Final Exam demo test Part I: THEORY - Attempt 1

Question 1
Marks: 1
In TCP/IP model, which of the following information belongs to the Data link layer?
Choose one answer.

- a. Logical address
- b. Port number
- c. MAC address
- d. IP address

Question 2
Marks: 1
The correct order of layers in TCP/IP model is...
Choose one answer.

- a. Physical layer, Network layer, Data Link layer, Transport layer, Application layer
- b. Physical layer, Data Link layer, Network layer, Application layer, Transport layer
- c. Physical layer, Data Link layer, Transport layer, Network layer, Application layer
- d. Physical layer, Data Link layer, Network layer, Transport layer, Application layer

Question 3
Router command to set password "fithanu" to access privilege mode:
Answer:

enable password fithanu

Question 4
Marks: 1
In TCP, the receiver merges the data based on...
Choose one answer.

- a. Acknowledgement number
- b. Port number
- c. Sequence number
- d. Arriving order

Question 5
Marks: 1
In TCP/IP model, which of the following information belongs to the Network layer?
Choose one answer.

- a. Port number
- b. IP address

- c. Physical address
- d. MAC address

Question 6
Marks: 1
Which of the following systems provides circuit switching service?
Choose one answer.

- a. telephone system
- b. postal system (packet switching)

Question 7
Marks: 1
What is a correct netmask for a class C network?
Choose one answer.

- a. 255.0.0.0
- b. 0.0.0.255
- c. 255.255.0.0
- d. 255.255.255.0

Question 8
Marks: 1
In UDP, the receiver merges the data based on...
Choose one answer.

- a. **Arriving** order
- b. Acknowledgement number
- c. Port number
- d. Sequence number

Question 9
Marks: 1
Which of the following services is connection-oriented?
Choose one answer.

- a. UDP
- b. TCP

Question 10
Marks: 1
In TCP/IP model, which of the following information belongs to the Transport layer?
Choose one answer.

- a. Physical address
- b. IP address

- c. MAC address
- d. Port number

Question 11
Marks: 1
Router command to change Router's name to *FIT-HANU*:
Answer:

hostname FIT-HANU

Question 12
Marks: 1
What is the command to set up static routing in Packet tracer?
Choose one answer.

- a. network ...
- b. ip address ...
- c. router ...
- d. ip route ...

Question 13

What is the subnet mask for 10.20.136.0/20?
Answer:

255.255.240.0

Question 14
What application layer protocol is commonly used to support for file transfers between a client and a server?
Choose one answer.

- a. Telnet
- b. HTTP
- c. HTML
- d. FTP

Question 15
Marks: 1
Which of the following protocols is used as inter-AS routing?
Choose one answer.

- a. PGP
- b. RIP
- c. OSPF
- d. BGP

Question 16
Marks: 1
On which of the following protocols in Transport layer is SNMP (Simple Network Management Protocol) based?
Choose one answer.

- a. UDP
- b. TCP

Question 17
Which of the following describes the function of a WAN?
Choose one answer.

- a. provides connectivity over a large geographic area
- b. connects multiple networks in a single building
- c. connects peripherals in a single location
- d. provides connectivity on a LAN

Question 18
Marks: 1
What is the automated service that matches resource names with the required IP address?
Choose one answer.

- a. SSH
- b. DNS
- c. HTTP
- d. Telnet

Question 19
Marks: 1
You have a class A network address 10.0.0.0 with 40 subnets, but are required to add 60 new subnets very soon. You would like to still allow for the largest possible number of host IDs per subnet. Which subnet mask should you assign?
Choose one answer.

- a. 255.240.0.0
- b. 255.248.0.0
- c. 255.252.0.0
- d. **255.254.0.0**

Question 20
Internet-like networks within an enterprise:

- a.Intranets

- b.Switching alternating
- c.Extranets
- d. Inter organizational networks

Final Exam demo test Part I: THEORY - Attempt 2

Question1

Marks: 1

On which layer does FTP work?

Choose one answer.

- a. Data Link layer
- b. Application layer
- c. Transport layer
- d. Network layer

Question2
Marks: 1

What is the first byte range of a class A network address?

Choose one answer.

- a. 0 – 127
- b. 192 – 223
- c. 1 – 127
- d. 128 – 191

Class	First byte
A	0 - 127
B	128 – 191
C	192 – 223
D	224 – 239
E	240 - 255

Question3
Marks: 1

Given this network: 204.15.5.0/27. How many hosts are available for this network?

Choose one answer.

a. 16

b. 28

c. 32

d. 30

2^5

Question4
Marks: 1

In TCP/IP model, host-to-host delivery is in...

Choose one answer.

a. Data Link layer

b. Network layer (/ end- to- end delivery)

c. Transport layer

d. Physical layer

Data link layer	Network layer	Transport layer	Application layer
Hop-to-hop delivery	End-to-end (host-to-host) delivery	Process-to-process delivery	Provide services to user
Physical addressing	Logical addressing	Port addressing	FTP SMTP
framing	routing	(un)reliable services	Telnet DNS www

Question5

Marks: 1

What is default port of SMTP service?

Choose one answer.

- a. 80
- b. 53
- c. **25**
- d. 110

Question6

Marks: 1

If you ping fit.hanu.vn first time, where is the first place that your computer send the request?

Choose one answer.

- a. Application server
- b. Web server
- c. DHCP server
- d. **DNS** server

Question7

Marks: 1

Which of the following commands on Windows is used to test reachability of a remote host and show (the part of) the list of intermediary hops?

Choose one answer.

- a. tracert
- b. nslookup
- c. ping
- d. nmap

Question8
Marks: 1

What is the subnet mask for 10.20.136.0/20?

Answer:

255.255.240.0

Question9

What is the socket address?

Choose one answer.

- a. Port number
- b. **IP** address + **Port** number
- c. IP address
- d. MAC address + Port number

Question10
Marks: 1

Which of the following protocols uses distance vector routing algorithm?

Choose one answer.

- a. OSPF

b. **RIP**

c. EGP

d. BGP

Question11

Marks: 1

When you ping the loopback address, where is a packet sent?

Choose one answer.

a. Across the wire

b. On the network

c. Through the loopback dongle

d. **Down through** the layers of the **IP** architecture and then *up* the *layers*

Question12
Marks: 1

Which of the following is used to show IP address of a host in Windows operating system?

Choose one answer.

a. ipconfigure

b. ifconfigure

c. ifconfig

d. **ipconfig**

Question13
Marks: 1

How to establish a TCP connection?

Choose one answer.

a. 4-way handshake occurs

b. 5-way handshake occurs

c. 3-way handshake occurs

d. 2-way handshake occurs

Question14
Marks: 1

On Windows Server network operating system, what is often used to implement and administer some network services like *web server, email server, FTP server*?

Choose one answer.

a. MMC (Microsoft Management Console)

b. **IIS** (Internet Information Services)

c. Hyper-V

d. Active Directory

Question15
Marks: 1

Router command to go to the global configuration mode to modify the running configuration manually from the terminal:

Answer:

configure terminal

Question16

Marks: 1

What is the command to show IP routing table?

Answer: show ip route

Question17

Marks: 1

In which layer does repeater work?

Choose one answer.

a. **Physical** layer

b. Data Link layer

c. Network layer

d. Transport layer

Question18
Marks: 1

Internet-like networks within an enterprise:

Choose one answer.

a. **Intranets**

b. Inter organizational networks

c. Switching alternating

d. Extranets

Question19
Marks: 1

How many fields are there in a header of IPv4 packet?

Choose one answer.

a. 16

b. 15

c. **13**

d. 10

Question20
Marks: 1

Which of the following systems provides circuit switching service?

Choose one answer.

a. postal system (*packet switching*)

b. **telephone system**

Final Exam demo test Part I: THEORY - Attempt 3

Question1

Marks: 1

Which of the following systems provides circuit switching service?

Choose one answer.

a. **telephone system**

b. postal system

Question2
Marks: 1

Which of the following systems provides packet switching service?

Choose one answer.

a. **postal system**

b. telephone system

Question3
Marks: 1

What part of *192.168.10*.51 is the Network ID, assuming a default subnet mask?

Choose one answer.

a. **192.168.10**

b. 51

c. 192

d. 0.0.0.5

Question4
Marks: 1

Internet-like networks within an enterprise:

Choose one answer.

a. Inter organizational networks

b. **Intranets**

c. Extranets

d. Switching alternating

Question5
Marks: 1

Which of the following device is mainly designed to work at Data link layer?

Choose one answer.

a. **Switch**

b. Router

c. Bridge

d. Hub

Question6

Marks: 1

What is default port of SMTP service?

Choose one answer.

a. 53

b. 80

c. **25**

d. 110

Question7
Marks: 1

What is a correct netmask for subnet 192.168.100.128/30

Choose one answer.

a. 255.255.255.240

b. 255.255.255.248

c. 255.255.255.**252**

d. 255.255.255.224

Question8
Marks: 1

Router command to set password "fithanu" to *access privilege mode:*

Answer:

enable passw ord fithanu

Question9

Marks: 1

Which of the following devices is more secure in term of network sniffing?

Choose one answer.

a. **Switch**

b. Hub

Question10
Marks: 1

Router command to go to the global configuration mode to modify the running configuration manually from the terminal:

Answer:

configure terminal

Question11

The communication mode that supports two-way traffic but only one direction at a time is...

Choose one answer.

- a. **half duplex**
- b. simplex
- c. duplex
- d. multiplex

Question12
Marks: 1

In TCP/IP model, process-to-process delivery is in...

Choose one answer.

- a. Data Link layer
- b. **Transport layer**
- c. Network layer
- d. Physical layer

d. Physical layer

Data link layer	Network layer	Transport layer	Application layer
Hop-to-hop delivery	End-to-end (host-to-host) delivery	**Process-to-process delivery**	Provide services to user
Physical addressing	Logical addressing	Port addressing	FTP SMTP

framing	routing	(un)reliable services	Telnet DNS www

Question13
Marks: 1

What can greatly reduce IP address configuration problems?

