

## ITS323 – Quiz 1

Name: \_\_\_\_\_

ID: \_\_\_\_\_ Mark: \_\_\_\_\_ (out of 10)

Email address: \_\_\_\_\_ @ hotmail/gmail/other (that you used on Mailist)

### Question 1 [2 marks]

a) Draw the Internet protocol stack, giving the names of each layer. [1 mark]

b) For the following examples addresses, indicate which layer they correspond to. [1 mark]

i. The 48-bit IEEE MAC address 00:17:31:5a:e5:89 Layer: \_\_\_\_\_

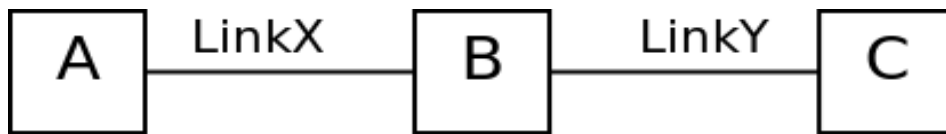
ii. steve@siit.tu.ac.th Layer: \_\_\_\_\_

### Question 2 [2 marks]

To send a 2KB file from A to B, the layers within a protocol architecture contribute an additional 200B of overhead. If the data rate of the link from A to B is 11Mb/s, what is the maximum throughput achieved when sending the file?

**Question 3** [3 marks]

Consider the network below with source A sending a message to destination C. The message passes via B.



Calculate the delay for the message for conditions in the table below. Assume both processing delay and queuing delay for all devices is 0.

Message size	2000 Bytes
Link X	
- Signal speed	2.00E+008 m/s
- Data rate	2 Mb/s
- Distance	100000 m
Link Y	
- Signal speed	2.00E+008 m/s
- Data rate	4 Mb/s
- Distance	100000 m

**Question 4** [3 marks]

True or False – circle the most accurate answer:

- A different protocol may be used for each layer of the TCP/IP protocol architecture. T F
- Considering the performance requirements of different types of traffic, data traffic and audio traffic have the same requirements. T F
- With a half-duplex link, A can transmit to B, but B cannot transmit to A. T F