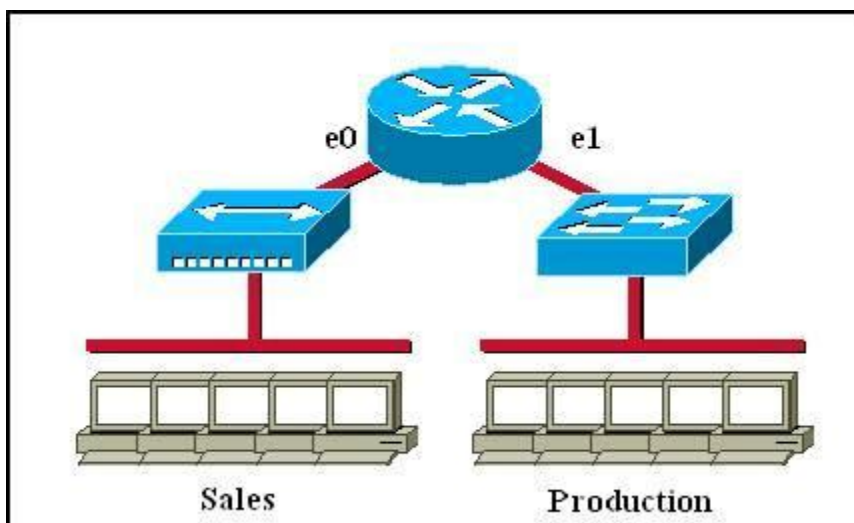# CCNA – Basic Questions

Question 1

What is the first 24 bits in a MAC address called?

A. NIC
B. BIA
C. OUI
D. VAI

Answer: C

Question 2

Which of the following statements describe the network shown in the graphic? (Choose two)

A. There are two broadcast domains in the network.
B. There are four broadcast domains in the network.
C. There are six broadcast domains in the network.
D. There are four collision domains in the network.
E. There are five collision domains in the network.
F. There are seven collision domains in the network.

Answer: A F

Question 3

Refer to the exhibit:

System flash director
File Length Name/status
1 3802992 c827v-y6-mz.121-1.XB
[3803056 bytes used,4585552 available, 8388608 total]
8192K bytes of processor board System flash(Read/Write)

The technician wants to upload a new IOS in the router while keeping the existing IOS. What is the maximum size of an IOS file that could be loaded if the original IOS is also kept in flash?

A. 3MB
B. 5MB
C. 7MB
D. 4MB

Answer: D

Question 4

Refer to the exhibit. What is the meaning of the output MTU 1500 bytes?


```
Router# show interfaces ethernet 0
Ethernet0 is up, line protocol is up
Hardware is QUICC Ethernet, address is 00c0.ab73.dead (bia 0010.7bcc.7321)
MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
<output omitted>
```

A. The maximum number of bytes that can traverse this interface per second is 1500.
B. The minimum segment size that can traverse this interface is 1500 bytes.
C. The minimum segment size that can traverse this interface is 1500 bytes.
D. The minimum packet size that can traverse this interface is 1500 bytes.
E. The maximum packet size that can traverse this interface is 1500 bytes.
F. The maximum frame size that can traverse this interface is 1500 bytes.

Answer: E

Question 5

A network interface port has collision detection and carrier sensing enabled on a shared twisted pair network. From this statement, what is known about the network interface port?

A. This is a 10 Mb/s switch port.
B. This is a 100 Mb/s switch port.
C. This is an Ethernet port operating at half duplex.
D. This is an Ethernet port operating at full duplex.
E. This is a port on a network interface card in a PC.

Answer: C

Question 6

In an Ethernet network, under what two scenarios can devices transmit? (Choose two)

A. when they receive a special token
B. when there is a carrier
C. when they detect no other devices are sending
D. when the medium is idle
E. when the server grants access

Answer: C D

Question 7

For what two purposes does the Ethernet protocol use physical addresses? (Choose two)

A. to uniquely identify devices at Layer 2
B. to allow communication with devices on a different network
C. to differentiate a Layer 2 frame from a Layer 3 packet
D. to establish a priority system to determine which device gets to transmit first
E. to allow communication between different devices on the same network
F. to allow detection of a remote device when its physical address is unknown

Answer: A E

Question 8

Which two locations can be configured as a source for the IOS image in the boot system command? (Choose two)

A. RAM
B. NVRAM
C. flash memory
D. HTTP server
E. TFTP server
F. Telnet server

Answer: C E

Question 9

What is the difference between a CSU/DSU and a modem?

A. A CSU/DSU converts analog signals from a router to a leased line; a modem converts analog signals from a router to a leased line.
B. A CSU/DSU converts analog signals from a router to a phone line; a modem converts digital signals from a router to a leased line.
C. A CSU/DSU converts digital signals from a router to a phone line; a modem converts analog signals from a router to a phone line.
D. A CSU/DSU converts digital signals from a router to a leased line; a modem converts digital signals from a router to a phone line.

