NAME: _____

EE444 Introduction to Computer Networks

May 10, 2018
Quiz #6 (Group A)

CLEARLY STATE YOUR ASSUMPTIONS, SHOW ALL YOUR WORK

a) For a given Controller Area Network (CAN) bus, the round trip propagation delay (2τ) is 10μsec. What is the maximum data rate achievable on this network.
b) 2 CAN frames start transmission at the same time with CAN IDs:
   Frame 1: 1010110
   Frame 2: 1011010

Clearly show the arbitration process between these 2 frames and indicate the frame that wins the arbitration.

NAME: _____

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May 10, 2018
Quiz #6 (Group B)

CLEARLY STATE YOUR ASSUMPTIONS, SHOW ALL YOUR WORK

a) 2 Controller Area Network (CAN) frames are ready for transmission at time t=0 sec. No other frames are generated. The CAN bus is operating at 100Kbps with the given information.
Frame 1: CAN ID=28, Total Frame length=100 bits.
Frame 2: CAN ID=23, Total Frame length=80 bits.

Find the time that the transmission of each frame is completed.

b) CAN protocol does not tolerate 6 consecutive bits of the same polarity. Assume that the following bit sequence is to be transmitted in a CAN frame.

100111111101000000

Write down the transmitted bit sequence in the CAN frame.