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	0	
11100000 00111111 11111111 11111111		
11100000 01000000 00000000 00000000		
through	1	
11100000 01000000 11111111 11111111		
11100000 01000001 00000000 00000000		
through	2	
11100001 01111111 11111111 11111111		
otherwise	3	

- (a) Provide a forwarding table that has 5 entries.
- (b) Find the link interface for datagrams with the following destination addresses.

1100	1000	10010	0001	0101	0001	01010	101
1110	00001	01000	0000	1100	0011	00111	100
1110	00001	10000	0000	0001	0001	01110	111

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?