Answer: D

Question 10

A Cisco router is booting and has just completed the POST process. It is now ready to find and load an IOS image. What function does the router perform next?

A. It checks the configuration register
B. It attempts to boot from a TFTP server
C. It loads the first image file in flash memory
D. It inspects the configuration file in NVRAM for boot instructions

Answer: A

CCNA – OSI & TCP/IP Model

Question 1

Where does routing occur within the DoD TCP/IP reference model?

A. application
B. internet
C. network
D. transport

Answer: B

Question 2

Refer to exhibit.

```
Router#show running-config
Building configuration…
Current configuration : 659 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname Router
!
enable secret 5 $1$mERr$hx5rVt7rPNoS4wqbXKX7m0
!
interface FastEthernet0/0
ip address 192.168.1.1 255.255.255.0
ip access-group 101 in
duplex auto
speed auto
!
access-1ist 101 deny tcp any any eq 22
access-1ist 101 permit ip any any
!
line con 0
password 7 0822455D0A16
login
line vty 0 4
login
```

```
line vty 5 14
login
!
end
```

A network administrator cannot establish a Telnet session with the indicated router. What is the cause of this failure?

A. A Level 5 password is not set.
B. An ACL is blocking Telnet access.
C. The vty password is missing.
D. The console password is missing.

Answer: C

Question 3

Before installing a new, upgraded version of the IOS, what should be checked on the router, and which command should be used to gather this information? (Choose two)

A. the amount of available ROM
B. the amount of available flash and RAM memory
C. the version of the bootstrap software present on the router
D. show version
E. show processes
F. show running-config

Answer: B D

Question 4

Refer to the exhibit. An administrator pings the default gateway at 10.10.10.1 and sees the output as shown. At which OSI layer is the problem?

```
C:\> ping 10.10.10.1
Pinging 10.10.10.1 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 10.10.10.1:
Packets: sent – 4, Received = 0, Lost – 4 (100% loss)
```

A. data link layer
B. application layer

C. access layer
D. session layer
E. network layer

Answer: E

Question 5

At which layer of the OSI model does PPP perform?

A. Layer 2
B. Layer 3
C. Layer 4
D. Layer 5

Answer: A

Question 6

Which of the following correctly describe steps in the OSI data encapsulation process? (Choose two)

A. The transport layer divides a data stream into segments and may add reliability and flow control information.
B. The data link layer adds physical source and destination addresses and an FCS to the segment.
C. Packets are created when the network layer encapsulates a frame with source and destination host addresses and protocol-related control information.
D. Packets are created when the network layer adds Layer 3 addresses and control information to a segment.
E. The presentation layer translates bits into voltages for transmission across the physical link.

Answer: A D

Question 7

A network administrator is verifying the configuration of a newly installed host by establishing an FTP connection to a remote server. What is the highest layer of the protocol stack that the network administrator is using for this operation?

A. application
B. presentation
C. session
D. transport
E. internet
F. data link

Answer: A

Question 8

At which layer of the OSI model is RSTP used to prevent loops?

A. data link
B. network
C. physical
D. transport

Answer: A

Question 9

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?

A. transport
B. network
C. presentation
D. session
E. application

Answer: E

Question 10

A receiving host computes the checksum on a frame and determines that the frame is damaged. The frame is then discarded. At which OSI layer did this happen?

A. session
B. network
C. physical
D. data link
E. transport

Answer: D

CCNA – IOS Questions

Question 1

Which command encrypts all plaintext passwords?

A. Router# service password-encryption
B. Router(config)# password-encryption
C. Router(config)# service password-encryption
D. Router# password-encryption

Answer: C

Question 2

What can be done to secure the virtual terminal interfaces on a router? (Choose two)

A. Administratively shut down the interface.
B. Physically secure the interface.
C. Create an access list and apply it to the virtual terminal interfaces with the access-group command.
D. Configure a virtual terminal password and login process.
E. Enter an access list and apply it to the virtual terminal interfaces using the access-class command.

Answer: D E

Question 3

Refer to the exhibit. Why is flash memory erased prior to upgrading the IOS image from the TFTP server?

```
Router# copy tftp flash
Address or name of remote host []? 192.168.2.167
Source filename []? c1600-k8sy-mz.123-16a.bin
Destination filename [c1600-k8sy-mz.123-16a.bin]?
Accessing tftp://192.168.2.167/ c1600-k8sy-mz.l23-16a.bin…
Erasing flash before copying? [confirm]
Erasing the flash filesystem will remove all files! continue? [confirm]
Erasing device
Eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
Eeeeeeeeeeeeeeeeeeeeeeeeeeeeeee …erased
Erase of flash: complete
```

```
Loading c1600-k8sy-mz.l23-16a.bin from 192.168.2.167 (via Ethernet0):
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
[OK – 6888962/13777920 bytes]

verifying checksum… OK (0x7BF3)
6888962 bytes copied in 209.920 secs (32961 bytes/sec)
Router#
```

A. The router cannot verify that the Cisco IOS image currently in flash is valid
B. Flash memory on Cisco routers can contain only a single IOS image.
C. Erasing current flash content is requested during the copy dialog.
D. In order for the router to use the new image as the default, it must be the only IOS image in flash.

