

# Midterm Exam

ⓘ This is a preview of the published version of the quiz

Started: Mar 29 at 1:26am

## Quiz Instructions

For the graduate sections, this exam opens promptly at **5:00 p.m. CST** on **03/04/25** and will remain open until **11:59 p.m. (midnight) CST** on **03/10/25**. Exam questions will be answered until **03/10/25 at 8 p.m. CST** for the benefit of the class. The exam is open book, open note, and optional group. ALL students must turn in their own exam. Please be sure to organize your notes before the exam if you plan to use them. This exam was designed to be completed in about an hour or so for those who have studied the material in a traditional way. Please answer the questions very carefully and hit submit only after you have answered all the questions. For all intents and purposes, unsubmitted exam responses are not saved in Canvas. So you can open and close the exam, just keep in mind your answer choices may not be saved so be sure to write them down on paper or notepad. If you are experiencing technical difficulties during the exam, please switch to a browser that supports Canvas. Lastly, as a final tip, please "trust but verify" your answer choices. For optimal performance, students should verify that every answer choice chosen has documented reference(s) from our course material that led you to the answer choice.

Good luck!

**EXAM DISCUSSION THREAD** ([https://auburn.instructure.com/courses/1633114/discussion\\_topics/9372157](https://auburn.instructure.com/courses/1633114/discussion_topics/9372157))



Question 1 2 pts

In analyzing client-server architectures between DNS and HTTP protocols, which protocol has a more resource-intensive (more servers) architecture?

DNS

HTTP

Both are equal



Question 2 2 pts

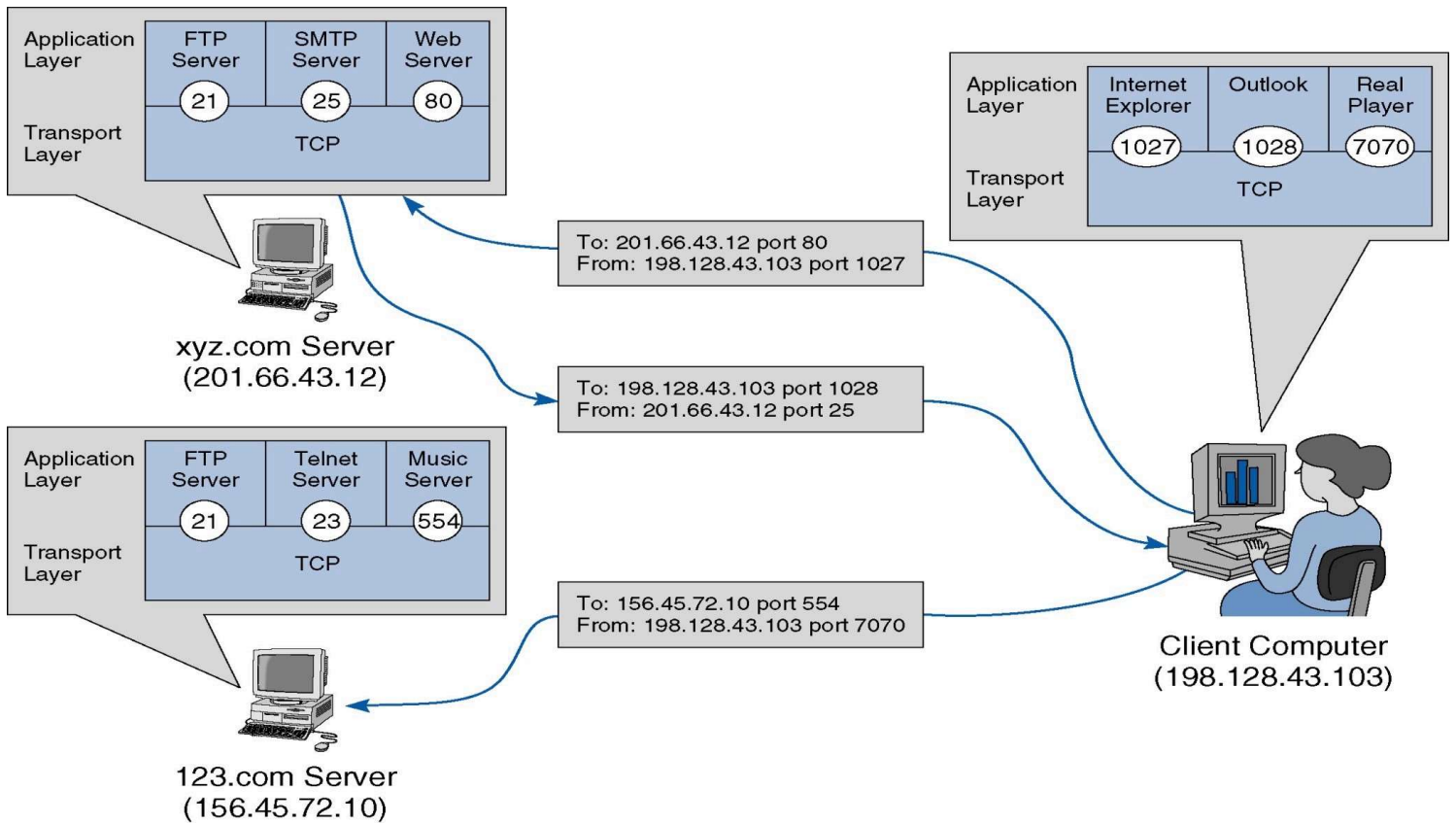
The network layer is in both the OSI and Internet models?

