

ITS 323 – QUIZ 5

First name: _____ Last name: _____

ID: _____

Total Marks: _____

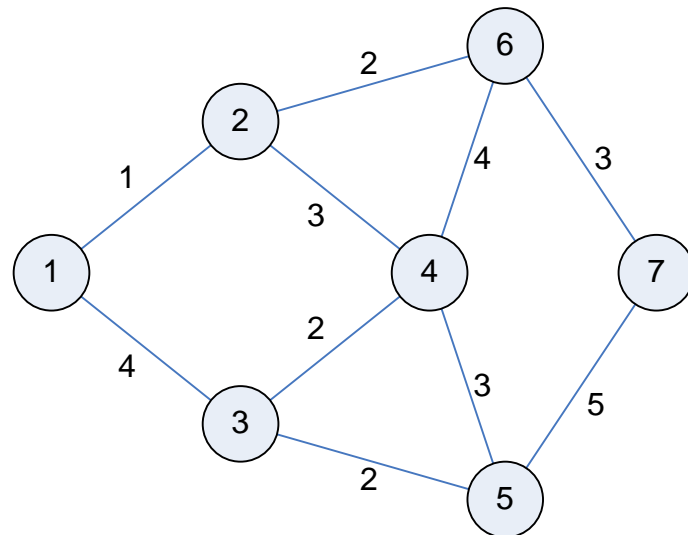
out of 10

Question 1 [4 marks]

- a) One aim of Medium Access Control (MAC) in LANs is to ensure frames (or transmissions) do not collide with each other. T / F
- b) Distributed control for Medium Access Control protocols has the advantage of avoiding performance bottlenecks at a central node. T / F
- c) The IEEE 802 series of LAN standards focus on the Physical Layer, Data Link Layer and Network Layer of the OSI model. T / F
- d) A contention-based MAC protocol allows stations to reserve time slots for transmissions in the future. T / F

Question 2 [3 marks]

The following diagram shows a network of 7 nodes with the costs shown for each link (the costs are the same in both directions of the link). Assuming least-cost routing, complete the routing table for node 1.



Node 1	
Destination	Next Node

Question 3 [3 marks]

If flooding is used to send a packet from 1 to 7 in the network above, and a hop limit of 2 is used:

- How many copies of the packet are transmitted in the network?
- Does the destination receive the packet? Why or why not?

If a probability-based selective flooding protocol is used, where a node randomly chooses one output link with a probability inversely proportional to the cost (assume no hop limit):

- What is the most likely path the packet will take from source to destination?