Answer: C

Question 4

How does using the **service password encryption** command on a router provide additional security?

A. by encrypting all passwords passing through the router
B. by encrypting passwords in the plain text configuration file
C. by requiring entry of encrypted passwords for access to the device
D. by configuring an MD5 encrypted key to be used by routing protocols to validate routing exchanges
E. by automatically suggesting encrypted passwords for use in configuring the router

Answer: B

Question 5

What is a global command?

A. a command that is available in every release of IOS, regardless of the version or deployment status
B. a command that can be entered in any configuration mode
C. a command that is universal in application and supports all protocols
D. a command that is implemented in all foreign and domestic IOS versions
E. a command that is set once and affects the entire router

Answer: E

Question 6

Refer to the exhibit.

```
line vty 0 4
password 7 030752180599
login
transport input ssh
```

What is the effect of the configuration that is shown?
A. It configures SSH globally for all logins.
B. It tells the router or switch to try to establish an SSh connection first and if that foils to use Telnet.
C. It configures the virtual terminal lines with the password 030752180500.
D. It configures a Cisco network device to use the SSH protocol on incoming communications via the virtual terminal ports.
E. It allows seven failed login attempts before the VTY lines are temporarily shutdown.

Answer: D

Question 7

Which router IOS commands can be used to troubleshoot LAN connectivity problems? (Choose three)

A. ping
B. tracert
C. ipconfig
D. show ip route
E. winipcfg
F. show interfaces

Answer: A D F

Question 8

Which command shows your active Telnet connections?

A. show sessions
B. show cdp neighbors
C. show users
D. show queue

Answer: A

Question 9

Which command would you configure globally on a Cisco router that would allow you to view directly connected Cisco devices?

A. enable cdp
B. cdp enable
C. cdp run
D. run cdp

Answer: C

Question 10

A network administrator needs to allow only one Telnet connection to a router. For anyone viewing the confguration and issuing the show run command, the password for Telnet access should be encrypted. Which set of commands will accomplish this task?

A. service password-encryption
access-list 1 permit 192.168.1.0 0.0.0.255
line vty 0 4
login
password cisco
access-class 1

B. enable password secret
line vty 0
login
password cisco

C. service password-encryption
line vty 1
login
password cisco

D. service password-encryption
line vty 0 4
login
password cisco

Answer: C

Question 11

What is the effect of using the service password-encryption command?

A. Only passwords configured after the command has been entered will be encrypted.
B. Only the enable password will be encrypted.
C. Only the enable secret password will be encrypted
D. It will encrypt the secret password and remove the enable secret password from the configuration.
E. It will encrypt all current and future passwords.

Answer: E

CCNA – WAN Questions

Question 1

Which PPP subprotocol negotiates authentication options?

A. NCP
B. ISDN
C. SUP
D. LCP
E. DLCI

Answer: D

Question 2

A network administrator needs to configure a serial link between the main office and a remote location. The router at the remote office is a non-Cisco router. How should the network administrator configure the serial interface of the main office router to make the connection?

A. Main(config)# interface serial 0/0
Main(config-if)# ip address 172.16.1.1 255.255.255.252
Main(config-if)# no shut

B. Main(config)# interface serial 0/0
Main(config-if)# ip address 172.16.1.1 255.255.255.252
Main(config-if)# encapsulation ppp
Main(config-if)# no shut

C. Main(config)# interface serial 0/0
Main(config-if)# ip address 172.16.1.1 255.255.255.252
Main(config-if)# encapsulation frame-relay
Main(config-if)# authentication chap
Main(config-if)# no shut

D. Main(config)# interface serial 0/0
Main(config-if)#ip address 172.16.1.1 255.255.255.252
Main(config-if)#encapsulation ietf
Main(config-if)# no shut

Answer: B

Question 3

Which two options are valid WAN connectivity methods? (Choose two)

A. PPP
B. WAP
C. DSL
D. L2TPv3
E. Ethernet

Answer: A C

Question 4

Which Layer 2 protocol encapsulation type supports synchronous and asynchronous circuits and has built-in security mechanisms?
A. HDLC
B. PPP
C. X.25
D. Frame Relay

Answer: B

Question 5

Which command is used to enable CHAP authentication with PAP as the fallback method on a serial interface?

A. (config-if)# authentication ppp chap fallback ppp
B. (config-if)# authentication ppp chap pap
C. (config-if)# ppp authentication chap pap
D. (config-if)# ppp authentication chap fallback ppp

Answer: C

Question 6

Which of the following describes the roles of devices in a WAN? (Choose three.)

