ITS 323 – QUIZ 5

First name: _____   Last name: _____

ID: _____   Total Marks: _____

out of 10

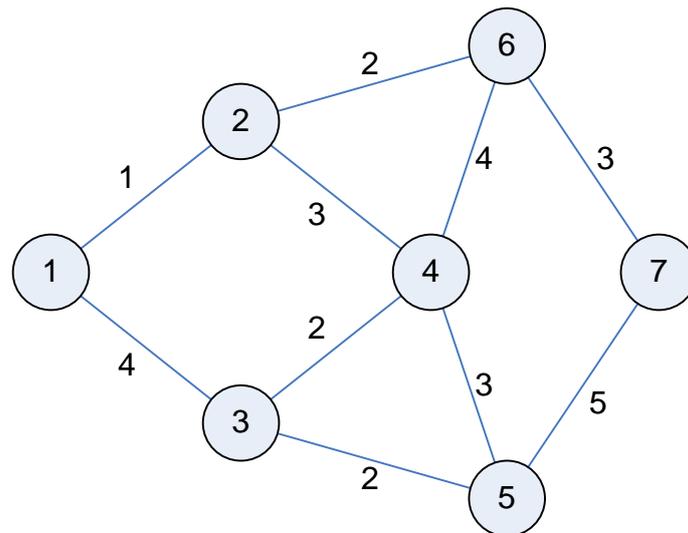**Question 1** [4 marks]

   a) One aim of Medium Access Control (MAC) in LANs is to ensure only one user
      (computer) transmits at a time.   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 7.

Node 7	
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:

    a) How many copies of the packet are transmitted in the network?

    b) 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):

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