Choose one answer.

a. **DHCP** Server (dynamic host configuration protocol)

b. WINS Server

c. FTP Server

d. DNS Server

Question14
Marks: 1

Netmask is used to determine:

Choose one answer.

a. An IP address is in the **subnet**

b. An IP address is a server

c. An IP address is a gateway

d. An IP address is a DNS

Question15
Marks: 1

Which layer of OSI determines the interface of the system with the user?

Choose one answer.

a. **Application** layer

b. Network layer

c. Session layer

d. Data Link layer

Question16

Marks: 1

What is the first byte range of a class A network address?

Choose one answer.

a. 1 – 127

b. **0 – 127**

c. 128 – 191

d. 192 – 223

Class	First byte
A	0 - 127
B	128 – 191
C	192 – 223
D	224 – 239
E	240 - 255

Question17
Marks: 1

How to establish a TCP connection?

Choose one answer.

a. 4-way handshake occurs

b. 5-way handshake occurs

c. 2-way handshake occurs

d. 3-way handshake occurs

Question18
Marks: 1

What is default port of HTTP service?

Choose one answer.

a. 53

b. 22

c. **80**

d. 110

Question19
Marks: 1

In VMware, _____ configures your virtual machine to connect directly to the physical network.

Choose one answer.

a. Custom networking

b. Bridge

c. Host-only networking

d. **NAT** (network address translation)

Question20
Marks: 1

You are working with three networks that have the network IDs 192.168.5.0, 192.168.6.0, and 192.168.7.0. What subnet mask can you use to combine these addresses into one?

Answer:

255.255.252.0

Final Exam demo test Part I: THEORY - Attempt 4

Question1

Marks: 1

Which of the following layer protocols (*TCP/IP model*) are responsible for user and the application program support such as *passwords, resource sharing, file transfer and network management?*

Choose one answer.

- a. Layer 4 protocols
- b. Layer 2 protocols
- c. **Layer 5 protocols**
- d. Layer 3 protocols

Question2
Marks: 1

In Wireshark, write the Capture Filter to capture only http and dns packets:

Answer:

http or dns

Question3

Marks: 1

What can be identified by examining the network layer header?

Choose one answer.

- a. **The *destination* host address**
- b. The bits that will be transferred over the media
- c. The source application or process creating the data
- d. The destination device on the local media

Question4
Marks: 1

Which of the following is used to show IP address of a host in Linux operating system?

Choose one answer.

a. ipconfigure

b. ifconfigure

c. ipconfig

d. **ifconfig**

Question5
Marks: 1

Which of the following systems provides packet switching service?

Choose one answer.

a. telephone system

b. **postal system**

Question6

Marks: 1

You have a class A network address 10.0.0.0 with 40 subnets, but are required to add 60 new subnets very soon. You would like to still allow for the largest possible number of host IDs per subnet. Which subnet mask should you assign?

Choose one answer.

a. 255.240.0.0

b. **255.254.0.0**

c. 255.248.0.0

d. 255.252.0.0

Question7
Marks: 1

What is the command to *set up static routing* in Packet tracer?

Choose one answer.

a. **ip route ...**

b. network ...

c. router ...

d. ip address ...

Question8
Marks: 1

What is the first byte range of a class B network address?

Choose one answer.

a. **128 – 191**

b. 1 – 126

c. 192 – 223

d. 0 – 127

Question9
Marks: 1

On which of the following protocols in Transport layer is FTP (File Transfer Protocol) mainly based?

Choose one answer.

a. **TCP**

b. UDP

Question10
Marks: 1

Which of the following device is mainly designed to work at Network layer?

Choose one answer.

a. Repeater

b. **Router**

c. Hub

d. Bridge

Question11

Marks: 1

A distributed network configuration in which all data/information pass through a central computer is...

Choose one answer.

a. Ring network

b. Bus network

c. Point-to-point network

d. **Star network**

Question12
Marks: 1

What is the automated service that matches resource names with the required IP address?

Choose one answer.

a. Telnet

b. SSH

c. **DNS**

d. HTTP

Question13
Marks: 1

How many fields are there in a header of IPv6 packet?

Choose one answer.

a. 7

b. 5

c. 9

d. 12

Question14
Marks: 1

What is a correct netmask for a class A network?

Choose one answer.

a. 255.255.0.0

b. 0.0.0.255

c. 255.255.255.0

d. **255.0.0.0**

Question15
Marks: 1

How many bits are there in an IPv6 network address?

Choose one answer.

a. **128**

b. 16

c. 32

d. 64

Question16

Marks: 1

The communication mode that supports two-way traffic but only one direction at a time is...

Choose one answer.

a. **half duplex**

b. duplex

c. multiplex

d. simplex

Question17
Marks: 1

What is a correct netmask for subnet 192.168.100.128/25?

Choose one answer.

a. 255.255.255.0

b. 255.255.255.**128**

c. 255.255.255.192

d. 255.255.255.250

Question18
Marks: 1

Run command "*ping 10.0.0.2*", which of the following result shows the host 10.0.0.2 is reachable?

Choose one answer.

a. **Reply from 10.0.0.2: bytes=32 time<1ms TTL=64**

b. Default Gateway . . . . . : 10.0.0.2

c. TCP localhost:4078 10.0.0.2:80 ESTABLISHED

d. IP Address . . . . . : 10.0.0.2

Question19
Marks: 1

What is the subnet mask for 10.20.136.0/20?

Answer:

255.255.240.0

Question20

Marks: 1

What is the subnet mask for 10.20.136.0/21?

Answer:

255.255.248.0

Final Exam demo test Part I: THEORY - Attempt 5

Question1

Marks: 1

What is the command to show IP routing table?

Answer:

show ip route

Question2

Marks: 1

Which of the following describes the function of a WAN?

Choose one answer.

- a. provides connectivity on a LAN
- b. connects peripherals in a single location
- c. connects multiple networks in a single building
- d. **provides connectivity over a large geographic area**

Question3
Marks: 1

Which of the following commands is used to test reachability of a remote host?

Choose one answer.

- a. **ping**
- b. tracert

c. nmap

d. nslookup

Question4
Marks: 1

What is the subnet mask for 10.20.136.0/20?

Answer:

255.255.240.0

Question5

Marks: 1

Which of the following layer protocols (*TCP/IP model*) are responsible for user and the application program support such as passwords, resource sharing, file transfer and network management?

Choose one answer.

a. **Layer 5 protocols**

b. Layer 2 protocols

c. Layer 4 protocols

d. Layer 3 protocols

Question6

Marks: 1

Which of the following device is mainly designed to work at Network layer?

Choose one answer.

a. Bridge

b. Repeater

c. Hub

d. **Router**

Question7

Marks: 1

Which of the following TCP/IP protocol is used for transferring electronic mail messages from one machine to another?

Choose one answer.

a. SNMP

b. SMTP

c. OSPF

d. FTP

Question8
Marks: 1

What is a correct netmask for a class A network?

Choose one answer.

a. 0.0.0.255

b. 255.255.255.0

c. 255.255.0.0

d. **255.0.0.0**

Question9
Marks: 1

What is the subnet mask for 10.20.136.0/21?

Answer:

255.255.248.0

Question10

Marks: 1

Which of the following is the address of the router?

Choose one answer.

a. **The default gateway**

b. The IP address

c. The subnet mask

d. The TCP address

Question11

Marks: 1

In which layer does repeater work?

Choose one answer.

a. **Physical layer**

b. Transport layer

c. Network layer

d. Data Link layer

Question12
Marks: 1

What can greatly reduce IP address configuration problems?

Choose one answer.

a. WINS Server

b. FTP Server

c. DNS Server

d. **DHCP Server**

Question13
Marks: 1

What application layer protocol is commonly used to support for file transfers between a client and a server?

Choose one answer.

a. Telnet

b. HTML

c. **FTP**

d. HTTP

Question14
Marks: 1

Which of the following statements are correct about RIP?

Choose one answer.

a. uses a multicast address to update other routers every 90 seconds

b. **will send out an update if there is a failure of a link**

c. uses a broadcast to update all other routers in the network every 60 seconds

d. updates only contain information about routes that have changed since last update

Question15
Marks: 1

What is default port of POP3 service?

Choose one answer.

a. 25

b. 53

c. 80

d. **110**

Question16

Marks: 1

What is default port of SMTP service?

Choose one answer.

a. 110

b. 53

c. 25

d. 80

Question17
Marks: 1

In TCP/IP model, which of the following information belongs to the Data link layer?

Choose one answer.

a. Logical address

b. MAC address

c. IP address

d. Port number

Question18
Marks: 1

Which type of cable is often used to connect a computer and a switch?

Choose one answer.

a. Straight-through cable

b. Optical fiber cable

c. Cross-over cable

d. Coaxial cable

Question19
Marks: 1

Which layer of OSI determines the interface of the system with the user?

Choose one answer.

a. Data Link layer

b. **Application layer**

c. Session layer

d. Network layer

Question20
Marks: 1

How many IPs can be used to assign to desktop PCs in subnet 192.168.5.0/29?

Choose one answer.

a. 14

b. 6

c. 2

d. 8

Final Exam demo test Part I: THEORY - Attempt 6

Question1

Marks: 1

You are working with a network that has the network ID 192.168.10.0. What subnet should you use that supports up to 25 hosts and a maximum number of subnets?

Answer:

255.255.255.224

Question2

Marks: 1

What does VLAN stand for?

Choose one answer.

a. **Virtual LAN**

b. Variable LAN

c. Vector LAN

d. Video LAN

Question3
Marks: 1

_____ is a security scanner used to discover computers and services on a computer network.

Choose one answer.

a. ping

b. netstat

c. tracert

d. **nmap**

Question4
Marks: 1

Which of the following device is mainly designed to work at Network layer?