True

False



Question 3 5 pts



The above illustration shows a client visiting servers in the context of their web browsing activities. Which common port (missing) helps to translate the server(host) name to an IP address? Is the port for web traffic secure? (Choose Two)

- Port 53
- Port 80
- Port 443
- Port 23
- Port 20
- Port 21
- Port 25
- None of the above
- Yes, the web traffic is secure on Port 80
- No, secure web traffic is Port 443 (not shown)
- None of the above

Even parity bit checking can only detect an error when an odd number of bits are switched.

True

False



Question 5 3 pts

Backward error correction is commonly used in satellite transmission.

True

False



Question 6 3 pts

ADSL uses FDM to create two channels over one local loop circuit: one for voice and one for upstream and downstream data

True

False



Question 7 2 pts

There are about three dozen or so U.S.-based Tier 1 providers.

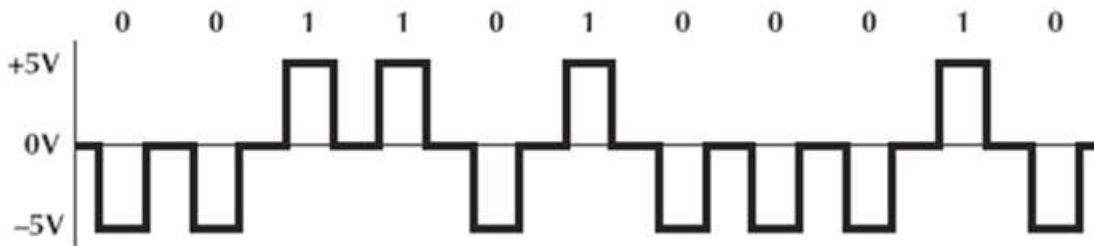
True

False



Question 8 3 pts

The signaling technique depicted is \_\_\_\_\_ ?



Unipolar

Bipolar NRZ

Bipolar RZ

Bipolar AMI

Manchester Encoding

None of the immediate above



Question 9 3 pts

Using ASCII 7 how many bit and bytes are in the word "Cat"? (Choose 2)

3 bits

7 bits

21 bits

24 bits

1 byte

3 bytes

4 bytes



Question 10 3 pts

Using a polynomial of 101 and the CRC Modulo-2 XOR algorithm function, the CRC check value for the message 110101 is?

1

10

11

100

110



Question 11 3 pts

A scenario in which four clients share a single circuit to reduce costs but all clients need to transmit signals simultaneously would be best served by?

Dynamic addressing

Subnetting

Parallel Transmission

Frequency Division Multiplexing

Routing

Contention Access Control

All of the above

None of the above



Question 12 3 pts

For the multiplexing type that crosstalk is associated with, What is one solution to resolve it?

Modify the guardbands

Modify the wavelengths

Modify the statistical delay

Modify the time delay

All of the above

None of the above



Question 13 3 pts

Assume a sender transmits a message to a receiver with Stop and Wait ARQ what happens if the message is lost?

