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/ [Pre-Mid-Semester Exam CS301 \(Section 1 + Section 2\) 19-08-2021 10.15 ti 11.15 AM](#)

Started on Thursday, 19 August 2021, 10:21 AM

State Finished

Completed on Thursday, 19 August 2021, 10:59 AM

Time taken 38 mins 19 secs

Grade 21.00 out of 30.00 (70%)

Question **1**

Complete

Mark 0.00 out of 1.00

Which is true for circuit switching?

- ☐ a. The bandwidth used is not constant.
- ☐ b. While switching, time is wasted in waiting.
- ☒ c. All of these
- ☐ d. The rate at which the data is transmitted is constant.

The correct answer is:

The rate at which the data is transmitted is constant.

Question **2**

Complete

Mark 1.00 out of 1.00

Ethernet frame consists of

- ☐ a. Default mask
- ☐ b. None of these
- ☐ c. IP address
- ☒ d. MAC address

The correct answer is:

MAC address

Question **3**

Complete

Mark 1.00 out of 1.00

Which of the following is a set of rules that governs the data communication in a computer network

- ☒ a. Protocols
- ☐ b. None of these
- ☐ c. RFCs
- ☐ d. Activity standards

The correct answer is:

Protocols

Question **4**

Complete

Mark 2.00 out of 2.00

What will be the propagation time when the distance between two nodes is 2400km? Assuming the communication media between the nodes is fiber cable and the light travels with a speed to be 2×10^8 m/s in the cable.

- ☐ a. 2 ms
- ☐ b. None of these
- ☒ c. 12 ms
- ☐ d. 5 ms

The correct answer is:

12 ms

Question **5**

Complete

Mark 0.00 out of 2.00

A shared broadcast medium of transmission rate 5 Mbps is being shared by 10 users (U1, U2, ..., U10). Calculate the maximum transmission rate of each of the users if the channel access scheme used is FDMA. If instead of FDMA the scheme being used is CDMA then what will be the maximum transmission rate of each of the users?

- ☒ a. 50 Mbps, 5 Mbps
- ☐ b. None of these
- ☐ c. 500 Kbps, 5000 Kbps
- ☐ d. 5000 Kbps, 5000 Kbps

The correct answer is:
500 Kbps, 5000 Kbps

Question **6**

Complete

Mark 1.00 out of 1.00

A landline telephone network is an example of..... network.

- ☒ a. Circuit switched
- ☐ b. Line switched
- ☐ c. Packet switched
- ☐ d. Both packet switched and circuit switched

The correct answer is:
Circuit switched

Question **7**

Complete

Mark 1.00 out of 1.00

Which sub-layer of the data link layer performs data link functions that depend upon the type of medium?

- ☐ a. Logical link control sub-layer
- ☐ b. error control sub-layer
- ☒ c. Media access control sub-layer
- ☐ d. network interface control sub-layer

The correct answer is:

Media access control sub-layer

Question **8**

Complete

Mark 1.00 out of 1.00

Which address identifies a process on a host?

- ☒ a. port address
- ☐ b. physical address
- ☐ c. logical address
- ☐ d. specific address

The correct answer is:

port address

Question **9**

Complete

Mark 0.00 out of 1.00

What kind of transmission medium is most appropriate to carry data in a computer network that is exposed to electrical interference?

- ☒ a. Coaxial cable
- ☐ b. Optical fiber
- ☐ c. Microwave link
- ☐ d. Un-shielded twisted pair

The correct answer is:

Optical fiber

Question **10**

Complete

Mark 1.00 out of 1.00

The sharing of medium and its links by two or more devices is called

- ☐ a. Duplexing
- ☒ b. Multiplexing
- ☐ c. Fully duplexing
- ☐ d. Microplexing

The correct answer is:

Multiplexing

Question **11**

Complete

Mark 1.00 out of 1.00

Transmission delay not depends upon

- ☒ a. Distance between routers
- ☐ b. Bandwidth of the medium
- ☐ c. Packet length
- ☐ d. Transmission rate

The correct answer is:

Distance between routers

Question **12**

Complete

Mark 1.00 out of 1.00

In computer networks nodes are....