A. A CSU/DSU terminates a digital local loop
B. A modem terminates a digital local loop
C. A CSU/DSU terminates an analog local loop
D. A modem terminates an analog local loop

E. A router is commonly considered a DTE device
F. A router is commonly considered a DCE device

Answer: A D E

Question 7

Which two statements about using the CHAP authentication mechanism in a PPP link are true?
(Choose two)

A. CHAP uses a two-way handshake.
B. CHAP uses a three-way handshake.
C. CHAP authentication periodically occurs after link establishment.
D. CHAP authentication passwords are sent in plaintext.
E. CHAP authentication is performed only upon link establishment.
F. CHAP has no protection from playback attacks.

Answer: B C

CCNA – Switch Questions

Question 1

Refer to the exhibit.

```
Switch-1# show mac address-table
Dynamic Addresses Count:                   3
Secure Addresses (User-defined) Count:     0
Static Addresses (User-defined) Count:     0
System Self Addresses Count:               41
Total Mac addresses:                       50
Non-static Address Table:
Destination Address  Address Type  VLAN  Destination Port
-------------------  ------------  ----  ----------------
0010.0de0.e289       Dynamic       1     FastEthernet0/1
0010.7b00.1540       Dynamic       2     FastEthernet0/3
0010.7b00.1545       Dynamic       2     FastEthernet0/2
```

Switch-1 needs to send data to a host with a MAC address of 00b0.d056.efa4. What will Switch-1 do with this data?

A. Switch-1 will drop the data because it does not have an entry for that MAC address.
B. Switch-1 will forward the data to its default gateway.
C. Switch-1 will flood the data out all of its ports except the port from which the data originated.
D. Switch-1 will send an ARP request out all its ports except the port from which the data originated.

Answer: C

Question 2
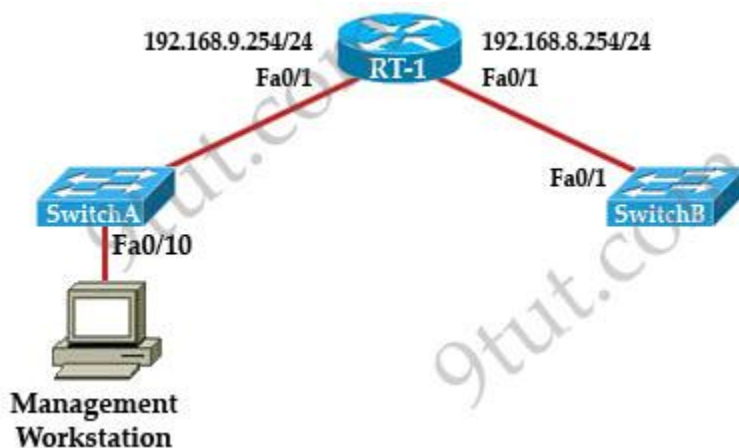
A technician has installed SwitchB and needs to configure it for remote access from the management workstation connected SwitchA. Which set of commands is required to accomplish this task?

A.
SwitchB(config)#interface FastEthernet 0/1
SwitchB(config)#ip address 192.168.8.252 255.255.255.0
SwitchB(config)#no shutdown

B.
SwitchB(config)#ip default-gateway 192.168.8.254
SwitchB(config)#interface vlan 1
SwitchB(config)#ip address 192.168.8.252 255.255.255.0
SwitchB(config)#no shutdown

C.
SwitchB(config)#interface vlan 1
SwitchB(config)#ip address 192.168.8.252 255.255.255.0
SwitchB(config)#ip default-gateway 192.168.8.254 255.255.255.0
SwitchB(config)#no shutdown

D.
SwitchB(config)#ip default-network 192.168.8.254
SwitchB(config)#interface vlan 1
SwitchB(config)#ip address 192.168.8.252 255.255.255.0
SwitchB(config)#no shutdown

Answer: B

Question 3

A switch is configured with all ports assigned to vlan 2 with full duplex FastEthernet to segment existing departmental traffic. What is the effect of adding switch ports to a new VLAN on the switch?

A. More collision domains will be created.
B. IP address utilization will be more efficient.
C. More bandwidth will be required than was needed previously.
D. An additional broadcast domain will be created.

Answer: D

Question 4

Refer to the exhibit. The two connected ports on the switch are not turning orange or green. What would be the most effective steps to troubleshoot this physical layer problem? (Choose three)
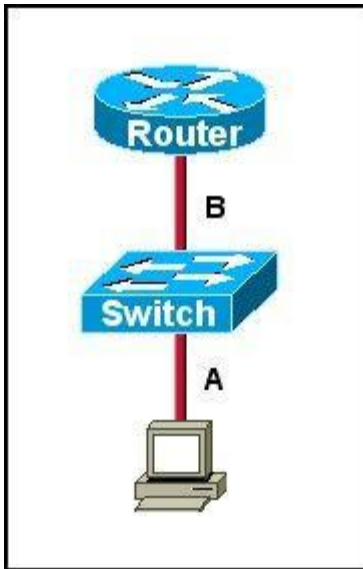
A. Ensure that the Ethernet encapsulations match on the interconnected router and switch ports.
B. Ensure that cables A and B are straight-through cables.
C. Ensure cable A is plugged into a trunk port.
D. Ensure the switch has power.
E. Reboot all of the devices.
F. Reseat all cables.