Choose one answer.

a. **Router**

b. Hub

c. Bridge

d. Repeater

Question5
Marks: 1

_____ displays network connections (both *incoming* and *outgoing*), routing tables, and a number of network interface statistics.

Choose one answer.

- a. nmap
- b. tracert
- c. **netstat**
- d. DNS

Question6

Marks: 1

Which of the following protocols uses distance vector routing algorithm?

Choose one answer.

- a. OSPF
- b. BGP
- c. EGP
- d. **RIP**

Question7
Marks: 1

Which layer of OSI determines the interface of the system with the user?

Choose one answer.

- a. Network layer
- b. Session layer
- c. **Application layer**
- d. Data Link layer

Question8
Marks: 1

In VMware, _____ configures your virtual machine to share the IP and MAC addresses of the host.

Choose one answer.

- a. Bridge networking
- b. Custom networking
- c. **NAT**
- d. Host-only networking

Question9
Marks: 1

How many IPs can be used to assign to destop PCs in subnet 192.168.5.0/29?

Choose one answer.

- a. 8
- b. 2
- c. 14
- d. **6**

Question10
Marks: 1

On which layer does FTP work?

Choose one answer.

- a. Network layer
- b. Transport layer
- c. Data Link layer
- d. **Application layer**

Question11

Marks: 1

What is the socket address?

Choose one answer.

- a. IP address
- b. MAC address + Port number
- c. **IP address + Port number**
- d. Port number

Question12
Marks: 1

Which of the following is used to show IP address of a host in Linux operating system?

Choose one answer.

- a. **ifconfig**
- b. ipconfig
- c. ipconfigure
- d. ifconfigure

Question13
Marks: 1

When you ping the loopback address, where is a packet sent?

Choose one answer.

- a. On the network
- b. **Down through the layers of the IP architecture and then up the layers again**
- c. Through the loopback dongle
- d. Across the wire

Question14
Marks: 1

What is a correct netmask for subnet 192.168.100.128/29

Choose one answer.

a. 255.255.255.224

b. 255.255.255.240

c. 255.255.255.**248**

d. 255.255.255.252

Question15
Marks: 1

Which type of cable is often used to connect a router and a switch?

Choose one answer.

a. **Straight-through cable**

b. Coaxial cable

c. Cross-over cable

d. Optical fiber cable

Question16

Marks: 1

A *distributed network configuration* in which all data/information pass through a central computer is...

Choose one answer.

a. Point-to-point network

b. Ring network

c. **Star network**

d. Bus network

Question17
Marks: 1

Switch command to show VLANs information:

Answer:

show vlan

Question18

Marks: 1

What is the subnet mask for 10.20.136.0/20?

Answer:

255.255.240.0

Question19

Marks: 1

Which address is the loopback address?

Choose one answer.

- a. 255.255.255.255
- b. **127.0.0.1**
- c. 127.0.0.0
- d. 0.0.0.1

Question20
Marks: 1

Which of the following describes the function of a WAN?

Choose one answer.

- a. connects peripherals in a single location
- b. connects multiple networks in a single building
- c. provides connectivity on a LAN
- d. **provides connectivity over a large geographic area**

Final Exam demo test Part I: THEORY - Attempt 7

Question1

Marks: 1

What is the first byte range of a class C network address?

Choose one answer.

- a. 0 – 127
- b. 1 – 126
- c. 128 – 191
- d. **192 – 223**

Question2
Marks: 1

How far can a twisted pair cable be extended?

Choose one answer.

- a. 100km
- b. 50km
- c. **100m**
- d. 5km

Question3
Marks: 1

In TCP/IP model, which of the following information belongs to the Data link layer?

Choose one answer.

- a. Logical address
- b. IP address
- c. **MAC address**

d. Port number

Question4
Marks: 1

What is the subnet mask for 10.20.136.0/21?

Answer:

255.255.248.0

Question5

Marks: 1

Router command to set password "fithanu" to access privilege mode:

Answer:

enable passw ord fithanu

Question6

Marks: 1

Which of the following TCP/IP protocol is used for transferring electronic mail messages from one machine to another?

Choose one answer.

a. FTP

b. OSPF

c. SMTP

d. SNMP

Question7
Marks: 1

The communication mode that supports two-way traffic but only one direction at a time is...

Choose one answer.

a. multiplex

b. simplex

c. duplex

d. **half duplex**

Question8
Marks: 1

What is the command to restart Apache2 web server on Ubuntu Linux?

Choose one answer.

a. **sudo /etc/init.d/apache2 restart**

b. su /etc/init.d/apache2 restart

c. sudo /etc/init.d/apache2 start

d. su /etc/init.d/apache2 start

Question9
Marks: 1

What is the automated service that matches resource names with the required IP address?

Choose one answer.

a. **DNS**

b. HTTP

c. Telnet

d. SSH

Question10
Marks: 1

How many bits are there in an IPv6 network address?

Choose one answer.

a. 64

b. 16

c. 32

d. **128**

Question11

Marks: 1

What is the socket address?

Choose one answer.

a. **IP address + Port number**

b. MAC address + Port number

c. IP address

d. Port number

Question12
Marks: 1

What is a correct netmask for subnet 192.168.100.128/26?

Choose one answer.

a. 255.255.255.0

b. 255.255.255.**192**

c. 255.255.255.224

d. 255.255.255.128

Question13
Marks: 1

Which of the following device is mainly designed to work at Data link layer?

Choose one answer.

a. Router

b. Bridge

c. **Switch**

d. Hub

Question14
Marks: 1

Router command to go to the global configuration mode to modify the running configuration manually from the terminal:

Answer:

configure terminal

Question15

Marks: 1

What does VLAN stand for?

Choose one answer.

a. Video LAN

b. **Virtual LAN**

c. Variable LAN

d. Vector LAN

Question16

Marks: 1

What is the command to set up static routing in Packet tracer?

Choose one answer.

a. ip address ...

b. **ip route ...**

c. router ...

d. network ...

Question17

Marks: 1

What part of 192.168.10.51 is the Network ID, assuming a default subnet mask?

Choose one answer.

- a. 51
- b. **192.168.10**
- c. 0.0.0.5
- d. 192

Question18
Marks: 1

What is default port of FTP service?

Choose one answer.

- a. **21**
- b. 53 (DNS)
- c. 25
- d. 80

Question19
Marks: 1

Which of the following is used to show IP address of a host in Linux operating system?

Choose one answer.

- a. ipconfig
- b. ifconfigure
- c. ipconfigure
- d. **ifconfig**

Question20
Marks: 1

What is default port of DNS service?

Choose one answer.

- a. 20
- b. 22
- c. **53**
- d. 21 (FTP)

FTP : 21

DNS: 53

HTTP: 80

Final Exam demo test Part I: THEORY - Attempt 8

Question1

Marks: 1

What is default port of HTTP service?

Choose one answer.

- a. **80**
- b. 110
- c. 22
- d. 53 (DNS)

Question2

Marks: 1

Router command to change Router's name to *FIT-HANU*:

Answer:

```
hostname FIT-HANU
```

Question3

Marks: 1

Which of the following commands is used to test reachability of a remote host?

Choose one answer.

- a. **ping**
- b. tracert
- c. nmap
- d. nslookup

Question4
Marks: 1

Which of the following services is connection-oriented?

Choose one answer.

- a. UDP (user datagram protocol)
- b. **TCP**

Question5
Marks: 1

What is the purpose of the TTL field in the IP header?

Choose one answer.

- a. **limits the time or hops that a packet can traverse through the network before it should be discarded**
- b. used to mark routes as unreachable in updates sent to other routers
- c. defines a maximum metric value for each distance vector routing protocol by setting a maximum hop count
- d. prevents a router from advertising a network through the interface from which the update came
- e. prevents regular update messages from reinstating a route that may have gone bad

Question6

Marks: 1

The purpose of this equipment is to *convert* analog signals into digital signals and vice versa to be *transmitted* over a computer network.

Choose one answer.

- a. Repeater
- b. Hub
- c. Switch
- d. **Modem**

Question7
Marks: 1

In UDP, the receiver merges the data based on...

Choose one answer.

- a. Sequence number
- b. Port number
- c. Acknowledgement number
- d. **Arriving order**

Question8
Marks: 1

Which of the following protocols is used as inter-AS routing?

Choose one answer.

- a. OSPF
- b. RIP
- c. PGP
- d. **BGP**

Question9
Marks: 1

Proxy servers work on _____ of the OSI model.

Choose one answer.

- a. Data Link layer
- b. **Application layer**
- c. Network layer
- d. Transport layer

Question10
Marks: 1

How far can a twisted pair cable be extended?

Choose one answer.

- a. 5km
- b. 100km
- c. **100m**
- d. 50km

Question11

Marks: 1

What is the subnet mask for 10.20.136.0/21?

Answer:

255.255.248.0

Question12

Marks: 1

Which layer of OSI determines the interface of the system with the user?

Choose one answer.

- a. **Application layer**

b. Session layer

c. Data Link layer

d. Network layer

Question13
Marks: 1

What is the command to show IP routing table?

Answer:

show ip route

Question14

Marks: 1

Internet-like networks within an enterprise:

Choose one answer.

a. Extranets

b. Inter organizational networks

c. Switching alternating

d. **Intranets**

Question15
Marks: 1

Which of the following commands is used to *download* and *install* DHCP server (*dhcp3-server*) on Ubuntu Linux?

Choose one answer.

a. **sudo apt-get install dhcp3-server**

b. sudo /etc/init.d/ dhcp3-server start

c. sudo app-get install dhcp3-server

d. sudo get install dhcp3-server

Question16

Marks: 1

What is a correct netmask for subnet 192.168.100.128/25?

Choose one answer.

