WORKSHEET-3

1. B) = 2

Data should be transmitted at the rate of 500 mbps

Transmission time >= 2* propagation time

=> 10000 / (500 x 1000000) <= 2* length / 200000

=> length = 2km (max)

So (B) 2km.

2. 255.255.255.254.

A's IP address	10	105	1	01110001
Subnet	255	255	255	11100000
O/P network 1	10	105	1	01100000
B's IP address	10	105	1	01011011
Subnet	255	255	255	11100000
O/P network 2	10	105	1	01000000

O/P network 1 = 10.105.1.196

O/P network 2 = 10.105.1.64

O/P network 1 and 2 belong to the different network.

3. d) 128.8.129.3 and 128.8.161.55

Hence the given subnet mask - 255.255.31.0 is a class B network

Now the range of a class B network is from 128.0.0.0 (lowest) to 191.255.0.0 (Highest). The two values / IP address whose range are 191.203.31.87 and 191.234.31.88

4. B) 2.046

Subnetting a class B network address

Mask = 255.255.248.0

Binary = 11111 000. 00000000

Hosts per subnet = 2,046

5. C) 16

Total 16 packets are sent see the following table for a sequence of events.

Since go-back-n error control strategy is used, all packets after a lost packet are sent again.