

## Assignment 1 Solution

### Question 1

(a) 57.6  $\mu$ sec

(0.2 mark)

(b) 57.7  $\mu$ sec

(0.2 mark)

(c) 1.26 msec

(0.2 marks)

(d)

$$3 \text{ msec} > 1.26 \text{ msec} + (72 \times 8 / R) + 1.2 \text{ msec} + (72 \times 8 / 100 \times 10^6) + (25 / 2 \times 10^8)$$

$$R > 1,078,652 \text{ bps}$$

(0.2 mark)

Recommended physical medium - hybrid fiber coax

(0.2 mark)

### Question 2

33CE	0050
000C	E439
1234	D567

UDP segment X

(0.4 mark)

0050	33CE
0010	F563
2ABC	3328
1234	6655

UDP segment Y

(0.6 mark)

Question 3

(a) 206 bytes

(0.2 mark)

(b) 16,564

(0.2 mark)

(c) 16,400

(0.3 mark)

(d)  $(195 \times (164 + 66) + 206) \times 8 / 10^9 \text{ sec} = 0.360 \text{ msec}$

(0.3 mark)