Answer: B D F

Question 5

Refer to the exhibit.
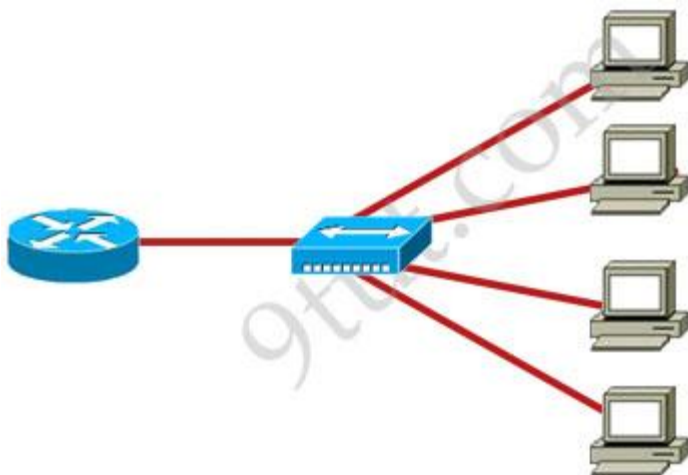
What two results would occur if the hub were to be replaced with a switch that is configured with one Ethernet VLAN? (Choose two)

A. The number of collision domains would remain the same.
B. The number of collision domains would decrease.
C. The number of collision domains would increase.
D. The number of broadcast domains would remain the same.
E. The number of broadcast domains would decrease.
F. The number of broadcast domains would increase.

Answer: C D

Question 6

Refer to the exhibit. Give this output for SwitchC, what should the network administrator's next action be?
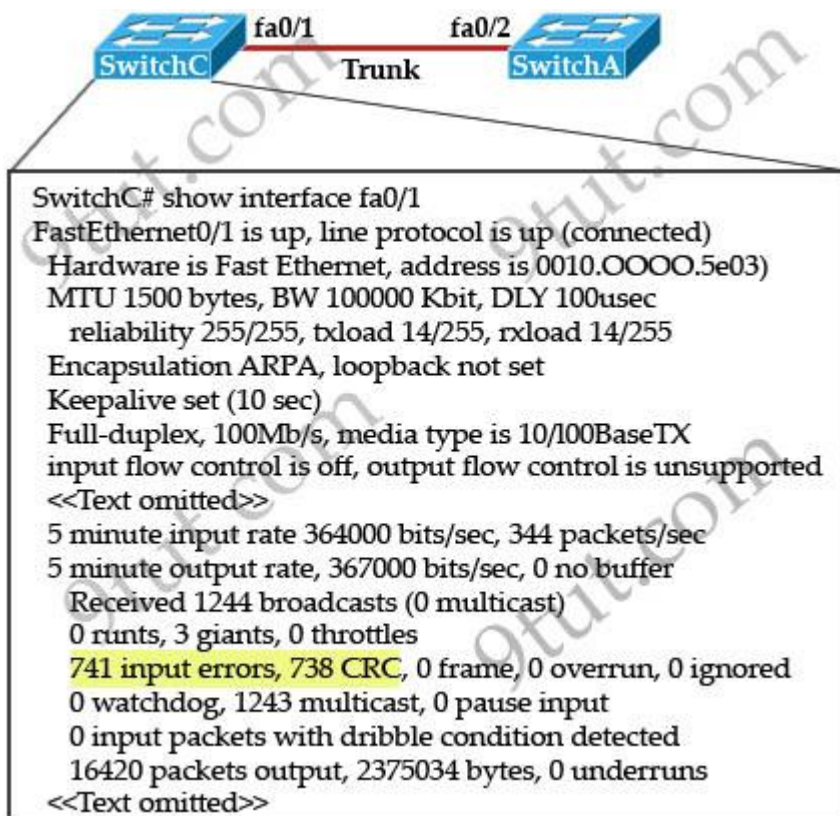
A. Check the trunk encapsulation mode for SwitchC's fa0/1 port.
B. Check the duplex mode for SwitchC's fa0/1 port.
C. Check the duplex mode for SwitchA's fa0/2 port.
D. Check the trunk encapsulation mode for SwitchA's fa0/2 port.

Answer: C

Question 7

Which three statements accurately describe layer 2 Ethernet switches? (choose three)

A. Microsegmentation decreases the number of collisions on the network.
B. If a switch receives a frame for an unknown destination.it uses ARP to resolve the address.
C. Spanning Tree Protocol allows switches to automatically share vlan information.
D. In a properly functioning network with redundant switched paths, each switched segment will contain one root bridge with all its ports in the forwarding state. All other switches in that broadcast domain will have only one root port.
E. Establishing vlans increases the number of broadcast domains.
F. Switches that are configured with vlans make forwarding decisions based on both layer 2 and layer 3 address information.

Answer: A D E

Question 8

Why will a switch never learn a broadcast address?