- ☐ a. the computer that originates/generates the data
- ☐ b. the computer that routes the data
- ☒ c. All of these
- ☐ d. the computer that terminates the data

The correct answer is:

All of these

Question **13**

Complete

Mark 1.00 out of 1.00

Communication between a computer and a speaker involves

- ☒ a. Simplex
- ☐ b. Full-duplex
- ☐ c. Automatic
- ☐ d. Half-duplex

The correct answer is:

Simplex

Question **14**

Complete

Mark 1.00 out of 1.00

The function of Digital Subscriber Line Access Multiplexer is to _____

- ☐ a. Amplify digital signals
- ☐ b. Convert digital signals into analog signals
- ☐ c. De-amplify digital signals
- ☒ d. Convert analog signals into digital signals

The correct answer is:

Convert analog signals into digital signals

Question **15**

Complete

Mark 1.00 out of 1.00

Which of the following task is not done by data link layer?

- ☐ a. Flow control
- ☒ b. Encoding
- ☐ c. Framing
- ☐ d. Error control

The correct answer is:

Encoding

Question **16**

Complete

Mark 0.00 out of 1.00

Which is of the following statement is incorrect,

A shared broadcast media of transmission bandwidth 20 Mbps is shared by 100 users then,

- ☐ a. Using TDMA scheme, each of the users have an access to 200 Kbps of bandwidth
- ☒ b. Using CDMA scheme, each of the users have an access to 20 Mbps of bandwidth
- ☐ c. Using CDMA scheme, each of the users have an access to 200 Kbps of bandwidth
- ☐ d. Using FDMA scheme, each of the users have an access to 200 Kbps of bandwidth

The correct answer is:

Using CDMA scheme, each of the users have an access to 200 Kbps of bandwidth

Question **17**

Complete

Mark 0.00 out of 1.00

Optical Network Terminator is connected to splitter using _____

- ☐ a. Optical cable
- ☐ b. Twisted pair cable
- ☐ c. microwave link
- ☒ d. hybrid fiber co-axial cable

The correct answer is:

Optical cable

Question **18**

Complete

Mark 1.00 out of 1.00

In link layer, parity bits are used for

- ☒ a. to detect errors
- ☐ b. to identify the user
- ☐ c. encryption of data
- ☐ d. to transmit data faster

The correct answer is:

to detect errors

Question **19**

Complete

Mark 1.00 out of 1.00

The number of bits in IPV4 address, IPV6 address, MAC address and Port address are

- ☐ a. 32, 128, 64, 16
- ☐ b. 128, 32, 48, 16
- ☐ c. 32, 128, 48, 32
- ☒ d. 32, 128, 48, 16

The correct answer is:

32, 128, 48, 16

Question **20**

Complete

Mark 1.00 out of 1.00

Which physical media provides the highest transmission speed in a network?

- ☐ a. co-axial cable
- ☒ b. optical fiber
- ☐ c. electrical cable
- ☐ d. twisted pair cable

The correct answer is:

optical fiber

Question **21**

Complete

Mark 0.00 out of 3.00

What are the propagation time and the transmission time for a 5Mbyte message (an image) if the transmission rate of the network is 1Mbps? Assume that the distance between the sender and the receiver is 8000 km and that light travels at 4×10^9 m/s.

- ☐ a. 50msecs, 40msecs
- ☒ b. 2msecs, 40msecs
- ☐ c. 2msecs, 40secs
- ☐ d. 50msecs, 40secs

The correct answer is:
2msecs, 40secs

Question **22**

Complete

Mark 3.00 out of 3.00

The message 11001001 is to be transmitted using CRC polynomial $x^3 + 1$ to protect it from errors. The message that should be transmitted after appending the CRC code with the original data is

- ☐ a. 1100001010
- ☒ b. None of these
- ☐ c. 1100001011
- ☐ d. 1100001110

The correct answer is:
None of these

Question **23**

Complete

Mark 1.00 out of 1.00

Which is not true for Packet switching?

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

The correct answer is:

A dedicated path is followed throughout the session.

