CE 306 Midterm Exam

QUESTION 1 — 2 points — Saved

Applications use connection-oriented protocol for faster data delivery

- ○ True
- ◉ False

QUESTION 2 — 10 points — Saved

The principle characteristics of connectionless service are

- ○ A. No guarantees of reliable data transfer
- ◉ B. All of the above
- ○ C. No handshaking
- ○ D. No data integrity control
- ○ E. No flow control or congestion

QUESTION 3 — 2 points — Saved

Fragmentation is used to regulate MTU

- ◉ True
- ○ False

QUESTION 4 — 2 points — Saved

Go-Back-N is a type of **piplined** protocol designed for reliable data transport

- ◉ True
- ○ False

QUESTION 5 — 2 points — Saved

TCP uses multiplexing/demultiplexing, since UDP must work faster it does not use multiplexing/demultiplexing,

- ○ True
- ◉ False

QUESTION 6 — 2 points — Saved

TCP header contains fragment ID

- ○ True
- ◉ False

QUESTION 7 — 2 points — Saved

Before the data transmission UDP establishes connection with destination host.

- ○ True
- ◉ False

QUESTION 8 — 2 points — Saved

IEEE defines the maximum transferable unit (MTU) size as 1400 bytes

- ○ True
- ◉ False

QUESTION 9 — 2 points — Saved

TCP Uses port numbers to specify destination and source hosts

- ○ True
- ◉ False

QUESTION 10 — 2 points — Saved

UDP is much faster than the TCP

- ◉ True
- ○ False

QUESTION 11 — 2 points — Saved

TCP uses 16-bit sequence numbers for identifying TCP segments

- ○ True
- ◉ False

QUESTION 12 — 2 points — Saved

TCP uses ACKs for verifying the receipt of packets

- (•) True
- ( ) False

QUESTION 13 — 2 points — Saved

UDP is residing in the same layer as of DHCP

- (•) True
- ( ) False

QUESTION 14 — 2 points — Saved

The IP checksum includes the TTL

- ( ) True
- (•) False

QUESTION 15 — 2 points — Saved

UDP has no SYN and ACK flags

- (•) True
- ( ) False

QUESTION 16 — 2 points — Saved

Length of the IP fragment offset is 13 bytes

- ( ) True
- (•) False

QUESTION 17 — 2 points — Saved

IP uses TTL for limiting packets lifetime through Internet

- (•) True
- ( ) False

QUESTION 18 — 2 points — Saved

UDP uses Polynomial Checksum for detecting multiple bit errors

- ( ) True
- (•) False

QUESTION 19 — 10 points — Saved

Flow control is the mechanism to regulate the flow of data, so that a fast host cannot overrun a slow one. This is the function of the following TCP/IP Layer

- (•) A. Transport Layer
- ( ) B. All layers
- ( ) C. Application Layer
- ( ) D. Physical Layer
- ( ) E. Network Layer

QUESTION 20 — 2 points — Saved

ICMP is a part of Data Link Layer

- ( ) True
- (•) False

QUESTION 21 — 2 points — Saved

Subnetworking is used for building smaller networks from larger networks

- (•) True
- ( ) False

QUESTION 22 — 2 points — Saved

Stop-and-wait protocols are faster than pipelined protocols

- ○ True
- ◉ False

QUESTION 23 — 2 points — Saved

Maximum size of an IP header is 60 bytes

- ◉ True
- ○ False

QUESTION 24 — 2 points — Saved

Data Link Layer is just below the Transport layer in the TCP/IP protocol suite

- ○ True
- ◉ False

QUESTION 25 — 2 points — Saved

The IP address 155.150.40.100 belongs to a **class C** network

- ○ True
- ◉ False

QUESTION 26 — 10 points — Saved

Assume you have the generator polynomial $G(x) = x^3+x^2+1$ and the message to be sent as $M(x) = x^{10}+x^7+x^5+x^4+x^2+1$. Find the Cyclic Redundancy Check (CRC) value and the final message T(x) to transmit. What is your result for T(x)?

- ☐ 1. 101101101010101
- ☐ 2. 100101101010111
- ☐ 3. 100101101011101
- ☑ 4. 100101101010101

QUESTION 27 — 2 points — Saved

IP is a connectionless protocol

- ◉ True
- ○ False

QUESTION 28 — 2 points — Saved

TCP header contains ACK|FIN|SYN|URG flags

- ◉ True
- ○ False

QUESTION 29 — 2 points — Saved

DHCP stands for "Dynamic Hosta Categorization Protocol"

- ○ True
- ◉ False

QUESTION 30 — 2 points — Saved

Every protocol layer provides service to its upper layer protocol

- ◉ True
- ○ False

QUESTION 31 — 10 points — Saved

Answer the following multiple choice questions for a datagram-oriented packet-transmission

- ○ A. host-to-host connection setup is required at the transport layer
- ○ B. end-to-end connection setup is required at the network layer
- ○ C. end-to-end connection setup is required at the transport layer
- ○ D. host-to-host connection setup is required at the network layer
- ◉ E. None of these

QUESTION 32 — 2 points — Saved

TCP is not a reliable transport protocol

- ○ True
- ◉ False

QUESTION 33 — 2 points — Saved

X= (L/R)/(L/R)+RTT, here X denotes the speed of a connection.

- ○ True
- ◉ False

QUESTION 34 — 2 points — Saved

The result of a Boolean AND operation between IP address 150.150.4.100 and subnetmask 255.255.192.0 is
1001 0110 1001 0110 0000 0000 0000 0000

- ○ True
- ◉ False

Results

Question 1 — 2 out of 2 points

Applications use connection-oriented protocol for faster data delivery

Question 2 — 10 out of 10 points

The principle characteristics of connectionless service are

Question 3 — 2 out of 2 points

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Question 4 — 2 out of 2 points

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Question 13 0 out of 2 points

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