ITS 323 – QUIZ 4(2)

First name: _____ Last name: _____

ID: _____ Total Marks: _____
out of 10

Question 1 [4 marks]

a) In packet switching networks, queuing delay is always larger than the other delay components (transmission, propagation, processing).

True False

b) Datagram packet switching uses headers; virtual circuit packet switching does not use headers.

True False

c) In routing, increasing the amount of information about the network that is available to nodes, will increase the accuracy of routing decisions.

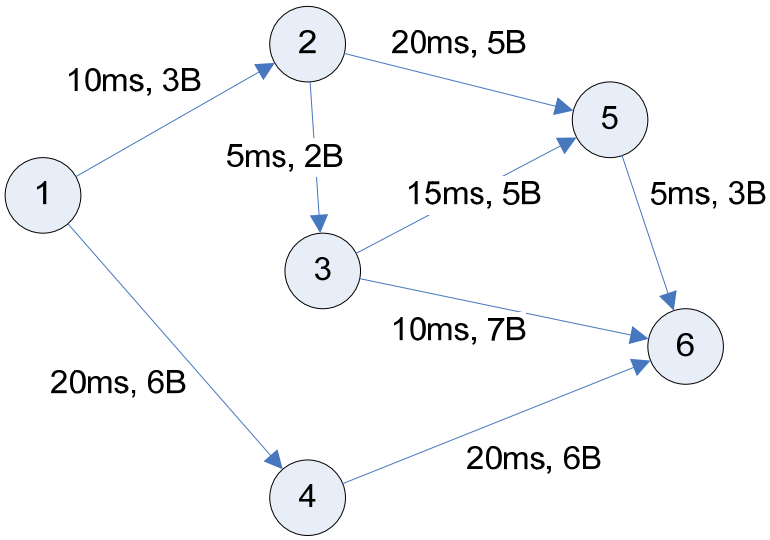
True False

d) With datagram packet switching, decreasing the packet size will result in larger delays because of the extra overhead of headers

True False

Question 2 [2 marks]

Consider the network below.



The delay (in milliseconds) and price (in Baht per MB) of each simplex link is shown. If a routing algorithm chose a path from 1 to 6 to be 1 – 2 – 5 – 6 then what metric was used by the least cost routing algorithm (select no more than one answer):

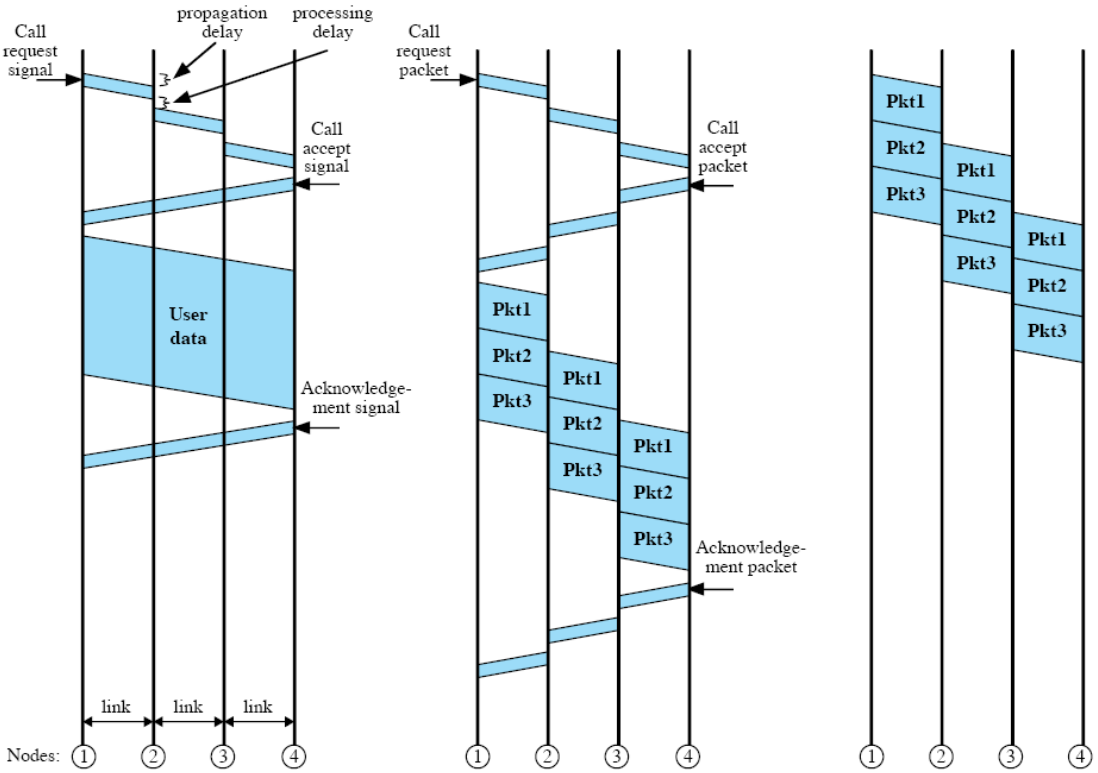
i. Hops

ii. Delay

iii. Price

Question 3 [4 marks]

Compare the delay in sending data using Circuit Switching versus Datagram Packet Switching as shown below.



You may assume:

- Number of links, **L** = 4
- Packet Switching:
  - Entire packet consists of Header and Data
  - Header transmission time, **H** = 2ms
  - Data transmission time, **D** = 10ms
  - Number of packets is **P** = 10
- Circuit Switching:
  - Time between sending call request signal until receiving call accept signal is **C** = 10ms.
  - Time between sending and receiving the call acknowledgment is **A** = 5ms.
- All other processing, propagation and queuing delays are 0.

a) What is the total delay for Datagram Packet Switching? [2 marks]

b) What is the total delay for Circuit Switching (assuming same amount of data to be sent as in Datagram Packet Switching above)? [2 marks]