

CSci 4211 Homework 5

Due May 1, 2019

1. What is 1-persistent CSMA? Under what condition in terms of traffic load, 1-persistent CSMA will outperform non-persistent CSMA? Why?
2. Given the following string of bits as a message to be sent and a polynomial generating function: X^4+X^2+1 of Cyclic Redundant Code, what is the string of bits to be really delivered? Please show your work.

Message String of Bits: 110011001100101010

3. Compare token passing protocol with CSMA/CD. Under what kind of traffic conditions will token passing protocol have better performance than CSMA/CD?
4. In IEEE 802.5 packet frame, how are the three priority bits and three reservation bits used?
5. Ethernet uses 1-persistent CSMA/CD protocol. When the Ethernet speed increases from 10 Mbps to 100 Mbps, then to 1 Giga bits per second, what new features were proposed to keep its performance? (You have to do some extra reading about Ethernet since the textbook may not have this information.)