costs to each of its neighbors.   **(3+2+2+3 = 10)**   **[CLO 4]**

Topology
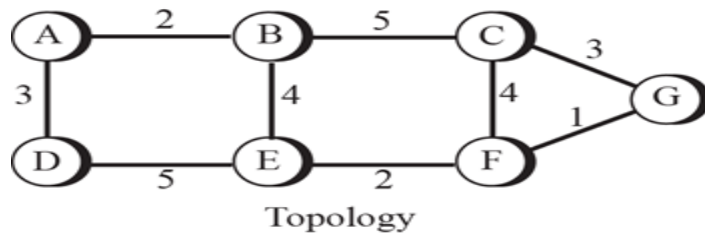
Initial Table

Cost to		A	B	C	D	E	F	G
Cost	C	∞	∞	∞	∞	∞	∞	∞
from	F	∞	∞	∞	∞	∞	∞	∞
	G	∞	∞	3∞	∞	∞	1	0

After 1ˢᵗ Iteration

Cost to		A	B	C	D	E	F	G
Cost	C	∞	5	0	∞	∞	4	3
from	F	∞	∞	4	∞	2	0	1
	G	∞	8	3	∞	3	1	0