

ITS 323 – QUIZ 1 (IT) ANSWERS

First name: _____ Last name: _____

ID: _____

Total Marks: _____

out of 10

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

Question 1 [1 mark]

Draw the Internet layered model, labelling the name of each layer.

Answer

Application

Transport

Network

Data Link

Physical

Question 2 [1 marks]

Which following three acronyms refer to organisations that create telecommunications and Internet standards (circle the correct letter – only one answer)?

- a) ANSI, IEEE and OSI
- b) ANSI, IEEE and ISO
- c) IETF, ISO and IP
- d) IEEE, OSI and IETF
- e) OSI, IEEE and ANSI

Answer

ANSI, IEEE and ISO

Question 3 [3 marks]

A computer received packets at the following time:

<i>Packet Number</i>	<i>Time sent [ms]</i>	<i>Time received [ms]</i>
1	0	3
2	4	8
3	5	9
4	7	11
5	14	19

- a) What is the average packet delay at the receiver?
- b) What is the jitter at the receiver?

Answer:

Average Packet Delay.

Delays of packets are: 3, 4, 4, 4, and 5. The average of these values is $20/5 = 4\text{ms}$.

Jitter.

The difference between delays are: 1, 0, 0 and 1. The jitter is $2/4 = 0.5\text{ms}$.

Question 4 [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

Answer

- a. Application
- b. Application
- c. Logical
- d. Physical

Question 5 [3 marks]

Consider a web browser application on Computer A communicating with a web server application on Computer B. The user at Computer A clicks on a link in the web browser, as a result a 100 byte request is sent to the web server, and the web server responds with a 1,000 byte web page.



Assume:

- Processing delay at Computer A = 0ms
- Processing delay at Computer B = 2ms
- Queuing delay is 0
- Propagation delay from A to B = 25ms (and same from B to A)

- Transmission delay for 100 byte request is 1ms

Starting from when they click the link, how long does the user at Computer A wait for the response?

Answer

From A to B: Propagation (25) + Transmission (1) + Processing at B (2) = 28ms

From B to A: Transmission (10) + Propagation (25) = 35ms

Response time = 63ms

The transmission delay of the 1,000 byte is 10 times larger than the transmission delay of the 100 byte message.

It would also be correct if you included an additional Processing at B (final answer: 65ms), since you could say the processing occurs once for the received request and once for the sent response.