- a. 255.255.255.0
- b. 255.255.255.250
- c. 255.255.255.192
- d. 255.255.255.**128**

Question17
Marks: 1

What is a correct netmask for a class C network?

Choose one answer.

- a. 255.255.0.0
- b. **255.255.255**.0
- c. 255.0.0.0
- d. 0.0.0.255

Question18
Marks: 1

How many IPs can be used to assign to destop PCs in subnet 192.168.5.0/30?

Choose one answer.

- a. 2
- b. 4
- c. 8
- d. 6

/29: 6
/30: 2

Question19
Marks: 1

What is default port of FTP service?

Choose one answer.

- a. 80 (HTTP)
- b. **21**
- c. 25
- d. 53 (DNS)

Question20
Marks: 1

Intranets and extranets can use their network fire walls and other security features to establish secure Internet links within an enterprise or with its trading partners. Select the best fit for answer:

Choose one answer.

- a. Network Operating System
- b. **Virtual Private Network**
- c. Network Server
- d. OSI

Final Exam demo test Part I: THEORY - Attempt 9

Question1

Marks: 1

Which of the following TCP/IP protocol is used for transferring electronic mail messages from one machine to another?

Choose one answer.

a. OSPF

b. FTP

c. **SMTP**

d. SNMP

Question2
Marks: 1

Given this network: 204.15.5.0/26. How many hosts are available for this network?

Choose one answer.

a. 60

b. 62

$2^6 - 2$

c. 44

d. 30

Question3
Marks: 1

Which of the following systems provides circuit switching service?

Choose one answer.

a. **telephone system**

b. postal system

Question4
Marks: 1

Router command to go to the global configuration mode to modify the running configuration manually from the terminal:

Answer:

configure terminal

Question5

Marks: 1

_____ displays network connections (both *incoming* and *outgoing*), routing tables, and a number of network interface statistics.

Choose one answer.

- a. **netstat**
- b. DNS
- c. nmap
- d. tracert

Question6

Marks: 1

What is the subnet mask for 10.20.136.0/21?

Answer:

255.255.248.0

Question7

Marks: 1

What is a correct netmask for subnet 192.168.100.128/30

Choose one answer.

- a. 255.255.255.248
- b. 255.255.255.**252**
- c. 255.255.255.224
- d. 255.255.255.240

Question8

Marks: 1

On Windows Server network operating system, what is often used to implement and administer some network services like web server, email server, FTP server?

Choose one answer.

a. Active Directory

b. MMC (Microsoft Management Console)

c. Hyper-V

d. **IIS (Internet Information Services)**

Question9
Marks: 1

What is the automated service that matches resource names with the required IP address?

Choose one answer.

a. HTTP

b. **DNS**

c. Telnet

d. SSH

Question10
Marks: 1

The correct order of layers in OSI model is...

Choose one answer.

a. Physical layer, Network layer, Data Link layer, Session layer, Transport layer, Presentation layer, Application layer

b. Physical layer, Data Link layer, Network layer, Presentation layer, Application layer, Session Layer, Transport layer

c. Physical layer, Data Link layer, Network layer, Transport layer, Session layer, Presentation layer Application layer

d. Physical layer, Session layer, Data Link layer, Transport layer, Presentation, Network layer, Application layer

Application

Presentation

Session

Transport

Network

Data link

Physical

Question11

Marks: 1

What is default port of IMAP service?

Choose one answer.

a. 443

b. 110 (POP3)

c. 80 (HTTP)

d. **143**

Question**12**

Marks: 1

How many bits are there in an IPv6 network address?

Choose one answer.

a. 64

b. 32

c. 16

d. **128**

Question**13**

Marks: 1

What is the first byte range of a class C network address?

Choose one answer.

a. 128 – 191

b. 0 – 127

c. **192 – 223**

d. 1 – 126

Question**14**
Marks: 1

What is the command to set up static routing in Packet tracer?

Choose one answer.

a. router ...

b. **ip route ...**

c. ip address ...

d. network ...

Question**15**
Marks: 1

How many fields are there in a header of IPv6 packet?

Choose one answer.

a. **7**

b. 9

c. 5

d. 12

Question16

Marks: 1

What is the subnet mask for 10.20.136.0/20?

Answer:

255.255.240.0

Question17

Marks: 1

ICMP (Internet Control Message Protocol) is...

Choose one answer.

- a. **a protocol that handles error and control messages**
- b. a TCP/IP protocol used to dynamically bind a high level IP Address to a low-level physical hardware address
- c. a protocol used to monitor computers
- d. a TCP/IP high level protocol for transferring files from one machine to another

Question18
Marks: 1

A *distributed* *network configuration* in which all data/information pass through a central computer is...

Choose one answer.

- a. Bus network
- b. Point-to-point network
- c. Ring network
- d. **Star network**

Question19
Marks: 1

What is default port of Telnet service?

Choose one answer.

- a. **23**
- b. 53 (DNS)
- c. 22

d. 21 (FTP)

Question20
Marks: 1

Which of the following statements are correct about RIP?

Choose one answer.

a. uses a broadcast to update all other routers in the network every 60 seconds

b. uses a multicast address to update other routers every 90 seconds

c. **will send out an update if there is a failure of a link**

d. updates only contain information about routes that have changed since last update

Final Exam demo test Part I: THEORY - Attempt 10

Question1

Marks: 1

In VMware, _____ configures your virtual machine to share the IP and MAC addresses of the host.

Choose one answer.

a. **NAT**

b. Custom networking

c. Bridge networking

d. Host-only networking

Question2
Marks: 1

Identify the odd term amongst the following group:

Choose one answer.

a. **Microwaves**

b. Coaxial cable

c. Twisted pair wire

d. Optical fiber cable

Question3
Marks: 1

Which of the following TCP/IP protocol is used for transferring electronic mail messages from one machine to another?

Choose one answer.

a. FTP

b. SNMP

c. OSPF

d. **SMTP**

Question4
Marks: 1

You are working with three networks that have the network IDs 192.168.5.0, 192.168.6.0, and 192.168.7.0. What subnet mask can you use to combine these addresses into one? 255.255.252.0

Answer:

255.255.252.0

Question5

Marks: 1

What is default port of HTTPS service?

Choose one answer.

a. 443

b. **80**

c. 110

d. 143

Question6

Marks: 1

How to establish a TCP connection?

Choose one answer.

a. 4-way handshake occurs

b. 2-way handshake occurs

c. 3-way handshake occurs

d. 5-way handshake occurs

Question7
Marks: 1

Run command "*ping 10.0.0.2*", which of the following result shows the host 10.0.0.2 is reachable?

Choose one answer.

a. Default Gateway . . . . . : 10.0.0.2

b. IP Address . . . . . : 10.0.0.2

c. TCP localhost:4078 10.0.0.2:80 ESTABLISHED

d. Reply from 10.0.0.2: bytes=32 time<1ms TTL=64

Question8
Marks: 1

What is the subnet mask for 10.20.136.0/20?

Answer:

255.255.240.0

Question9

Marks: 1

Which type of cable is often used to connect 2 routers together?

Choose one answer.

a. Coaxial cable

b. Straight-through cable

c. **Cross-over cable**

d. Optical fiber cable

Question10
Marks: 1

What is default port of SMTP service?

Choose one answer.

a. 110 (POP3)

b. 25 **(SMTP)**

c. 53 (DNS)

d. 80 (HTTP)

Question11

Marks: 1

In TCP/IP model, which of the following information belongs to the Transport layer?

Choose one answer.

a. IP address

b. **Port number**

c. MAC address

d. Physical address

Question12
Marks: 1

What can be identified by examining the network layer header?

Choose one answer.

a. **The destination host address**

b. The destination device on the local media

c. The bits that will be transferred over the media

d. The source application or process creating the data

Question13
Marks: 1

What is a correct netmask for subnet 192.168.100.128/27?

Choose one answer.

a. 255.255.0.0

b. 255.255.255.**224**

c. 255.255.255.128

d. 255.255.255.240

Question14
Marks: 1

What application layer protocol is commonly used to support for file transfers between a client and a server?

Choose one answer.

a. Telnet

b. **FTP**

c. HTTP

d. HTML

Question15
Marks: 1

What is the command to set up static routing in Packet tracer?

Choose one answer.

a. ip address ...

b. router ...

c. **ip route ...**

d. network ...

Question16

Marks: 1

Non adaptive algorithm is used in...

Choose one answer.

a. Link state routing protocols

b. Dynamic routing protocols

c. **Static routing protocols**

d. Distance vector routing protocols

Question17
Marks: 1

The correct order of layers in TCP/IP model is...

Choose one answer.

a. Physical layer, Data Link layer, Network layer, Application layer, Transport layer

b. Physical layer, Data Link layer, Network layer, Transport layer, Application layer

c. Physical layer, Network layer, Data Link layer, Transport layer, Application layer

d. Physical layer, Data Link layer, Transport layer, Network layer, Application layer

Application

Presentation

Session

Transport

Network

Data link

Physical

Question18
Marks: 1

Which of the following commands is used to download and install DHCP server (dhcp3-server) on Ubuntu Linux?

Choose one answer.

a. sudo /etc/init.d/ dhcp3-server start

b. sudo app-get install dhcp3-server

c. sudo get install dhcp3-server

d. **sudo apt-get install dhcp3-server**

Question19
Marks: 1

What is the subnet mask for 10.20.136.0/21?