A. Broadcast frames are never sent to switches.
B. Broadcast addresses use an incorrect format for the switching table.
C. A broadcast address will never be the source address of a frame.
D. Broadcasts only use network layer addressing.
E. A broadcast frame is never forwarded by a switch.

Answer: C

Question 9

Refer to the exhibit:

```
Switch1# show mac address-table
System Self Addresses Count: 41
Total MAC addresses: 50
Non-static Address Table:
Destination Address      AddressType      VLAN    Destination Port
----------------------   ----------------  ----   ----------------------
00A0.0de0.e289           Dynamic          1       FastEthernet0/1
00A0.7b00.1540           Dynamic          2       FastEthernet0/5
00A0.7b00.1545           Dynamic          2       FastEthernet0/5
00A0.5c74.0076           Dynamic          1       FastEthernet0/1
00A0.5cf4.0077           Dynamic          3       FastEthernet0/1
00A0.5cf4.1315           Dynamic          1       FastEthernet0/1
00A0.70cb.f301           Dynamic          2       FastEthernet0/1
00A0.70cb.3f01           Dynamic          5       FastEthernet0/2
00A0.1e42.9978           Dynamic          4       FastEthernet0/1
00A0.1e9f.3900           Dynamic          3       FastEthernet0/1
00A0.70cb.33f1           Dynamic          6       FastEthernet0/3
00A0.70cb.103f           Dynamic          6       FastEthernet0/4

<output omitted>

Switch1#show cdp neighbors
Capability Codes:       R - Router, T - Trans Bridge, B - Source Route Bridge
                        S - Switch, H - Host, I - IGMP, r - Repeater

Device ID      Local Intrfce   Holdtime    Capability    Platform    Port ID
Switch2        Fas 0/1         157             S         2950-12     Fas 0/1
Switch3        Fas 0/2         143             S         2950-12     Fas 0/5

Switch1#
```

Which two statements are true of the interfaces on Switch1? (Choose two)

A. Interface FastEthernet0/2 has been disabled.
B. Multiple devices are connected directly to FastEthernet0/1.
C. FastEthernet0/1 is configured as a trunk link.
D. FastEthernet0/1 is connected to a host with multiple network interface cards
E. FastEthernet0/5 has statically assigned MAC addresses.
F. A hub is connected directly to FastEthernet0/5

Answer: C F

Question 10

The network administrator normally establishes a Telnet session with the switch from host A. The administrator's attempt to establish a connect via Telnet to the switch from host B fails, but pings from host B to other two hosts are successful. What is the issue for this problem?
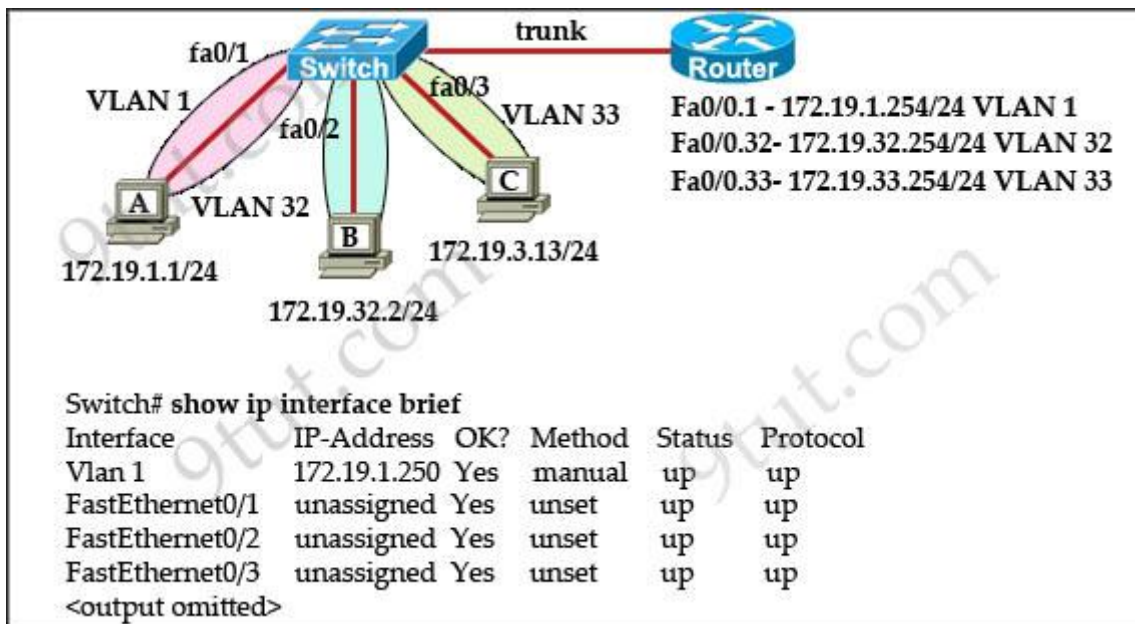
A. Host B and the switch need to be in the same subnet.
B. The switch needs an appropriate default gateway assigned.
C. The switch interface connected to the router is down.
D. Host B need to be assigned an IP address in vlan 1.

