

# CS358: End-Sem Quiz

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Questions (1 - 10)

Consider station "A" send data to station "B". Data frame contain MAC address, IP address and port address. Which of the following address may change on intermediate router?

1 point

- ☐ a. Destination IP address
- ☐ b. Destination MAC address
- ☐ c. Source IP address
- ☒ d. Source MAC address

Clear selection

Four hundred airline reservation stations are competing for the use of a single slotted ALOHA channel. An average station makes 16 request/hour where the slot is of 1000  $\mu$ s. What is the approximate total channel load?

1 point

- ☐ a. 0.015
- ☐ b. 0.0017
- ☐ c. 0.032
- ☐ d. 0.064



A network has a data transmission bandwidth of  $80 \times 10^9$  bps. It uses CSMA/CD in the MAC layer. The maximum signal propagation time from one node to another node is 100 nsec. The minimum size of a frame in network is \_\_\_\_\_ bytes.

1 point

- ☐ a. 2000
- ☐ b. 4000
- ☐ c. 8000
- ☒ d. 16000

Clear selection

Consider the flow specification having the maximum packet size 800 bytes, token bucket rate of  $8 \times 10^6$  bytes/sec. Token bucket size is 2 MB and the maximum transmission rate 16 million bytes/sec. What is the time for which burst be send at maximum speed?

1 point

- ☐ a. 0.4 sec
- ☐ b. 0.25 sec
- ☐ c. 0.2 sec
- ☐ d. 0.35 sec

To allow the sender to detect a collision in CSMA/CD.

1 point

- ☐ a. frames must include a checksum.
- ☐ b. frames must be encrypted and authenticated.
- ☐ c. frames need to be shorter than some propagation time in the network.
- ☐ d. frames need to be longer than some propagation time in the network.



Which of the following MAC address represent multicast address?

1 point

- ☐ a. 24 : 2B : 34 : 59 : 48 : 1B
- ☐ b. B4 : B3 : C7 : C5 : 89 : 10
- ☐ c. B3 : B4 : C5 : C7 : 10 : 89
- ☐ d. Both (a) and (c)

Consider the following statements: S1 : Data link layer define the boundaries of frame because framing is always of fixed size. S2 : Bit stuffing is the process of adding one extra 0 after 6th bit whenever five consecutive 1's follow a 0 in the data, if 011110 is assumed as a flag. Which of the following option is correct?

1 point

- ☐ a. Only S1 is true
- ☐ b. Only S2 is true
- ☐ c. Both S1 and S2 are true
- ☐ d. Neither S1 nor S2 is true

Let  $g(x) = x^3 + x^2 + 1$ . Consider the information bits (1, 1, 0, 1, 1, 0). The Cycle Redundancy Check (CRC) bits required for codeword corresponding to these information bits if  $g(x)$  is used as the generating polynomial are \_\_\_\_\_.

1 point

- ☐ a. 111
- ☐ b. 101
- ☐ c. 110
- ☐ d. 000



Which of the following are not true in IEEE 802.3? S1 : The maximum frame size that is supported by IEEE 802.3 is 1500 bytes S2 : The maximum payload that is supported by IEEE 802.3 is 1518 bytes S3 : Minimum frame size and payload size are 46 and 64 bytes respectively. 1 point

- ☐ a. Only S3
- ☐ b. Only S2 and S3
- ☐ c. Both S1 and S2
- ☒ d. All of these

Clear selection

Which of the following is/are true? S1: Before an 802.11 station transmits a data frame, it must first send an RTS frame and receive a corresponding CTS frame. S2: Ethernet and 802.11 use the same frame structure. 1 point

- ☐ a. Only S1 is true
- ☐ b. Only S2 is true
- ☐ c. Both S1 and S2 are true
- ☒ d. Neither S1 nor S2 is true

Clear selection

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