Answer:

255.255.248.0

Question20

Marks: 1

_____ is a security scanner used to discover computers and services on a computer network.

Choose one answer.

a. ping

b. netstat

c. **nmap**

d. tracert

36. Which layer **encapsulates** the segment into packets?

A. Network layer

B. Data Link layer

C. Physical layer

D. Transport layer

37. **In TCP/IP model, node-to-node delivery is in...**

A. Physical Layer

B. Data Link layer (hop-to-hop)

C. Network layer (host-to-host/ end-to-end)

D. Transport layer (process-to-process)

52. **The physical layout of a computer network is known as...**

A. Protocol

B. Topology

C. Backbone

D. Segment

1. **Frames from one LAN can be transmitted to another LAN via the device**

A. Bridge

B. Router

C. Repeater

D. Modem

10. **The slowest transmission speeds are those of**

A. twisted-pair wire

B. coaxial cable

C. fiber-optic cable

D. microwaves

13. **What device separates a single network into two segments but lets the two segments appear as one to higher protocols?**

A. Switch

B. Bridge

C. Gateway

D. Router

17. **Which of the following statement is incorrect?**

A. The Addresses Resolution Protocol, ARP, allows a host to find the physical address of a target host on the same physical network, given only the target IP address.

B. The sender's IP - to- physical address binding is included in every ARP broadcast; receivers update the IP-to-Physical address binding information in their cache before processing an ARP packet.

C. ARP is a low-level protocol that hides the underlying network physical addressing, permitting us to assign IP-addresses of our choice to every machine.

D. All of the above

E. None of the above

26. **Because the configuration infor-mation for a DHCP client is received dynamically, you must use which utility to read the current configuration to verify the settings?**

A. ping

B. tracert

C. ARP

D. ipconfig

Which of the following devices is more secure interm of network sniffing?
Choose one answer.

a. **switch**

b. hub

Which of the following services is connectionless?

a. TCP (connection-oriented) b. **UDP**

Which of the following protocols uses link state routing algorithm?

a. RIP **b. OSPF(IS-IS)** c. BGP

In VMware, _____ configures your virtual machine to share the IP and MAC addresses of the host.

a. Bridge networking b. Custom networking c. Host-only networking **d. NAT**

What can be identified by examining the network layer header?

a. The destination device on the local media

b. **The destination host address**

c. The bits that will be transferred over the media

d. The source application or process creating the data

What is the address range of a class C network address?

a. 0 – 127 b. 1 – 126 c. 128 – 191 **d. 192 – 233**

In TCP/IP model, which header is added to the *application* data first?

a. physical layer header b. data link layer header

c. network layer header **d. *transport* layer header**

What is class B a correct netmask for a network?

a. 255.0.0.0 **b. 255.255.0.0** c. 255.255.255.0 d. 255.255.255.255

Which of the following commands shows the path from local host to a remote host?

a. ipconfig b. ping c. nmap **d. tracert**

How many IP can be used to assign to destop PC in subnet 192.168.5.0/30?

a. **2** b. 4 c. 6 d. 8

Which of the following is used to show IP addess in Windows operating system?

a. ifconfigure b. ipconfigure c. ifconfig **d. ipconfig**

What is the subnet mask of this network: 172.16.0.0/26?

Select one:

- a. 255.255.248.0
- b. 255.255.255.252
- c. 255.255.254.0
- d. 255.255.255.**192**
- e. 255.255.252.0
- f. 255.255.255.224
- g. 255.255.255.248
- h. 255.255.255.240
- i. 255.255.240.0
- j. 255.255.255.0
- k. 255.255.255.128

Which network topology allows all traffic to flow through a central hub?

Select one:

- a. hybrid
- b. ring
- c. **star**
- d. bus
- e. Mesh

The slowest transmission speeds are those of...

Select one:

- a. fiber-optic cable
- b. microwaves
- c. coaxial cable
- d. twisted-pair wire

Internet-like networks within an enterprise.

Select one:

- a. Intranets
- b. Extranets
- c. Switching alternating
- d. Inter organizational networks

Which class does this IP address, 191.168.0.1, belong to?

Select one:

- a. Class C
- b. Class D
- c. Class A
- d. Class B

What is the first IP address of this network: 172.16.66.0/21?

Select one:

- a. 172.16.12.0
- b. 172.16.0.0
- c. 172.16.36.0
- d. 172.16.48.0
- e. 172.16.66.0
- f. 172.16.64.0 (1000000)

How many valid hosts can be assigned to this network: 192.168.192.10/29 ?

Select one:

- a. 64
- b. 7
- c. 30
- d. 8
- e. 63
- f. 14
- g. 62
- h. 15
- i. 32
- j. **6**
- k. 16
- l. 31

/30: 2

Routing is to find the path for the packet basing on…?

Select one:

- a. Socket address
- b. **IP address**
- c. Port number
- d. MAC address

Match the following:

1. **Segments** (Transport)

2. Packets (network)

3. Frames (data link)

A. Associated with Data Link Layer (frames)

B. Associated with Network Layer (packets)

C. Associated with Transport Layer (Segment)

Select one:

- a. 1->A; 2->B; 3 ->C
- b. 1->A; 2->C; 3 ->B
- c. 1->C; 2->B; 3 ->A
- d. 1->C; 2->A; 3->B
- e. 1->A; 2->C; 3 ->B

Write router command to display the running configuration:

Answer: show running-config(uration)

Write router command to go to the privilege mode:

Answer: enable

Routing is to find the path for the packet basing on...

Select one:

- a. **IP address**
- b. MAC address
- c. Socket address
- d. Port number

Routing is to find the path for the packet basing on...

Select one:

- a. Static routing protocols
- b. Dynamic routing protocols
- c. Distance vector routing protocols
- d. **Link state routing protocols**

What is the maximum number of IP addresses that can be assigned to hosts on a local subnet that uses the 255.255.255.224 subnet mask?

Select one:

- a. 16
- b. 31
- c. 62
- d. 63
- e. 32
- f. 14
- g. 15
- h. 64
- i. **30**

Which layer in the OSI reference model is responsible for determining the availability of the receiving program and checking to see if enough resources exist for that communication?

Select one:

- a. transport
- b. session
- c. **application**
- d. presentation
- e. network

What is the first IP of this network: 172.16.45.14/30?

Select one:

- a. 172.16.45.4
- b. 172.16.45.0
- c. 172.16.45.**12** (1100)
- d. 172.16.45.14
- e. 172.16.45.8

Match the following:

A. Repeaters (1 physical)

B. Bridges (2 data link)

C. Routers (3 network)

1. Data Link Layer (bridges)

2. Network Layer (routers)

3. Physical Layer (repeaters)

Select one:

- a. A -> 1, B -> 3, C -> 2
- b. A -> 3, B -> 1, C -> 2
- c. A -> 2, B -> 3, C -> 1
- d. A -> 3, B -> 2, C -> 1
- e. A -> 1, B -> 2, C -> 3

What is a correct netmask for subnet 192.168.100.128/30?

a. 255.255.255.0 b. 255.255.255.240 c. 255.255.255.248 **d. 255.255.255.252**

If you ping fit.hanu.vn first time, the first packet will be sent to…
Choose one answer.

- a. DHCP server
- b. Web server
- c. Gateway
- d. **DNS server**

1.**What is the correct order for the OSI model**?
P=Presentation, S=Session, D=Datalink, Ph=Physical, T=Transport, A= Application, N=Network

A. P S A PH D N T presentation session …

B. A P S T N D PH
C. PH D N T A S P physical data link network transport application…
D. P S A T N D PH presentation…

Answer B. It is crucial you not only memorize this and know what each layer does.

Application
Presentation
Session
Transport
Network
Data link
Physical

2. What is encapsulation?

A. Putting the header on an incoming frame
B. Putting a header on an incoming segment
C. Putting a header on an outgoing frame
D. Putting a header on an outgoing bit

Answer C. This also includes trailers and can be put on segments (transport), packets(network), and frames(data link).

3. **Which layer is most concerned with user applications?**

A. **Application**
B. Presentation
C. Network
D. Physical

Answer A.

4. Which of the following is de-encapsulation?

A. **Stripping the header *from* a frame**
B. Putting a header on a segment
C. Putting a header on a frame
D. Stripping a frame from a link

Answer A. This also includes trailers as in question 2.

5. **What layer converts data into segments?**

A. Application
B. Presentation
C. **Transport**
D. Physical

Answer C.

6. **What layer converts data into Packets?**

A. **Network**
B. Application
C. Physical
D. Data Link

Answer A.

7. **What layer converts data into Frames?**

A. Application
B. Physical
C. **Data Link**
D. Transport

Answer C.

8. **What layer converts data into bits?**

A. Application
B. Session
C. Data Link
D. Physical

Answer D. All of the layers need to convert data into something that they can pass down to the next level, with the exception of the Application layer which hands data to the Presentation layer. The Presentation layer encrypts, and compresses before sending it to the Session layer for it's first conversion.

9. **Which layer is most concerned with getting data from the beginning to the final destination?**

A. Application
B. Presentation
C. Session
D. **Transport** (reliable) - port

Answer D. The transport layer is most concerned with reliable transportation from one end to the other.

10. **Which of the following is not a part of the Session layer?**

A. Establishing a session
B. **Ensuring error free segments** (transport)
C. Ending a session
D. Keeping the sender and receiver from sending a message at the same time

Answer B. That is the job of the Transport layer.

11. **Which of the following is not a job for the presentation layer?** Choose 2

A. Data representation
B. Compression
C. **Dialog management** (session)
D. **Transmission** (transport)
E. Encryption

Answer C D. C is handled by the session layer, and D is handled by the Transport layer

12. **What does Peer to Peer communication involve?**

A. Each layer communication with the layer below it
B. Each layer communication with layer above it
C. Each layer communicating with adjacent layer in another system
D. **Each layer communication with it's corresponding layer in another system**

Answer D. Answer C sounds correct also, but adjacent and corresponding are two different things. The session layer can only communicate with the session layer in another system for example.

13. **Why does the industry use a layered model?** Choose all correct

A. **When you enhance one layer it doesn't affect the other layers**
B. **Design and development can be made in a modular fashion**
C. **Network operations can be simplified**
D. **Troubleshooting can be simplified.**

Answer A B C D.