Answer: B

CCNA – Switch Questions 2

Question 1

What does a Layer 2 switch use to decide where to forward a received frame?

A. source MAC address
B. source IP address
C. source switch port
D. destination IP address
E. destination port address
F. destination MAC address

Answer: F

Question 2

The network administrator cannot connect to Switch1 over a Telnet session, although the hosts attached to Switch1 can ping the interface Fa0/0 of the router. Given the information in the graphic and assuming that the router and Switch2 are configured properly, which of the following commands should be issued on Switch1 to correct this problem?

A. Switch1 (config)# line con0
Switch1 (config-line)# password cisco
Switch1 (config-line)#login

B. Switch1 (config)# interface fa0/1
Switch 1(config-if)# ip address 192.168.24.3 255.255.255.0

C. Switch1 (config)# ip default-gateway 192.168.24.1

D. Switch1 (config)# interface fa0/1
Switch 1(config-if)# duplex full
Switch 1(config-if)# speed 100

E. Switch1 (config)# interface fa0/1
Switch 1(config-if)# switchport mode trunk

Answer: C

Question 3

How many broadcast domains are shown in the graphic assuming only the default vlan is configured on the switches?
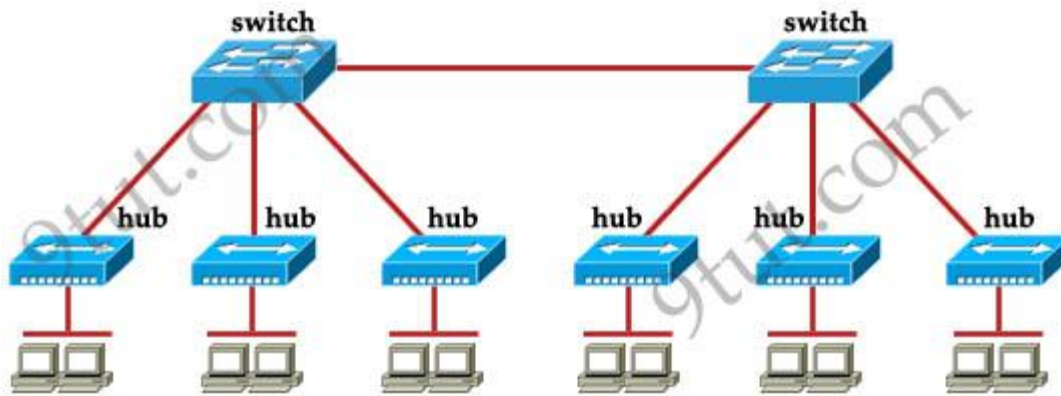
A. one
B. six
C. twelve
D. two

Answer: A

Question 4

Refer to the exhibit. Which of these statements correctly describes the state of the switch once the boot process has been completed?

```
00:00:39: %LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to down
00:00:40: %SPANTREE-5-EXTENDED_SYSID: Extended SysId enabled for type vlan
00:00:42: %SYS-5-CONFIG_I: Configured from memory by console
00:00:42: %SYS-5-RESTART: System restarted --
Cisco IOS Software, C2960 Software (C2960-LANBASEK9-M), Version 12.2(25)SEE2, RELEASE SOFTWARE (fc1)
Copyright (c) 1986-2006 by Cisco Systems, Inc.
Compiled Fri 28-Jul-06 11:57 by yenanh
00:00:44: %LINK-5-CHANGED: Interface Vlan1, changed state to administratively down
00:00:44: %LINK-3-UPDOWN: Interface FastEthernet0/1, changed state to up
00:00:44: %LINK-3-UPDOWN: Interface FastEthernet0/2, changed state to up
00:00:44: %LINK-3-UPDOWN: Interface FastEthernet0/11, changed state to up
00:00:45: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
00:00:45: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up
00:00:45: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/11, changed state to up
00:00:48: %LINK-3-UPDOWN: Interface FastEthernet0/12, changed state to up
00:00:49: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/12, changed state to up
```

A. As FastEthernet0/12 will be the last to come up, it will not be blocked by STP.
B. Remote access management of this switch will not be possible without configuration change.
C. More VLANs will need to be created for this switch.
D. The switch will need a different IOS code in order to support VLANs and STP.

Answer: B

CCNA – VLAN Questions

Question 1

What are three benefits of implementing VLANs? (Choose three)

A. A more efficient use of bandwidth can be achieved allowing many physical groups to use the same network infrastructure
B. Broadcast storms can be mitigated by decreasing the number of broadcast domains,thus increasing their size.
C. A higher level of network security can be reached by separating sensitive data traffic from other network traffic.
D. Port-based vlans increase switch-port use efficient,thanks to 802.1Q trunks
E. A more efficient use of bandwidth can be achieved allowing many logical networks to use the same network infrastructure.
F. Broadcast storms can be mitigated by increasing the number of broadcast domains,thus reducing their size.
G. VLANs make it easier for IT staff to configure new logical groups,because the vlans all belong to the same broadcast domain.

