Week 8 Summary Exercises

Due Aug 20 at 11:59pm   **Points** 76   **Questions** 24
Available Aug 13 at 12am - Aug 20 at 11:59pm 8 days   **Time Limit** 360 Minutes   **Allowed Attempts** 2

Take the Quiz Again

Attempt History

	Attempt	Time	Score
LATEST	**Attempt 1**	28 minutes	76 out of 76

Score for this attempt: **76** out of 76
Submitted Aug 14 at 12:12pm
This attempt took 28 minutes.

Question 1   2 / 2 pts

In IPv6, datagram fragmentation is handled at the network edge .

Answer 1:

Correct!   handled at the network edge

Question 2   2 / 2 pts

IPv6 datagrams cannot be converted to IPv4 datagrams without losing any information.

Correct!   ⦿ True

                    ○ False

Question 3   2 / 2 pts

1234:aac:a03::abcd is a valid preferred-format IPv6 address.

Correct!

    ⦿ True

    ○ False

Question 4   2 / 2 pts

Select all "Taking Turns" schemes below.

Correct!

    ☑ Token Ring Multiple Access

    ☐ TDMA

    ☐ Bus Ethernet

    ☐ CSMA

    ☐ FDMA

Correct!

    ☑ Polling Multiple Access

    ☐ Star-configured Ethernet

Question 5   2 / 2 pts

A network with a bus topology must terminate the endpoints, but in with a ring topology they are connected so there is no endpoint.

Answer 1:

Correct!

    bus

Answer 2:

Correct!

    ring

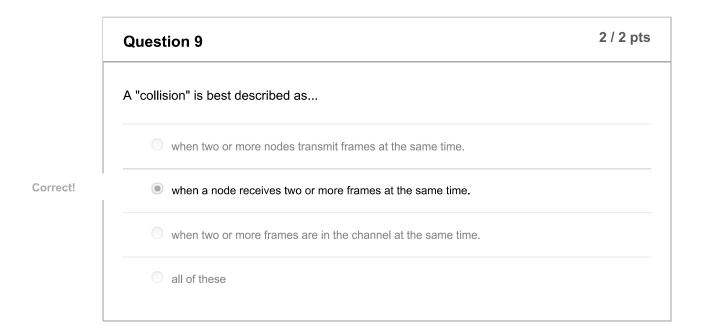## Question 6   2 / 2 pts

A multiple access scheme which uses a master node to poll each slave node, and control who has 'permission' to transmit at any given time is called...

○ random access protocol

○ channel partitioning protocol

○ reservation protocol

Correct!   ● "taking turns" protocol

Question 7   2 / 2 pts
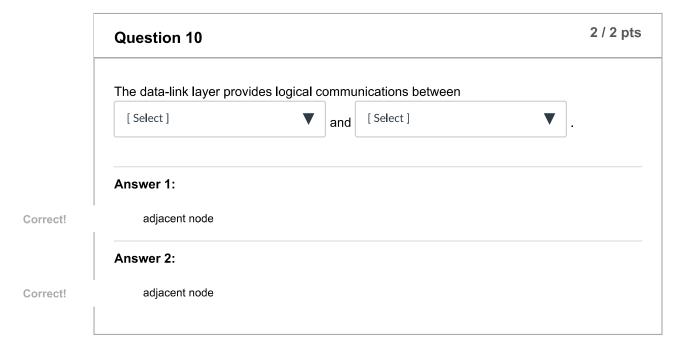
Star Ethernet uses the same multiple access control as Bus Ethernet.

○ True

Correct!   ● False

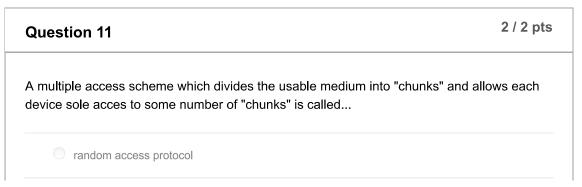## Question 8   2 / 2 pts

Which are functions of the Ethernet preamble? (Check all that apply)

☐ Stop signal

☐ Address switching.

