## ITS323 – Quiz 1

Name:	ID:	Marks:	(10)
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## Question 1 [4 marks]

Consider the TCP/IP protocol architecture.

- (a) One task in the Internet is for protocols to select the best path across a network. Which layer are these routing protocols most often a part of?
- (b) Which layer deals with transmitting light signals across an optical fibre?
- (c) Timeliness is important for real-time Internet applications, whereas \_\_\_\_\_\_\_\_\_\_ is more important for traditional data-based Internet applications?
- (d) In Thailand, local \_\_\_\_\_\_ are connected together via about 5 or 6 National Internet Exchanges.

## Question 2 [2 marks]

Consider a protocol architecture that introduces 200B of header for each 1,000B of data. Two computers using the protocol architecture communicate across a 60Mb/s link. What is the throughput? Assume no errors or other non-data packets are need.

## Question 3 [4 marks]

You are web browsing on a lab PC in Bangkadi, visiting the Registration web site hosted on a server in Rangsit. The two campuses are connected via a 12km, 8Mb/s wireless link. The delay of a single packet (of any size) inside Bangkadi campus, from laptop to wireless transmitter, is 0.2ms. It is also 0.2ms within the Rangsit campus. You click on a link. The HTTP GET Request is 100B. The web page requested is 1000B. Ignore any processing and queuing times, and the time to use DNS.

(a) What is the propagation delay of the wireless link? [1 mark]

(b) How long does it take to transmit the web page across the wireless link? [1 mark]

(c) After you click on the link, how long do you have to wait for the web page to be received by your browser? [2 marks]