14. **Which two of the following are not from the physical layer?**

A. **SDLC** (data link)
B. V.35
C. HSSI
D. **ISDN** (data link)
E. RS-232

Answer A D. SDLC and ISDN are WAN protocols that function at the data link layer

15. **Which two answers are functions of the OSI model"s network layer**?

A. Sequencing of frames
B. **Path determination**
C. **Packet switching**
D. Packet sequencing

Answer B C. Sequencing is done at the data link layer. D is fictional.

16. **What is an example of a MAC address?**

A. Az32:6362:2434
B. Sj:2817:8288
C. GGG:354:665
D. **A625:cbdf:6525**

Answer D. The address is a 48 bit address which requires 12 Hex digits. A hex digit can't be past the letter F. Hex stands for 16. 1-9 and A-F make up numbers that are valid.

17. Which of the following is not part of the data link layer?

A. Transports data across the physical link
B. Performs physical addressing
C. Performs flow control
D. Determines network topology
E. **Terminates a session** (session)

Answer E. This is part of the session layer

18. **Which of the following are data link protocols?**

A. **HDLC**
B. FTP (session)
C. SQL (session)
D. **ISDN**
E. **Token Ring**

Answer A D E. FTP is an application and SQL is a session layer protocol.

19. **Of the following address AA77:3827:EF54, which of the following is the vendor portion?**

A. **AA7738**
B. 27EF54
C. AA77
D. EF54

Answer A. The vendor code is how you can tell who made the card. The last 6 digits are the physical address.

20. **Which of the following are examples of layer 3 addressing?**

A. **165.33.4.34** (TCP IP)
B. **AA77:3827:EF54** (IP X)
C. HHHH:hg:7654
D. 76

Answer A B. The first is a TCPIP address and the second is an IPX address

21. **What is considered Layer 3 addressing?**

A. Data Link Layer
B. **Network Layer**
C. Application Layer
D. None of these

Answer B. Physical is Layer 1, then data link, and then Network. This is the same layer that routers are on.

22. **What layer are Bridges on?**

A. **Data Link**
B. Physical (repeaters)
C. Application
D. Transport

Answer A. Bridges segment networks but are not able to determine addresses like the network layer does.

23. **Repeaters are on what layer?**

A. Transport
B. Session
C. **Physical**
D. Application

Answer C. All repeaters can do is boost a signal. An active hub is a good example of a repeater. A switching hub is a good example of layer 3 addressing, since switches go by network addresses and IPX addresses rather than just boost signals. Bridges can only read mac addresses, and not the full IPX or TCPIP addresses.

24. **Which of the following are considered routing protocols?**

A. **OSPF** (do the routing)
B. IP (routed protocol)
C. IPX (routed protocol)
D. **EIGRP** (do the routing)
E. Token Ring

Answer A D. Answers B and C are routed protocols, whereas A and D are the protocols that do the routing. This is easily confused. You can remember it by thinking that the routing protocols that haul the routed protocols are like a tug ship pulling a barge. The barge is full of data.

25. **Which two of the following are considered connection oriented communication?**

A. **Setup and maintenance procedures are performed to ensure message delievery**
B. A physical circuit exists between two communicating devices
C. It is a best effort type of communication
D. **A virtual connection exists between the two**

Answer A D. B is not a necessity, and C is not accurate. TCP is connection oriented and UDP is not.

26. **Which of the following are not WAN protocols?** Choose 2

A. Frame Relay
B. ATM
C. **Ethernet** (LAN)
D. **FDDI** (LAN)
E. ISDN

Answer C D. Ethernet and FDDI are LAN protocols.

27. **Which of the following will allow you to view NVRAM's contents?**

A. **show configuration**
B. show protocols (RAM)
C. show version (RAM)
D. show running-config (RAM)
E. **show startup-config**

Answer A E. These show the backup configuration stored in NVRAM. The other anwsers allow youto view RAM.

28. **Which of the following contains the OS image?**

A. **Flash (ROM)**
B. NVRAM (backup configuration)
C. RAM (active configuration)
D. Interfaces

Answer A. ROM will be used if Flash is unavailable. NVRAM is the backup configuration, and RAM is the active configuration

29. **Which of the following indicates the router is in privilege mode?**

A. **Router#**
B. Router> (user mode)
C. Router-
D. Router*

Answer A. Answer B shows the router in user mode.

30. **What does "show cdp neighbors" not show? Neighbors_____**

A. device id
B. hardware platform
C. **ios version**
D. port type and number

Answer C.

31. **Which of the following will show you the clock?**

A. cl?
B. Cl ?
C. Clock?
D. **Clock ?**

Answer D. By typing this the router will finish the command and show the clock.

32. **CDP operates at which layer?**

A. Transport
B. Network
C. **Data link**
D. Physical

Answer C. CDP allows a network device to exchange frames with other directly connected networked devices.

33. **Which command does not show two devices are not routing packets between them successfully?**

A. **ping**
B. show interface
C. **trace**
D. **telnet**

Answer A C D. With these commands you can tell whether or not you have communication. Show interface just verifies there is a connection

34. **What keystrokes shows the possible commands in privilege mode?**

A. help
B. h
C. ctrl+h
D. **?**

Answer D. Answers A and B will give a brief description when typed, and C is not valid.

35. **Which two items contain versions of the router's configuration file?**

A. flash (OS)
B. **nvram**
C. **ram**
D. rom (OS)

Answer B C. A and D contain the OS.

36. **Which of the following commands will allow youto review the contents of RAM?**

A. show configuration (NVRAM)
B. **show protocols**
C. **show version**
D. **show running-config**
E. show startup-config (NVRAM)

Answer B C D. A and D allow you to see NVRAM.

37. **Which of the following will allow you to add, modify, or delete commands in the *startup* configuration file?**

A. show startup-config
B. show running-config
C. configure terminal (**running** configuration file)
D. **configure memory**

Answer D. Answer C allows you to change items in the running configuration file

38. **Which command would be used to restore a configuration file to RAM?**
_____**TFTP running-config**

A. **router#copy**
B. router>copy
C. router*copy
D. router^copy

Answer A. You must be in privilege mode when executing this, which is why you see the # sign.

39. **Which of the following commands will *display* the running configuration file to a terminal?**

A. **show running-config**
B. show router-config
C. router#show flash
D. router>show version

Answer A. It can only be shown in privilege mode.

40. **If you need to copy the currently executing configuration file into NVRAM, which command would you use?**

A. router#copy startup-config running-config
B. router#copy startup-config TFTP
C. **router#copy running-config startup-config**
D. router>copy startup-config running-config

Answer C. Answers ABC show that the router is in privilege mode which is necessary to complete this action, but only C shows the correct syntax.

41 **Which of the following commands would not set a password on a Cisco router?**

A. router(config)#enable secret
B. router(config-line)#password test
C. **router(config)#service encryption password** (encrypt)
D. router(config)#enable password

Answer C. This command is used to encrypt passwords in configuration files.

42. **Which of the following would cause a router to boot into the initial configuration dialog after powering has cycled?**

A. Someone had copied the startup configuration file in a TFTP server
B. The running configuration file was copied to the startup configuration file
C. **It is the first time router has ever been turned on**
D**. The write erase command was executed immediately before powering down the router.**

Answer C and D. These two scenarios describe what will happen when the router needs to use NVRAM to boot if it cannot find the configuration file.

43. **What would cause a router to boot from ROM?**

A. 0x3202
B. 0x2302
C**. 0x2101**
D. 0x2103

Answer C. A configuration register of 1 or 0 will cause the router to boot from ROM.

44. **Where does the running config file exist?**

A. NVRAM
B. ROM
C. **RAM**
D. Flash

Answer C. This file is erased if the router is reloaded or rebooted.

45. **How do you back up a router?**

A. router#copy running-config startup-configuration
B. router(config)#copy TFTP flash
C. **router#copy flash TFTP**
D. router#copy flash NVRAM

Answer C. You can copy the file to a TFTP server or other storage device.

46. **Which of the following is not valid?**

A. router>show version
B. router#show running-config
C. router#show startup-config
D. **router#show RAM**

Answer D.

47. **Which of the following are basic router functions?**

A. **Packet switching**
B. Packet filtering
C. **Path determination**
D. Rapid convergence

Answer A and C. Packets get switched once they are determined by the router where to go.

48. **Which of the following is not an interior routing protocol?**

A. RIP
B. IGRP
C. OSPF
D. **BGP** (exterior)

Answer D. BGP is an exterior routing protocol designed to communicate between autonomous systems.

49. **Which of the following routing protocols communicate router information by sending the state of it's links to all routers in it's domain?**

A. BGP (reachable domain)
B. RIP (distance vector)
C. IGRP (distance vector)
D. **OSPF**

Answer D. This is a "link state" routing protocol. RIP and IGRP are distance vector, and BGP communicates reachability between domains.

50. **What is a problem caused by distance vector routing protocols?**

A. Split horizon (measures to the counting to infinity)
B. Route Poison(measures to the counting to infinity)
C. **Counting to infinity**
D. Max hop count(measures to the counting to infinity)
E. Hold down timers(measures to the counting to infinity)

Answer C. Answers ABDE are counter measures to the counting to infinity problem caused by distance vector protocols.

51. **What router command will *display* the routing protocol settings configured on a router?**

A. show protocol
B. Show routing protocol
C. **Show ip protocol** (timers, neighbors, and next update info.)
D. Show running-config

Answer C. This also displays timers, neighbors, and next update info.

52. **What helps mitigate the problems with link state protocols?** Choose 2

A. **Minimize router resource usage.**
B. **Coordinate updates**
C. Minimum hop counts
D. Distance vectoring

Answer A B.

53. **Which router commands will enable RIP for 176.18.0.0?** Choose 2

A. **router rip**
B. **network 176.18.0.0**
C. network rip
D. network rip 176.18.0.0

Answer A B. Router rip enables rip. Answer B enable the router to advertise to other routers that it is available. You must be in the global configuration prompt.