Correct!   ☑ Circuit wake-up

☐ Error detection/correction
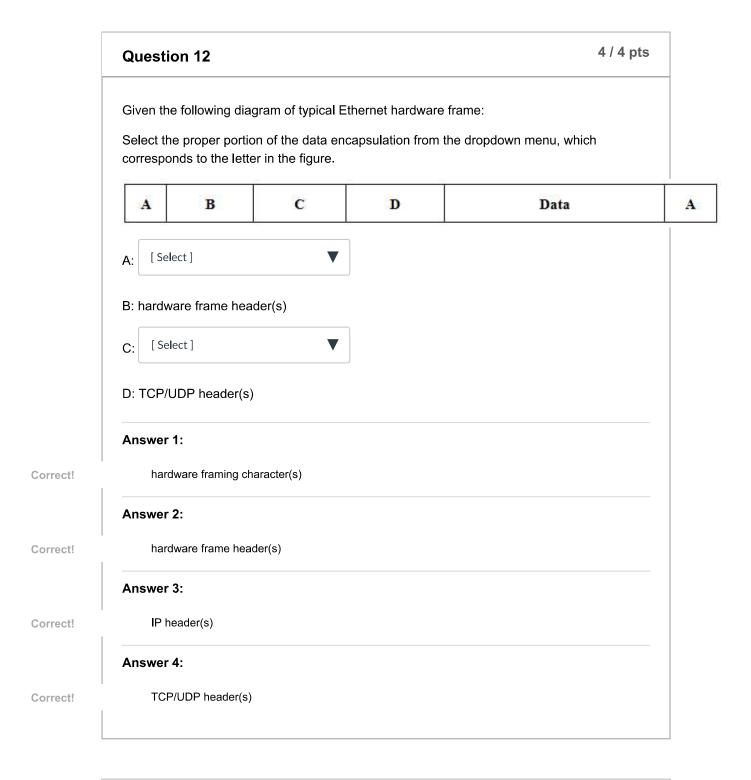
Correct!   ☑ Start signal

Correct!

☑ Clock synchronization

Question 9   2 / 2 pts

A "collision" is best described as...

○ when two or more nodes transmit frames at the same time.

Correct!

◉ when a node receives two or more frames at the same time.

○ when two or more frames are in the channel at the same time.

○ all of these

Question 10   2 / 2 pts

The data-link layer provides logical communications between

[Select] ▼   and   [Select] ▼ .

Answer 1:

Correct!

adjacent node

Answer 2:

Correct!

adjacent node

Question 11   2 / 2 pts

A multiple access scheme which divides the usable medium into "chunks" and allows each device sole acces to some number of "chunks" is called...

○ random access protocol

○ "taking turns" protocol

○ collision avoidance protocol

Correct!   ⦿ channel partitioning protocol

Question 12   4 / 4 pts

Given the following diagram of typical Ethernet hardware frame:

Select the proper portion of the data encapsulation from the dropdown menu, which corresponds to the letter in the figure.

A	B	C	D	Data	A

A: [Select]   ▼

B: hardware frame header(s)

C: [Select]   ▼

D: TCP/UDP header(s)

Answer 1:

Correct!   hardware framing character(s)

Answer 2:

Correct!   hardware frame header(s)

Answer 3:

Correct!   IP header(s)

Answer 4:

Correct!   TCP/UDP header(s)

Question 13   4 / 4 pts

For a 10Mbps link, 1000 bit times is 0.1ms.

Correct!

◉ True

○ False

Question 14

4 / 4 pts

Ethernet uses a RTS/CTS contention-free period.

○ True

Correct!

◉ False

Question 15

6 / 6 pts

Given the following "byte stuffing" scheme:

Character in data	Characters sent
soh	esc x
eot	esc y
esc	esc z

Character	Hex code
soh	01h
eot	04h
esc	1Bh
'x'	78h
'y'	79h
'z'	7Ah

Note: soh and eot are the framing characters.