Question **24**

Complete

Mark 1.00 out of 1.00

Header of a frame generally contains

- ☒ a. All of these
- ☐ b. MAC addresses
- ☐ c. Synchronization bytes
- ☐ d. Frame identifier

The correct answer is:

All of these

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Started on Friday, 12 November 2021, 1:20 PM

State Finished

Completed on Friday, 12 November 2021, 1:28 PM

Time taken 8 mins 30 secs

Grade 7.00 out of 10.00 (70%)

Question **1**

Complete

Mark 1.00 out of 1.00

The well-known port addresses are assigned to the

- ☐ a. None of these
- ☒ b. Destination
- ☐ c. Source
- ☐ d. Routers

Question **2**

Complete

Mark 1.00 out of 1.00

Which fields helps to check rearrangement of the fragments in IPV4?

- ☐ a. Protocol field value
- ☐ b. Checksum
- ☒ c. Fragment Offset
- ☐ d. Flags

Question **3**

Complete

Mark 1.00 out of 1.00

A email service uses which one of the following transport layer protocol?

- ☐ a. UDP
- ☐ b. Both TCP and UDP
- ☐ c. HTTP
- ☒ d. TCP

Question **4**

Complete

Mark 1.00 out of 1.00

The traffic field of IPV6 is similar to which field in the IPV4 header?

- ☐ a. Fragmentation field
- ☒ b. Type of service
- ☐ c. Option field
- ☐ d. Fast switching

Question **5**

Complete

Mark 1.00 out of 1.00

Fragmentation is done in layer.

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

Question **6**

Complete

Mark 1.00 out of 1.00

Which of these is not a type of error-reporting message?

- ☐ a. Destination unreachable
- ☒ b. Router error
- ☐ c. Source quench
- ☐ d. Time exceeded

Question **7**

Complete

Mark 0.00 out of 1.00

Which of the following is incorrect about Network Address Translation?

- ☐ a. Router will do NAT translation without configuration.
- ☐ b. NAT is a process in which one or more local IP address is translated into one or more Global IP address and vice versa.
- ☐ c. Certain application will not function while NAT is enabled.
- ☒ d. NAT results in switching path delays.

Question **8**

Complete

Mark 0.00 out of 1.00

Routing inside a single administrative domain is called as..... routing.

- ☒ a. Path Vector
- ☐ b. Intra-domain
- ☐ c. Inter-domain
- ☐ d. None of these

Question **9**

Complete

Mark 0.00 out of 1.00

In an IPV4 packet, the value of HLEN is 1010 in binary. How many bytes of options are being carried by this packet?

- ☐ a. 20 bytes
- ☐ b. 12 bytes
- ☒ c. 10 bytes
- ☐ d. 32 bytes

Question **10**

Complete

Mark 1.00 out of 1.00

Which of the following is true for Address Resolution Protocol (ARP)?

- ☐ a. ARP request is broadcast and ARP reply is also broadcast.
- ☒ b. ARP request is broadcast and ARP reply is unicast.
- ☐ c. ARP request is unicast and ARP reply is also unicast.
- ☐ d. ARP request is unicast and ARP reply is broadcast.

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Started on Tuesday, 24 August 2021, 4:19 PM

State Finished

Completed on Tuesday, 24 August 2021, 4:25 PM

Time taken 6 mins

Grade 8.00 out of 10.00 (80%)

Question **1**

Complete

Mark 1.00 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. 2ms
- ☐ b. 5ms
- ☐ c. 1ms
- ☒ d. 6ms

The correct answer is:
6ms

Question **2**

Complete

Mark 1.00 out of 1.00

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

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

The correct answer is:
transport layer

Question **3**

Complete

Mark 0.00 out of 1.00

The OSI model was developed ____ TCP/IP model.

- ☐ a. None of these
- ☐ b. after
- ☐ c. simultaneous to
- ☒ d. prior to

The correct answer is:
after

Question **4**

Complete

Mark 1.00 out of 1.00

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

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

The correct answer is:
CSMA/CA

Question **5**

Complete

Mark 1.00 out of 1.00

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

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

The correct answer is:
session layer

Question **6**

Complete

Mark 1.00 out of 1.00

Which of the following option is correct?