After a period of a time, an ACK is sent by the receiver

After a period of a time, a NAK is sent by the receiver

After a period of a time, the message is resent by the sender

After a period of time, the message is found by the receiver

After a period of time, an error is sent by the sender

All of the above

None of the above



Question 14 3 pts

To date, what is the most expensive but reliable type of circuit media? Which two circuit media are the most unreliable but flexible? (Choose 3)

Twisted Pair Cable

Coaxial Cable

Fiber Optic Cable

Wireless Access Points

Radio

Microwave/Satellite



Question 15 3 pts

Formally what are the layers in the internet model that use the PDU "Packets"

Application Layer

Transport Layer

Network Layer

Data Link Layer

Physical Layer

All of the above

None of the above



Question 16 3 pts

All characters used in ASCII encoding can be matched/crosswalked to Unicode encoding and all characters used in Unicode encoding can be matched/crosswalked to ASCII encoding?

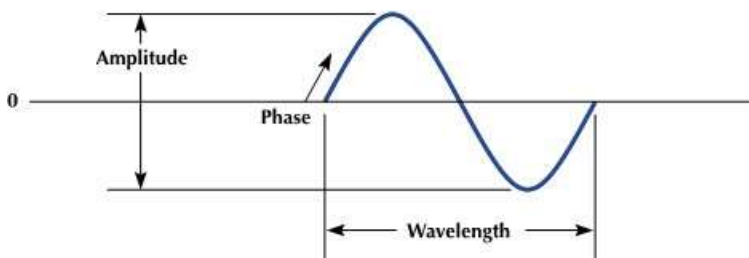
True

False



Question 17 3 pts

This figure depicts:



Digital Transmission

Analog Transmission

Parallel Transmission

Unipolar Transmission

Bipolar Transmission

All of the above

None of the above



Question 18 3 pts

A scenario in which clients share a single circuit but two out of 5 of the clients transmit signals more than the others would be best served by?

Dynamic addressing

Subnetting

Parallel Transmission

Frequency Division Multiplexing

Routing

Contention Access Control

None of the above



Question 19 3 pts

Checksum is the process of disguising information by the use of mathematical rules, known as algorithms

True

False



Question 20 3 pts

Google Fiber is a known Tier 1 provider as they provide coast-to-coast backbone coverage?

True

False



Question 21 3 pts

For DSL, immediately after internet traffic leaves the MDF it goes to the voice telephone network?

True

False



Question 22 3 pts

In a shared coax cable system configuration for a new work-play subdivision with hundreds of homes (condos, apartments, and single-family homes), the planners are trying to save money. They have opted for a coaxial cable length of 1.5 miles. What is the issue that the thousands of future residents will now face?

- White Noise
- Impulse Noise
- Cross Talk
- Echo
- Attenuation
- Intermodulation Noise



Question 23 5 pts

In an organization where thousands of users connect their client devices to a network daily and subsequently thousands of other users disconnect their client devices from the same network daily; what protocol efficiently disseminates temporary IP addresses for all the temporary client devices on the network? Second, for whatever reason, the MAC address of a client device on the network is not known. What is the name of the protocol that helps to resolve this issue? (Choose Two)

- Domain Name Service Protocol
- TCP/IP Protocol
- Dynamic Host Configuration Protocol
- Traffic Management Protocol
- Device Management Protocol
- Address Resolution Protocol
- Complexity Management Protocol
- Dynamic Routing Protocol
- None of the above



Question 24 3 pts

What is the predominant operating system/management software for routers?

- Microsoft Windows
- Linux



Mac OS

Cisco Internetwork Operating Systems

Ubuntu

Apple IOS



### Question 25 2 pts

Which of the following is not a way that a router differs from a switch?

Routers can connect two or more networks that use the same data link protocol.

Routers only process messages that are specifically addressed to it.

Routers operate at the network layer.

Routers perform more processing on each message than switches do.

Routers can choose the "best" route between networks for forwarding a packet.