DATA: 78h 04h 1Bh 1Bh

If byte stuffing is used to transmit Data, what is the byte sequence of the frame (including framing characters)? Format answer with capital hex values, with each value followed by an 'h' and separated by spaces, for example: 0Ah 12h

Correct!

01h 78h 1Bh 79h 1Bh 7Ah 1Bh 7Ah 04h

orrect Answers

01h 78h 1Bh 79h 1Bh 7Ah 1Bh 7Ah 04h

Question 16   4 / 4 pts

A device which moves between networks is a Mobile device.

Answer 1:

Correct!   Mobile

Question 17   4 / 4 pts

When a mobile unit moves from a home or foreign agent to another (foreign) agent, the new agent must assign.... (Check all that apply)

☐ a new name (alias) to the mobile unit's home network

Correct!   ☑ a new "care-of" address to the mobile unit

☐ a new home address to the correspondent

Question 18   4 / 4 pts

In one type of wireless network, hosts communicate directly with other hosts that are within range. This communication model forms a "grid" called a(n)

○ none of these

Correct!   ◉ ad-hoc network

○ access point network

○ basic service set network

○ infrastructure network

Question 19
4 / 4 pts

The default multiple access scheme of 802.11g is RTS/CTS.

○ True

Correct!   ◉ False

Question 20
4 / 4 pts

Which of the following are used in a wireless network such as 802.11n?

Correct!   ☑ Collision Avoidance

Correct!   ☑ Carrier Sense Multiple Access

Correct!   ☑ Reservation system with Request to Send (RTS) and Clear to Send (CTS)

Correct!   ☑ Exponential back-off/retry for collision resolution

☐ Collision Detection

Question 21
4 / 4 pts

When an organization establishes a network security policy, which of the following should be considered?

Correct!   ☑ the value of the information that is stored or transmitted by the site

Correct!   ☑ the cost of damage control after various types of security breaches

Correct!   ☑ the cost of installing "secure" systems

Question 22   4 / 4 pts

S represents a <u>source host</u> and *D* represents a <u>destination host</u>. Which of the following is the most typical use of public key encryption, when *S* sends an encrypted message to *D*?

Correct!

- ◉ *S* encrypts a message using *D*'s public key, and *D* decrypts the message using *D*'s private key.

- ○ *S* encrypts a message using *S*'s private key, and *D* decrypts the message using *D*'s public key.

- ○ *S* encrypts a message using *S*'s public key, and *D* decrypts the message using *D*'s private key.

- ○ *S* encrypts a message using D's public key, and *D* decrypts the message using *S*'s public key.

Question 23   4 / 4 pts

S represents a <u>source host</u> and *D* represents a <u>destination host</u>. Which of the following is the most typical use of public key encryption, when *S* sends an authenticated (digitally signed) message to *D*?

- ○ *S* encrypts a signature using *S*'s public key, and *D* decrypts the signature using *S*'s private key.

- ○ *S* encrypts a signature using *D*'s private key, and *D* decrypts the signature using *D*'s public key.

Correct!

- ◉ *S* encrypts a signature using *S*'s private key, and *D* decrypts the signature using *S*'s public key.

- ○ *S* encrypts a signature using D's public key, and *D* decrypts the signature using *D*'s private key.

Question 24   4 / 4 pts

When using an *RSA* algorithm to construct private and public keys for a public key encryption system, choose prime numbers *p* and *q*, and then calculate $n = pq$, $z = (p-1)(q-1)$. Then choose *e* and *d* to create the public key and the private key . Suppose that $p = 5$, and $q = 11$. Which of the following values will work for *d* and *e*? Check all that apply.

- ☐ e = 29, d = 63

Correct!

- ☑ e = 7, d = 63

- ☐ e = 5, d = 29

Quiz Score: **76** out of 76