Tutorial 4

Question 1

Suggest two methods that can be used to avoid packet loss at input ports of the router.

Question 2

Explain why packet loss can occur at output ports when the switching fabric speed is increased.

Question 3

Suppose a router has 4 links, and packets are to be forwarded as follows:

Destination address range	Link interface
11100000 00000000 00000000 00000000 through 11100000 00111111 11111111 11111111	0
11100000 01000000 00000000 00000000 through 11100000 01000000 11111111 11111111	1
11100000 01000001 00000000 00000000 through 11100001 01111111 11111111 11111111	2
otherwise	3

(a) Provide a forwarding table that has 5 entries.

(b) Find the link interface for datagrams with the following destination addresses.

11001000 10010001 01010001 01010101
11100001 01000000 11000011 00111100
11100001 10000000 00010001 01110111

Question 4

Consider sending a 2400-byte datagram into a link that has an MTU of 700 bytes.

(a) How many fragments are generated?

(b) What are the values in the fragment offset field?