CS447-002 Network and Data Communication
Possible Quiz Questions for
Quiz #6 on March 16th, 2024

The following is a list of possible questions for our Quiz #6 on March 16th. Some of the questions will not be asked in the quiz. All the questions that will appear in the quiz will appear exactly as shown below (however, parameters may be changed). The quiz is closed textbook, closed notes and closed neighbors. Note that the questions, which did not appear in this quiz, still may appear in the exams.

#1: Define local area networks ("LANs") by answering the following issues:

    (a) Primary purpose
    (b) Size
    (c) Ownership

#2: Define wide area networks ("WANs") by answering the following issues:

    (a) Primary purpose
    (b) Size
    (c) Ownership

#3: Define internet (the Internet) by answering the following issues:

    (a) Primary purpose
    (b) Size
    (c) Ownership

#4: Define intranet by answering the following issues:

    (a) Primary purpose
    (b) Size
    (c) Ownership

#**5**: What are "repeaters"?

#6: What are "multi-port repeaters"?

#7: How are "switches" different from "repeaters"?

#8: "Network hubs" can be two different types of network connecting devices. What are they?

#9: What are "multi-port bridges (switching hubs)"?

#10: What is the primary advantage of "switch" (compared to "repeaters")?

#11: How are "routers" different from "switches" (mention two major differences)?

#12: Internet consists of a large number of networks, called "(network) domains" inter-connected by routers. Why not switches or repeaters used for inter-connecting domains, instead of routers?

#13: What is (are) the primary advantage(s) of routers, compared with switches?

#14: What is (are) the primary disadvantage(s) of routers, compared with switches?

#15: What is "medium access control (MAC)"?

#16: What is "centralized MAC"?

#17: What are the major problem in centralized MACs?

#18: What are the two different types of distributed MACs?

#19: Mention an example for "token-based MAC".

#20: Mention an example for "contention-based MAC".

#21: Describe the procedure in CSMA contention-based MAC (the one used by IEEE 802.3 Ethernet).

#22: Describe the procedure in token-ring token-based MAC (the one used by IBM Token-Ring).

#23: <u>Technically</u> describe how packet collisions happen for IEEE 802.3 Ethernet using CSMA ("technically" means by referencing to the procedure of CSMA).

#24: What are the two major problems in IEEE-802.3 CSMA?

#25: What particular problem in CSMA does CSMA/CD solve and how?

#28: What is the major problem in CSMA/CD?