

ITS323 – Quiz 5

Name: _____

ID: _____

Mark: _____ (out of 5)

Question 1 [2 marks]

Consider the network in Figure 1. The data rate of each link is 1Mb/s. Table 1 gives the one-way propagation delay for each link (it is the same in both directions).

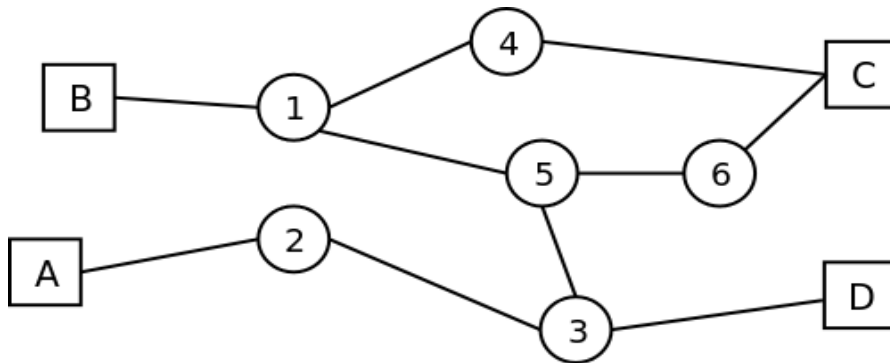


Figure 1: Switching Network: Squares are stations; Circles are Switches

Link	Propagation [us]	Link	Propagation [us]
B-1	10	6-C	35
1-4	20	A-2	10
1-5	15	2-3	25
4-C	20	3-5	15
5-6	40	3-D	35

Table 1: Link Properties

- a) Assume a Circuit Switching connection has already been established on the path A-2-3-D. If the source starts transmitting 10,000 bits of data at time 0, at what time is the data fully received by the destination? (Give your answer in microseconds, us) [2 marks]

- b) Assume Datagram Packet Switching is used instead, with all packets following the same path as in part (a). A packet carries 1000 bits of data (although there is a header, ignore its size in calculations). At what time is the data fully received by the destination? (Give your answer in microseconds, *us*) [3 marks]