### Question 26 6 pts

Consider the IP Config Output below. What is the address of the router? What is the MAC address? (Choose 2)

```
C:\Users\yzw00008>ipconfig /all

Windows IP Configuration

Host Name . . . . . : LIBREF1-32
Primary Dns Suffix . . . . . : duc.auburn.edu
Mode Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : auburn.edu

Ethernet adapter Local Area Connection:

Connection-specific DNS Suffix . . : 
Description . . . . . : Broadcom NetXtreme 57xx Gigabit Controller

Physical Address. . . . . : 00-1A-A0-51-FD-B5
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . : Yes
IPv4 Address. . . . . : 131.204.56.32<Preferred>
Subnet Mask . . . . . : 255.255.254.0
Default Gateway . . . . . : 131.204.56.1
DNS Servers . . . . . : 131.204.41.3
                          131.204.41.6
Primary WINS Server . . . . . : 131.204.2.6
Secondary WINS Server . . . . . : 131.204.2.7
NetBIOS over Tcpip. . . . . : Enabled

Tunnel adapter isatap.<2A9A5986-703D-4BE0-B300-CF71FAD13C2D>:

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . . : 
Description . . . . . : Microsoft ISATAP Adapter
Physical Address. . . . . : 00-00-00-00-00-00-E0
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . : Yes
```

Host Name

Primary Dns Suffix

Physical Address

IPv4 Address

Subnet Mask

Default Gateway

DNS Servers

Primary WINS Server

Secondary WINS Server



Question 27 3 pts

Who is responsible for assigning an organization its backbone subnet?

State Government

Local Government

ISPs

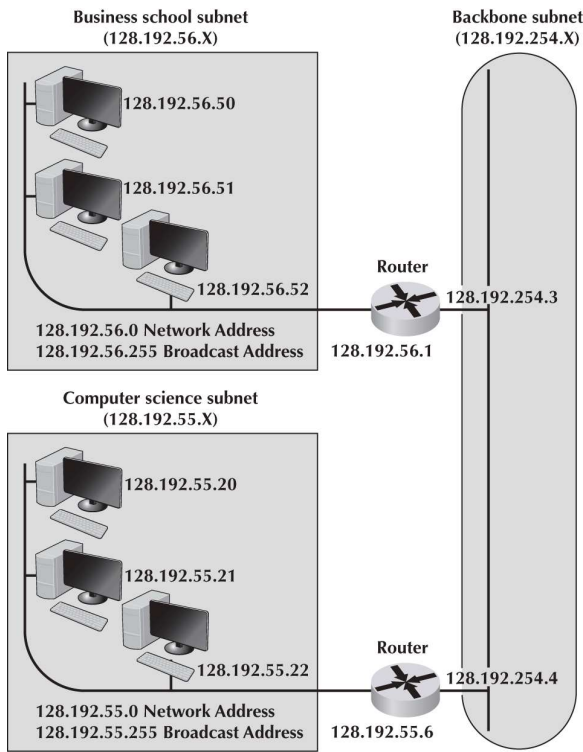
Phone Company

Cable Company



Question 28 6 pts

Consider the following diagram:



What is the internet protocol version being used for the addressing? How many subnets are off the backbone network? How many usable IP addresses are in each subnet? (Choose 3)

- IPV4
- IPV6
- HTTP
- 1 subnet
- 2 subnets
- 3 subnets
- 54 addresses
- 55 addresses
- 56 addresses

⋮  
Question 29 3 pts

Assuming ASCII 8 and CRC-32 , what is the approximate total size of the SDLC frame for the message "BAKE" that is missing it's initial flag for the frame? (Ignore quotes when counting)

- 41 bits

41 bytes

56 bits

56 bytes

88 bits

88 bytes



Question 30 2 pts

Which category of cable/wire will typically be used to connect network devices to each other?

Category 1

Category 3

Category 5

Category 6

Category 7

All of the above

None of the above



Question 31 3 pts

Checksum is the process of disguising information by the use of mathematical rules, known as algorithms

True

False



Question 32 3 pts

The primary reason for networking standards is to:

simplify cost accounting for networks

ensure that hardware and software produced by different vendors can work together

make it more difficult to develop hardware and software that link different networks

ensure that all network components of a particular network can be provided by only one vendor

lock customers into buying network components from one vendor



Question 33 0 pts


Who did you collaborate with for this exam?

Why?

Was it helpful?

*(This question will read as "0 " points on the exam. The instructor will manually enter points)*

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Quiz saved at 1:28am

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