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/ [Mid-Semester Exam_CS301 \(Section 1 + Section 2\)_06-09-2022_2.00 PM to 3.00 PM](#)

Started on Tuesday, 6 September 2022, 2:00 PM

State Finished

Completed on Tuesday, 6 September 2022, 2:53 PM

Time taken 53 mins 8 secs

Question **1**

Complete

Marked out of 1.00

Which of the following statement is correct for Slotted Aloha

- ☐ a. divide time into discrete time intervals
- ☐ b. None of these
- ☐ c. require global time synchronization
- ☒ d. divide time into discrete time intervals and also requires global time synchronization

Question **2**

Complete

Marked out of 1.00

Which of the following statements is not applicable for cable internet access?

- ☒ a. It includes Hybrid Fiber Co-axials
- ☐ b. Analog signal is converted to digital signal in DSLAM
- ☐ c. Cable modem connects home PC to Ethernet port
- ☐ d. It is a shared broadcast medium

Question **3**

Complete

Marked out of 1.00

What is the role of logical link control sublayer in layer 2?

- ☐ a. Connection Establishment
- ☒ b. Sequencing
- ☐ c. Error detection
- ☐ d. Acknowledgment

Question **4**

Complete

Marked out of 1.00

In slotted ALOHA, the vulnerable time is _____ the frame transmission time.

- ☐ a. half of a frame transmission time
- ☐ b. twice of a frame transmission time
- ☒ c. same as the a frame transmission time
- ☐ d. None of these

Question **5**

Complete

Marked out of 1.00

What is the primary purpose of a virtual local area networks?

- ☐ a. To create a virtual private network
- ☒ b. Demonstrating the proper layout for network
- ☐ c. Segmenting a network inside a switch or device
- ☐ d. Simulating a network

Question **6**

Complete

Marked out of 1.00

In Carrier Sense Multiple Access which node senses the channel, if idle it sends the data, otherwise it checks the medium after a random amount of time (not continuously) and transmits when found idle.

- ☐ a. 1-persistent
- ☐ b. O-persistent
- ☒ c. Non-persistent
- ☐ d. P-persistent

Question **7**

Complete

Marked out of 1.00

The time required to examine the packet's header and determine where to direct the packet is part of _____

- ☐ a. Queuing delay
- ☒ b. Transmission delay
- ☐ c. Propagation delay
- ☐ d. Processing delay

Question **8**

Complete

Marked out of 1.00

Layer that translates between physical (MAC) and logical addresses is

- ☐ a. Network
- ☐ b. Transport
- ☐ c. Physical
- ☒ d. Datalink

Question **9**

Complete

Marked out of 1.00

Which of the following protocols is the bit-oriented protocol?

- ☐ a. HTTP
- ☐ b. SSL
- ☐ c. HDLC
- ☒ d. All of these

Question **10**

Complete

Marked out of 1.00

What are not the responsibilities of the Data link Layer?

- ☒ a. IP addressing
- ☐ b. MAC addressing
- ☐ c. Error detection
- ☐ d. Framing



Question **11**

Complete

Marked out of 1.00

What is the total vulnerable time value of pure Aloha?

- ☐ a. None of these
- ☐ b. T_{fr}
- ☒ c. $2 \times T_{fr}$
- ☐ d. $\frac{1}{2} T_{fr}$

Question **12**

Complete

Marked out of 1.00

What are not the responsibilities of the Network Layer?

- ☐ a. Routing
- ☐ b. IP addressing
- ☐ c. Path determination
- ☒ d. Framing

Question **13**

Complete

Marked out of 1.00

Which are end system devices

- ☒ a. All of these
- ☐ b. smartphones
- ☐ c. web servers
- ☐ d. mail servers



Question **14**

Complete

Marked out of 1.00

The OSI model was developed ____ TCP/IP model.

- ☐ a. with no link to TCP/IP
- ☒ b. prior to
- ☐ c. simultaneous to
- ☐ d. after

Question **15**

Complete

Marked out of 2.00

The sender employs the "Go Back 10 ARQ" scheme. A 50 Kbps link has a propagation speed of 2×10^8 m/s. The transmitter and receiver is at 2000 km distance from each other. Each frame is 100 bytes long, assuming no transmission delay what will be the minimum round trip time delay for transmission of 1 million bits?

- ☒ a. 20 ms
- ☐ b. None of these
- ☐ c. 10 ms
- ☐ d. 50 ms

Question **16**

Complete

Marked out of 1.00

The length of theof a specific packet will depend on the number of earlier-arriving packets that are queued and waiting for transmission onto the link.

- ☐ a. None of these
- ☐ b. Propagation delay
- ☐ c. Transmission delay
- ☒ d. Queuing delay

Question **17**

Complete

Marked out of 1.00

Which multiple access techniques is used by IEEE 802.11 standards for wireless LANs?

- ☐ a. CSMA
- ☐ b. ALOHA
- ☒ c. CSMA/CA
- ☐ d. CSMA/CD

Question **18**

Complete

Marked out of 1.00

In the transfer of files between four pairs of client-servers through a common transmission channel of transmission rate 1 Mbps. All the server access links have a transmission rate of 2 Mbps and all the client access links have a transmission rate of 2.5 Mbps, the throughput of this network will be

- ☒ a. 2.5 Mbps
- ☐ b. None of these
- ☐ c. 0.25 Mbps
- ☐ d. 2 Mbps

Question **19**

Complete

Marked out of 1.00

A sender-receiver employs even parity for error correction scheme, what will be the parity bit for 1001011?

