10/10

1. (2 points) Given a MAC address of 02 – 21 – D1 – 1D – F9 – 03, circle the part that represents the Organizational Unique Identifier. Give the equivalent binary.

0000 0010 – 0010 0001 – 1101 0001

2. (1 point) Circle the first bit transmitted below, assuming the bits are transmitted using the Little Endian convention.

	10010001							
bit order	8	7	6	5	4	3	2	1

3. (7 points) On Tuesday we spent a lot of time talking about the way Ethernet works and what the its protocol is for transporting packets.

   (a) (2 points) The Ethernet protocol is referred to as CSMA:CD. Give one short sentence that briefly explains what "multiple access" is.

   it means everyone in network can hear it and are able to recive data.

   (b) (2 points) The Ethernet protocol is referred to as CSMA:CD. What is exponential backoff, and what part of the previous acronym is affected by that concept?

   exponential backoff refers to waiting each time twice longer than previous time and its use when collision happens from CSMA:CD, CD refers to collision detect which ethernet use exponential backoff when collisions happen.

   (c) (2 points) The Ethernet protocol is referred to as CSMA:CD. Give one short sentence that briefly explains what "Carrier Sensing" is. Make sure you are clear on which agent is doing the sensing, and how it is doing that.

   CS = Carrier Sence = Listen before talking. it means every computer in the network has to listen befor sending the data and if the medium is idle then send the data.

   (d) (1 point) Is this procedure being run by the NIC or the CPU? Make sure you are clear about the relationship between the NIC and the CPU.

   Sending the data on the media is part of NIC job. cpu only tells NIC that it wants to transmit some data, and NIC take that data put it in form of a packet, Listen to the media, and if it is free, then it would Transmit the data.