In wireless distribution system

- ☐ a. only one access point exists
- ☐ b. access points are not required
- ☒ c. multiple access points are inter-connected with each other
- ☐ d. there is no access point

The correct answer is:

multiple access points are inter-connected with each other

Question **7**

Complete

Mark 1.00 out of 1.00

Which layer is responsible for the process to process delivery in a general network model?

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

The correct answer is:

transport layer

Question **8**

Complete

Mark 1.00 out of 1.00

Transmission data rate is decided by _____

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

The correct answer is:
physical layer

Question **9**

Complete

Mark 1.00 out of 1.00

There are n stations in a slotted LAN. Each station attempts to transmit with a probability p in each time slot. What is the probability that only one station transmits in a given time slot?

- ☐ a. $1-(1-p)^{(n-1)}$
- ☐ b. $(1-p)^{(n-1)}$
- ☐ c. $p(1-p)^{(n-1)}$
- ☒ d. $np(1-p)^{(n-1)}$

The correct answer is:
 $np(1-p)^{(n-1)}$

Question **10**

Complete

Mark 0.00 out of 1.00

Which multiple access techniques is used by Ethernet standards for wireless LANs

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

The correct answer is:
CSMA/CD

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Started on Thursday, 28 October 2021, 4:21 PM

State Finished

Completed on Thursday, 28 October 2021, 4:28 PM

Time taken 7 mins 19 secs

Grade 8.00 out of 10.00 (80%)

Question **1**

Complete

Mark 1.00 out of 1.00

Which one of the following is not a function of network layer?

- ☐ a. routing
- ☐ b. congestion control
- ☒ c. error control
- ☐ d. inter-networking

Question **2**

Complete

Mark 0.00 out of 1.00

For a given subnet mask 255.128.0.0, what is the number of subnets?

- ☐ a. 8
- ☐ b. 2
- ☒ c. 4
- ☐ d. 6

Question **3**

Complete

Mark 1.00 out of 1.00

In a given subnet mask 255.0.0.0, what is the number of Host ID bits?

- ☐ a. 21
- ☒ b. 24
- ☐ c. 12
- ☐ d. 221

Question **4**

Complete

Mark 1.00 out of 1.00

In class C classful IPv4 addressing format, the number of networks allowed under Class C addresses is

- ☐ a. **2^{24}**
- ☐ b. **2^7**
- ☐ c. **2^{14}**
- ☒ d. **2^{21}**

Question **5**

Complete

Mark 1.00 out of 1.00

Error control is responsibility of which OSI layers

- ☐ a. **Network and Transport layer**
- ☐ b. **Physical and Data link layer**
- ☐ c. **All of these**
- ☒ d. **Data link and Transport layer**

Question **6**

Complete

Mark 1.00 out of 1.00

Which one of the following protocol is NOT used to resolve one form of address to another one?

- ☐ a. **DNS**
- ☐ b. **ARP**
- ☐ c. **RARP**
- ☒ d. **DHCP**

Question **7**

Complete

Mark 1.00 out of 1.00

While configuring the router, the IP address assigned to one port is 201.14.2.1/23. LAN1 is attached to this port of the router. Which of the following IP addresses are valid on this LAN1 interface,

I1: 201.14.1.100
I2: 201.14.1.3
I3: 201.14.2.2
I4: 201.14.3.0

- ☐ a. Only I2 and I3
- ☐ b. Only I1 and I2
- ☒ c. Only I3 and I4
- ☐ d. Only I1 and I3

Question **8**

Complete

Mark 0.00 out of 1.00

Find out the invalid subnet mask from the following

- ☐ a. **223.0.0.0**
- ☐ b. **None of these**
- ☒ c. **255.255.255.252**
- ☐ d. **255.240.0.0**

Question **9**

Complete

Mark 1.00 out of 1.00

In the even parity, find the parity bit of data 1001001001.

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

Question **10**

Complete

Mark 1.00 out of 1.00

In the IPV4 addressing format, the number of hosts allowed under Class A addresses

- ☐ a. **2^{32-2}**
- ☒ b. **2^{24-2}**
- ☐ c. **2^{16-2}**
- ☐ d. **2^{8-2}**

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