- ☒ a. 1
- ☐ b. 0
- ☐ c. None of these
- ☐ d. 2

Question **20**

Complete

Marked out of 2.00

Consider the Go-back-N protocol with a sender's window size of '8'. Suppose at time 't' the next frame in the buffer (i.e. the next inorder frame) the receiver is expecting has a sequence No. 5. Assume that the medium does not reorder the messages. What is the possible set of sequence number inside the sender's window at time 't'. Assume the sender has already received acknowledgment for all the previously transmitted frames.

- ☐ a. [4, 12]
- ☐ b. None of these
- ☒ c. [5, 12]
- ☐ d. [5, 13]

Question **21**

Complete

Marked out of 1.00

A three-layer switch can be called as.....

- ☐ a. Bridge
- ☒ b. Router
- ☐ c. None of these
- ☐ d. Repeater

Question **22**

Complete

Marked out of 1.00

What are not the responsibilities of the Data link Layer?

- ☒ a. IP addressing
- ☐ b. MAC addressing
- ☐ c. Error detection
- ☐ d. Framing

Question **23**

Complete

Marked out of 1.00

In reference to OSI model, TCP/IP model does not have _____

- ☐ a. network layer
- ☒ b. transport layer
- ☐ c. application layer
- ☐ d. session layer

Question **24**

Complete

Marked out of 1.00

What will be the propagation time when the distance between two points is 2400km? Assuming the propagation speed to be 4×10^8 m/s in cable.

- ☐ a. 1 ms
- ☒ b. 6ms
- ☐ c. 2 ms
- ☐ d. 5ms

Question **25**

Complete

Marked out of 1.00

Which is of the following statement is incorrect, if the transmission bandwidth of a shared broadcast media of 50 Mbps is shared by 500 users then,

- ☐ a. Using FDMA scheme, each of the users have an access to 100 Kbps of bandwidth
- ☒ b. Using CDMA scheme, each of the users have an access to 100 Kbps of bandwidth
- ☐ c. Using TDMA scheme, each of the users have an access to 100 Kbps of bandwidth
- ☐ d. Using CDMA scheme, each of the users have an access to 50 Mbps of bandwidth

Question **26**

Complete

Marked out of 1.00

The functions of _____ layer in the OSI model are handled by the transport layer itself in TCP/IP.

- ☐ a. network layer and presentation
- ☐ b. application layer and session
- ☒ c. presentation and session
- ☐ d. transport layer and session

Question **27**

Complete

Marked out of 1.00

The ____ layer links network/user support layers by segmenting and rearranging the data.

- ☐ a. Session Layer
- ☒ b. Network Layer
- ☐ c. Transport Layer
- ☐ d. Application Layer

Question **28**

Complete

Marked out of 1.00

Which is true for Circuit Switching?

- ☐ a. The bandwidth used is not fixed.
- ☐ b. The bandwidth used is not fixed.
- ☐ c. The bandwidth used is not fixed.
- ☒ d. All true

Question **29**

Complete

Marked out of 1.00

Transmission data rate is decided by _____.

- ☐ a. data link layer
- ☐ b. transport layer
- ☐ c. network layer
- ☒ d. physical layer

Question **30**

Complete

Marked out of 1.00

In Carrier Sense Multiple Access, which CSMA scheme senses the channel, if idle it sends the data, otherwise it continuously keeps on checking the medium for being idle and transmits unconditionally as soon as the channel gets idle.

- ☐ a. O-persistent
- ☒ b. 1-persistent
- ☐ c. P-persistent
- ☐ d. Non-persistent

Question **31**

Complete

Marked out of 1.00

Error detection and correction are offered by both

- ☐ a. Network Layer and Transport Layer
- ☐ b. Data link layer and Network Layer
- ☒ c. Physical Layer and Data link Layer
- ☐ d. Data link layer and Transport Layer

Question **32**

Complete

Marked out of 1.00

To avoid collisions on wireless networks, _____ was invented.

- ☐ a. CSMA/CD
- ☒ b. CSMA/CA
- ☐ c. Ethernet
- ☐ d. None of these

Question **33**

Complete

Marked out of 1.00

Which is not true for Packet switching?

- ☐ a. Multiple users can use the same channel while transferring their packets.
- ☒ b. Multiple users can use the same channel while transferring their packets.
- ☐ c. The delivery of these packets becomes easy when complicated protocols are used.
- ☐ d. Installation costs of packet switching are expensive.

Question **34**

Complete

Marked out of 1.00

The technique of temporarily delaying acknowledgements so that they can be hooked onto the next outgoing data frame is called

- ☐ a. Cyclic redundancy check
- ☐ b. None of these
- ☐ c. Piggybacking
- ☒ d. Parity check

Question **35**

Complete

Marked out of 1.00

In _____, each station is forced to send only at the beginning of the time slot.

- ☐ a. Pure Aloha
- ☒ b. Slotted Aloha
- ☐ c. CSMA/CD
- ☐ d. CSMA/CA

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