1

a) (72\*8)/10M = 57.6 µs

b) 57.6 µs + = 57.7 µs

c) 57.7 µs + + 1.2ms = 1.2601ms

d) 72 bytes of packet total delay : 1.2601 + 72\*8/100M = 1.26586ms (less than 3ms)

Judging by the time taken to send 72 bytes of data in total, and the propagation speed that was given, the physical medium to be used should be twisted pair cable since the given propagation speed typically matches that of copper wires.

2

|  |  |
| --- | --- |
| 33CE | 0050 |
| 6 \* 2 = 000C | NOT(33CE + 0050 + 1234 + D567 + 000C + 1)  = E439 |
| 1234 | D567 |

|  |  |
| --- | --- |
| 0050 | 33CE |
| 8\*2 = 0010 | NOT(0050 + 33CE + 0010 + 2ABC + 3328 + 1234 + 6655 + 1) = F563 |
| 2ABC | 3328 |
| 1234 | 6655 |

3