

ITS 323 – QUIZ 1 (CS)

First name: _____ Last name: _____

ID: _____

Total Marks: _____

out of 10

Email Address: _____@hotmail/gmail/other (that you used on Maillist)

Question 1 [2 marks]

True or false (circle the correct answer, T or F):

- a) A web browser, such as Firefox or Internet Explorer, would normally implement an entire TCP/IP stack (all layers).

T / F

- b) The Internet layered model includes the Network layer, Transport layer and Session layer.

T / F

- c) Most of the important protocols used in the Internet (e.g. TCP and IP) were developed by the International Organisation for Standardisation (ISO).

T / F

- d) Computer X (in Bangkok) is communicating across an internet with Computer Y (in Hong Kong) using the TCP/IP Protocol Architecture. Both Computer X and Y must implement the same Data Link layer protocol.

T / F

Question 2 [1 mark]

A computer receives 6 packets, and the delay of each packet is:

Packet 1: 500us

Packet 2: 300us

Packet 3: 400us

Packet 4: 500us

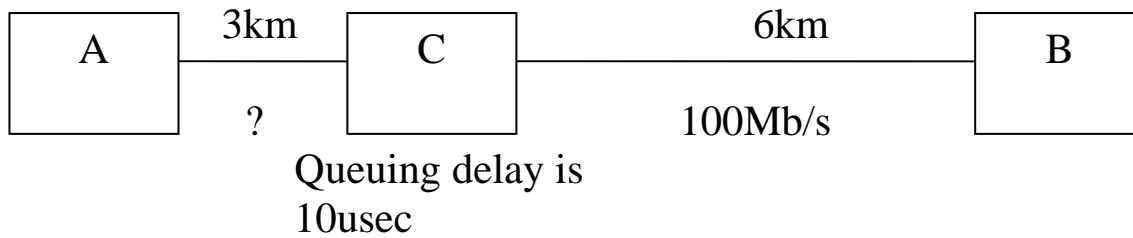
Packet 5: 400us

Packet 6: 400us

What is the jitter measured at the receiver?

Question 3 [3 marks]

Consider the network shown below in which two cable links are used to connect A to B (via C).



If a message of size 2000 bits has to be sent from A to B with a maximum delay of 125µsec, then what is the minimum data rate is required over the first link?

You can assume the transmission velocity is 2×10^8 m/s for each cable. Also assume there are no processing delays at any node, and no queuing delay at nodes A or B.

Question 4 [2 marks]

An instant messaging application sends a 100 byte message. The protocol stack introduces 50 bytes of header per message. Assume there is no segmentation (that is, messages are *not* broken into smaller segments) and no other overheads are present. What throughput can be achieved on a 1Mb/s ADSL link?

Question 5 [2 marks]

Circle the type of address that the following examples correspond to in the Internet layered model.

Example:	Address Type:			
a) www.siit.tu.ac.th	Physical	Logical	Port	Application
b) steve@hotmail.com	Physical	Logical	Port	Application
c) 192.16.36.12	Physical	Logical	Port	Application
d) 00:18:40:E3:E3:B3	Physical	Logical	Port	Application