54. **Which of the following is a disadvantage with the link state protocol?** Choose 3

A. hold down counters
B. **unsynchronized updates**
C. **high network bandwidth usage**
D. **high router resource usage**

Answer B C D. As link state packets flood the network, high network bandwidth can be a problem.

55. **Which of the following exist at the application layer of the TCPIP model**? Choose 3

A. **SMTP**
B. **FTP**
C. **ICMP**
D. RIP (routing protocols)
E. IGRP (routing protocols)

Answer A B C. Answers D and E and routing protocols.

56. **Which of the following translate Fully Qualified Domain Names into IP addresses?**

A. Wins
B. **DNS**
C. SNMP
D. TCP

Answer B.

57. **Which of the following translate netbios names**?

A. **Wins**
B. DNS
C. SNMP
D. TCP

Answer A. Netbios names are the names of the computers specified in the identification tab in the network neighborhood properties.

58. **Which of the following is not done by TCP?**

A. **Subnetting**
B. Error checking
C. Sequencing
D. Flow control

Answer A.

59. **What does UDP and TCP have in common?** Choose 2

A. flow control
B. error checking
C. **checksum (**not check for errors)
D. **provide destination and source port numbers(**not check for errors)

Answer C D. UDP doesn't check for errors.

60. **Which of the following does the** network **layer do?** Choose 2

A. **Packet switching**
B. Translating
C. **Path determination**
D. Convert signals to bits

Answer A C.

61. **Which of the following about ARP is true?** Choose 2

A. It is in the application layer
B. **It is in the network layer**

C. It maps mac addresses to ip addresses
D. **It maps ip addresses to mac addresses**

Answer B D. At the same layer are RARP, ICMP, and IP. RARP does what is in answer C.

62. **What protocol in the transport layer does not guarantee packet delivery**?

A. TCP
B. IP
C. IPX
D**. UDP (best delivery > TCP)**

Answer D. It does a best effort delivery, but is faster than TCP.

63. **Which of the following is a class A ip address?**

A. **10.14.16.12**
B. 127.0.0.1
C. 172.15.42.34
D. 209.123.32.212

Answer A.

64. **Which of the following is a class B address?**

A. 10.14.16.12
B. 127.0.0.1
C. **172.15.42.34**
D. 209.123.32.212

Answer C.

65**. Which of the following is a loop back address?**

A. 10.14.16.12
B. **127.0.0.1**
C. 172.15.42.34
D. 209.123.32.212

Answer B. This is used to test to see if IP is configured and working properly on your pc,

66. **Which of the following is a non routable ip address?** Choose 2

A. **10.10.0.0**
B. **192.168.0.1**
C. 10.14.12.12
D. 209.32.242

Answer A B. These are good ip addresses to use behind a fire wall because they will never be addresses that will be used on the internet.

67. **Which of the following binary numbers represent 10.12.16.6**

A. **00001010.00001100.00010000.00000110**
B. 00011110.01010000.11001100.00110101
C. 01101010.11001010.01000101.01010011
D. 10001001.11010101.11111111.00000000

Answer A. D cannot be used at all because you can't have all 1's or 0's

68. **What does the process of AND in do?**

A. It determines the value of an ip address
B. It determines the port that TCP will use
C. **It determines if two ip addresses are on the same network**
D. It decides the ip address subnet

Answer C. You do this by writing out all the ip addresses in binary and match them against their subnets. After you match up the 1's and 0's you can decide if they are on the same network by seeing if all the numbers match. Check the test info page for an example.

69**. Which of the following is a class C address?**

A. 124.12.13.44
B. **210.24.56.76**
C. 127.0.0.1
D. 10.14.12.16

Answer B. An address above 191 for the first octet shows a class C address.

70. **Of the following address address 11000000.11000000.11110000.10000001, what is true?** Choose 2

A. It is a class C address
B. It has a host id of 192.224.128
C. It has a host id 128
D. It is a class B address.

Answer A B

71. **Which layer is responsible for providing mechanisms for multiplexing upper-layer application, session establishment, and tear-down of virtual circuits?**

A. Application
B. Presentation
C. Session
D. **Transport**

Answer D.

72. **Which layer is responsible for coordinating communication between systems?**

A. Application
B. Presentation
C. **Session**
D. Physical

Answer C.

73. **Which layer is responsible for negotiating data transfer syntax?**

A. application
B. **presentation**
C. session (coordinate)
D. transport (provide mechanism)

Answer B.

74. **Which of the following is a characteristic of a switch, but not of a repeater?**

A. Switches forward packets based on the IPX or IP address in the frame.
B. Switches forward packets based only on the IP address in the packet.

C. Switches forward packets based on the IP address in the frame
D. **Switches forward packets based on the MAC address in the frame**

Answer D. Switches are network device that filters, forwards, and floods frames based on the destination address of each frame. The switch operates at the data link layer of the OSI model. Switches use layer 2 addresses to filter the network

75. **How does the cut-through switching technique work?**

A. The LAN switch copies the entire frame into its buffers and then looks up the destination address in its forwarding, table and determines the outgoing interface
B. **The switch waits only for the header to be received before it checks the destination address and starts forwarding the packets**
C. By using broadcast addresses as source addresses
D. By using a Class II repeater in a collision domain

Answer B. Packet switching approach that streams data through a switch so that the leading edge of a packet exits the switch at the output port before the packet finishes entering the input port. A device using cut-through packet switching reads, processes, and forwards packets as soon as the destination address is looked up, and the outgoing port determined. Also known as on-the-fly packet switching.

76. **How do switches use store and forward?**

A. The switch waits only for the header to be received before it checks the destination address and starts forwarding the packets
B. **The LAN switch copies the entire frame into its buffers and then looks up the destination address in its forwarding, table and determines the outgoing interface**
C. By using a class II repeater in a collision domain
D. By using broadcast addresses as source addresses

Answer B. Packet-switching technique in which frames are completely processed before being forwarded out the appropriate port. This processing includes calculating the CRC and checking the destination address. In addition, frames must be temporarily stored until network resources (such as an unused link) are available to forward the message. Contrast with cut-through packet switching.

77. **Choose all of the following that are needed to support full-duplex Ethernet.**

A. Multiple paths between multiple stations on a link
B. **Full-duplex NIC cards**
C. **Loopback and collision detection disabled**
D. Automatic detection of full-duplex operation by all connected stations

Answer B C. Capability for simultaneous data transmission between a sending station and a receiving station.

78. **What two types of technology does 100BaseT use?**

A. Switching with 53-byte cells
B. **CSMA/CD**
C. IEEE 802.5
D. **802.3u**

Answer B D. 100-Mbps baseband Fast Ethernet specification using UTP wiring. Like the 10BaseT technology on which it is based, 100BaseT sends link pulses over the network segment when no traffic is present. However, these link pulses contain more information than those used in 10BaseT. Based on the IEEE 802.3 standard.

79. **Choose all of the following that are advantages to segmenting with routers.**

A. Manageability
B. Flow control
C. Explicit packet lifetime control
D. Multiple active paths

Answers A, B, C, D. All of the above is correct. A router is a Network layer device that uses one or more metrics to determine the optimal path along which network traffic should be forwarded. Routers forward packets from one network to another based on network layer information

80. **Some advantages to segmenting with Bridges are_____**

A. Datagram filtering
B. **Manageability**
C. **Reliability**
D. **Scalability**

Answers B, C, D. Bridges do not do datagram (packet) filtering. A device that connects and passes packets between two network segments that use the same communications protocol. Bridges operate at the data link layer (Layer 2) of the OSI reference model. In general, a bridge will filter, forward, or flood an incoming frame based on the MAC address of that frame

81. **Which two of the following describe frame tagging?**

A. Examines particular info about each frame
B. **A unique ID placed in the header of each frame as it traverses the switch fabric**
C. **A user-assigned ID defined to each frame**
D. The building of filter tables

Answer B, C. Frame tagging is used within VLANs to uniquely identify each frame.

82. **Which of the following describes a full-duplex transmission?**

A. Uses a single cable
B. **Uses a point-to-point connection from the transmitter of the transmitting station to the receiver of the receiving station**
C. Data transmission in both directions, but only one way at a time
D. Data transmission in only one direction

Answer B. Capability for simultaneous data transmission between a sending station and a receiving station.

83. **If a frame is received at a switch and only the destination hardware address is read before the frame is forwarded, what type of switching method are you using?**

A. **Cut-through**
B. Store-and-forward
C. Store-and-cut
D. Fragment Free

Answer A. Packet switching approach that streams data through a switch so that the leading edge of a packet exits the switch at the output port before the packet finishes entering the input port. A device using cut-through packet switching reads, processes, and forwards packets as soon as the destination

address is looked up, and the outgoing port determined. Also known as on-the-fly packet switching

84. **Which of the following switching types is the default for Cisco 5505s?**

A. Cut-through
B. **Store-and-forward**
C. Store-and-cut
D. Fragment Free

Answer B. Packet-switching technique in which frames are completely processed before being forwarded out the appropriate port. This processing includes calculating the CRC and checking the destination address. In addition, frames must be temporarily stored until network resources (such as an unused link) are available to forward the message.

85. **What does the Spanning-Tree Algorithm (STA) do?**

A. **STA is implemented by STP to prevent loops**
B. Forward packets through a switch
C. Restores lost frames
D. Prevents API duplication in bridged networks

Answer A. Algorithm used by the Spanning-Tree Protocol to create a spanning tree. Sometimes abbreviated STA.

86. **Which can be true regarding VLANs?** (Choose all that apply)

A. They are created by location
B. They are created by function
C. They are created by group
D. They are created by department

Answer A, B, C, D. Virtual LANs are a group of devices on one or more LANs that are configured (using management software) so that they can communicate as if they were attached to the same wire, when in fact they are located on a number of different LAN segments. Because VLANs are based on logical instead of physical connections, they are extremely flexible.

87. **What is the IEEE specification for Spanning Tree?**

A. 802.2u
B. 802.3q
C. **802.1d**
D. 802.6

Answer C. SPT is a bridge protocol that utilizes the spanning-tree algorithm, enabling a learning bridge to dynamically work around loops in a network topology by creating a spanning tree. Bridges exchange BPDU messages with other bridges to detect loops, and then remove the loops by shutting down selected bridge interfaces. Refers to both the IEEE 802.1d Spanning-Tree Protocol standard and the earlier Digital Equipment Corporation Spanning-Tree Protocol upon which it is based. The IEEE version supports bridge domains and allows the bridge to construct a loop-free topology across an extended LAN. The IEEE version is generally preferred over the Digital version. Sometimes abbreviated STP

88. **Of the three switching types, which one has the lowest latency?**

A. **Cut-through**
B. FragmentFree
C. Store-and-forward
D. None

Answer A. Cut-through packet switching streams data through a switch so that the leading edge of a packet exits the switch at the output port before the packet finishes entering the input port. A device using cut-through packet switching reads, processes, and forwards packets as soon as the destination address is looked up, and the outgoing port determined. Also known as on-the-fly packet switching. Since no error checking takes place, it has the lowest latency.

89. **Of the three switching types, which one has the highest latency?**

A. Cut-through (lowest)
B. FragmentFree
C. **Store-and-forward**
D. None

Answer C. Store-and-forward packet-switching technique in which frames are completely processed before being forwarded out the appropriate port. This processing includes calculating the CRC and checking the destination address. In addition, frames

must be temporarily stored until network resources (such as an unused link) are available to forward the message. Since frame size can very in length, latency will then vary.

90. **What is the port number for TCP?**

A. 6 (TCP)
B. 11
C. 17 (UDP)
D. 45

Answer The Network layer uses port 6h for identifying TCP as the upper layer protocol and port 17h to identify UDP as the upper layer protocol

91. **User Datagram Protocol works at which layer of the DOD model**?

A. Transport
B. Internet
C. **Host-to-Host**
D. Data Link

Answer C. User Datagram Protocol. Connectionless Host-to-host layer protocol in the TCP/IP protocol stack. UDP is a simple protocol that exchanges datagrams without acknowledgments or guaranteed delivery, requiring that error processing and retransmission be handled by other protocols. UDP is defined in RFC 768.

92. **Which protocol works at the Internet layer and is responsible for making routing decisions?**

A. TCP
B. UDP
C. **IP**
D. ARP

Answer C. IP works at the Internet layer. It looks at the destination network address in the packet and forwards the packet, based on routing tables and what it determines to be the best route to the destination

93. **Which protocol will send a message to routers if a network outage or congestion occurs?**

A. IP
B. ARP

C. **ICMP**
D. TCP

Answer C. **Internet Control Message Protocol** alerts routers if a network outage or congestion occurs so they can make different routing decision based on that information.

94. **Which port numbers are used by TCP and UDP to set up sessions with other hosts?**

A. 1-255
B. 256-1022
C. **1023 and above**
D. 6 and 10 respectively

Answer C. In IP terminology, an upper-layer process that receives information from lower layers. Ports are numbered, and each numbered port is associated with a specific process. For example, SMTP is associated with port 25. A port number is also known as a well-known address.

95. **Which of the following is true?**

A. TCP is connection-orientated; UDP uses acknowledgements only
B. Both TCP and UDP are connection-oriented, but only TCP uses windowing
C. **TCP is connection-oriented, but UDP is connectionless**
D. TCP and UDP both have sequencing, but UDP is connectionless

Answer C. TCP is a connection-oriented, reliable protocol that uses sequencing and acknowledgments to make sure packets are delivered properly. UDP is connectionless, unreliable, and doesn't use sequencing or acknowledgements

96. **Which protocol is used to manage and monitor the network?**

A. FTP
B. SMTP
C. **SNMP**
D. IP

Answer C. **Simple Network Management Protocol** is a network management protocol used almost exclusively in TCP/IP networks. SNMP provides a

means to monitor and control network devices, and to manage configurations, statistics collection, performance, and security

97. **Which frame type use DSAPs and SSAPs to identify the upper-layer protocol?**

A. 802.3
B. 802.5
C. **802.2**
D. Ethernet_II

Answer C. 802.2 frame type is really an 802.3 frame type with LLC header information

98. **Ping uses which Internet layer protocol (besides IP)?**

A. ARP
B. RARP
C. DCMP
D. **ICMP**

Answer D. packet internet groper. ICMP echo message and its reply. Often used in IP networks to test the reachability of a network device

99. **Which protocol sends redirects back to an originating router?**

A. ARP
B. RARP
C. **ICMP**
D. BootP

Answer C. Internet Control Message Protocol. Network layer Internet protocol that reports errors and provides other information relevant to IP packet processing. Documented in RFC 792

100. **You have a network ID of 172.16.0.0 and you need to divide it into multiple subnets. You need 600 host IDs for each subnet. Which subnet mask should you assign that will allow for growth?**

A. 255.255.224.0
B. 255.255.240.0
C. 255.255.248.0
D. **255.255.252.0**

Answer D.

101. **You have a network ID of 172.16.0.0 with eight subnets. You need to allow for the largest possible number of host IDs per subnet. Which subnet mask should you assign?**

A. 255.255.224.0
B. **255.255.240.0**
C. 255.255.248.0
D. 255.255.252.0

Answer B. 224.0: 11100000.00000000: 224 gives us three bits, or six subnets, each with 8190 hosts.240.0: 11110000.00000000: 240 gives us four bits, or 14 subnets, each with 4094 hosts.248.0: 11111000.00000000: 248 gives us five bits, or 30 subnets, each with 2046 hosts.252.0: 11111100.00000000: 252 gives us six bits, or 62 subnets, each with 1022 hosts.By using only eight subnets, we can use 240.0 as a mask, giving us 14 subnets, each with 4094 hosts.

102. **You have a Class A network address with 60 subnets. You need to add 40 new subnets in the next two years, but still allow for the largest possible number of host IDs per subnet. Which subnet mask should you assign?**

A. 255.240.0.0
B. 255.248.0.0
C. 255.252.0.0
D. **255.254.0.0**

Answer D. 240.0.0: 11110000.00000000.00000000: 240 gives us four bits, or 14 subnets, each with 1,048,574 hosts.248.0.0: 11111000.00000000.00000000: 248 gives us five bits, or 30 subnets, each with 524,286 hosts.252.0.0: 11111100.00000000.00000000: 252 gives us six bits, or 62 subnets, each with 262,142 hosts.254.0.0: 11111110.00000000.00000000: 254 gives us seven bits, or 126 subnets, each with 131,070 hosts. Only mask 254.0.0 gives us the amount of subnets we need to allow for maximum growth.

103. **You have a Class C network address of 192.168.19.0 with four subnets. You need the largest possible number of host IDs per subnet. Which subnet mask should you assign?**

A. 255.255.255.192

B. **255.255.255.224**
C. 255.255.255.240
D. 255.255.255.248

Answer B. 192: 11000000: 192 gives us 2 bits, or 2 subnets, each with 62 hosts.224: 11100000: 224 gives us three bits, or six subnets, each with 30 hosts.240: 11110000: 240 gives us four bits, or 14 subnets, each with 14 hosts.248: 11111000: 248 gives us five bits, or 30 subnets, each with six hosts.Only mask 224 gives us more than four subnets with the largest amount of hosts

104. **You need to come up with a TCP/IP addressing scheme for your company. How many network IDs must you allow for when you define the subnet mask for the network?**

A. One for each subnet
B. One for each host ID
C. One for each router interface
D. **One for each WAN connection**

Answer A D. Each host on the network must have a unique IP address. However, you are required to have only one network ID per network. Each set of hosts must share a common network ID, as well as connections between networks, which are the WAN connections.

105. **You need to come up with a TCP/IP addressing scheme for your company. Which two factors must you consider when you define the subnet mask for the network?**

A. **The number of subnets on the network**
B. **The number of host IDs on each subnet**
C. The volume of network traffic on each subnet
D. The location of DNS servers
E. The location of default gateways

Answer A, B. When deciding on an IP scheme, you need to understand the amount of subnets and the amount of hosts per subnet.

106. **You need to come up with a TCP/IP addressing scheme for your company. How many host IDs must you allow for when you define the subnet mask for the network?**

A. One for each subnet

B. **One for each router interface**
C. One for each WAN connection
D. **One for each network adapter installed on each host**

Answer B D. Host ID are not just PC's, MAC's and Unix stations. Anything that has an interface is host or network device.

107. **You have an IP address of 172.16.13.5 with a 255.255.255.128 subnet mask. What is your class of address, subnet address, and broadcast address?**

A. Class A, Subnet 172.16.13.0, Broadcast address 172.16.13.127.
B. Class B, Subnet 172.16.13.0, Broadcast address 172.16.13.255
C. Class B, Subnet 172.16.0.0, Broadcast address 172.16.255.255
D. **Class B, Subnet 172.16.13.0, Broadcast address 172.16.13.127**

Answer D. Class B, Subnet 13, Broadcast address 172.16.13.127. The valid range for hosts is 172.16.13.1 to 172.16.13.126.

108. **If you have a 22-bit subnet mask, how many subnets and how many hosts do you have?**

A. 8190 subnets, 4096 hosts
B. **4,194,302 subnets, 2 hosts**
C. 2,096,138 subnets 6 hosts
D. 16,384 subnets, 2046 hosts

Answer B. A 22-bit subnet mask would be 255.255.255.252. On the Cisco test, they do not count the default mask. The only class of address that could take a 22-bit mask is a class A. Start with 255 and add 22 bits. This gives you two bits for the hosts, or 2 hosts per subnet.