Answer: C E F

Question 2

VLAN 3 is not yet configured on your switch. What happens if you set the **switchport access vlan 3** command interface configuration mode?

A. The command is accepted and the respective VLAN is added to vlan.dat.
B. The command is rejected.
C. The command is accepted and you must configure the VLAN manually.
D. The port turns amber.

Answer: A

Question 3

What are three advantages of VLANs? (Choose three)

A. VLANs establish broadcast domains in switched networks.
B. VLANs utilize packet filtering to enhance network security.
C. VLANs provide a method of conserving IP addresses in large networks.
D. VLANs provide a low-latency internetworking alternative to routed networks.

E. VLANs allow access to network services based on department, not physical location.
F. VLANs can greatly simplify adding, moving, or changing hosts on the network.

Answer: A E F

Question 4
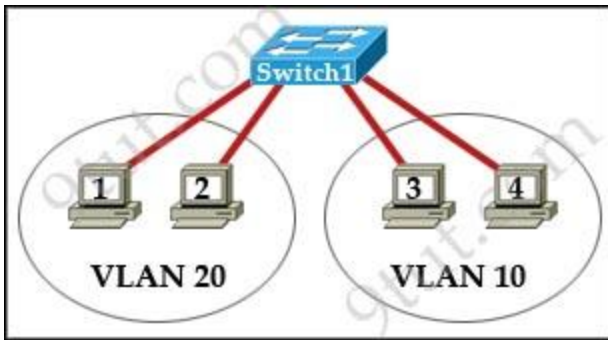
On corporate network, hosts on the same VLAN can communicate with each other, but they are unable to communicate with hosts on different VLANs. What is needed to allow communication between the VLANs?

A. a router with subinterfaces configured on the physical interface that is connected to the switch
B. a router with an IP address on the physical interface connected to the switch
C. a switch with an access link that is configured between the switches
D. a switch with a trunk link that is configured between the switches

Answer: A

Question 5

Cisco Catalyst switches CAT1 and CAT2 have a connection between them using ports Fa0/13. An 802.1Q trunk is configured between the two switches. On CAT1, VLAN 10 is chosen as native, but on CAT2 the native VLAN is not specified. What will happen in this scenario?

A. 802.1Q giants frames could saturate the link.
B. VLAN 10 on CAT1 and VLAN 1 on CAT2 will send untagged frames.
C. A native VLAN mismatch error message will appear.
D. VLAN 10 on CAT1 and VLAN 1 on CAT2 will send tagged frames.

Answer: C

Question 6

Which of the following are benefits of VLANs? (Choose three)

A. They increase the size of collision domains.
B. They allow logical grouping of users by function.
C. They can enhance network security.
D. They increase the size of broadcast domains while decreasing the number of collision domains.
E. They increase the number of broadcast domains while decreasing the size of the broadcast domains.
F. They simplify switch administration.

Answer: B C E

Question 7
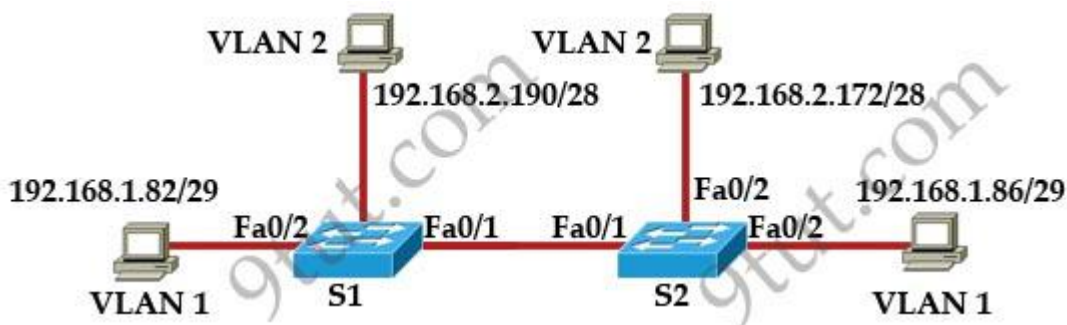

```
S1#show interface trunk
Port      Mode       Encapsulation       Status      Native vlan
Fa0/1     on         802. 1q             Trunking        1

Port      Vlans allowed a trunk
Fa0/1     1.1005 .

Port      Vlans allowed and active in management domain
Fa0/1     12

S2#show interface trunk
Port      Mode       Encapsulation       Status      Native vlan
Fa0/1     on         802. 1q             Trunking        2

Port      Vlans allowed a trunk
Fa0/1     1.1005

Port      Vlans allowed and active in management domain
Fa0/1     12
```

A frame from VLAN1 of switch S1 is sent to switch S2 where the frame received on VLAN2. What causes this behavior?

A. trunk mode mismatches
B. vlans that do not correspond to a unique IP subnet
C. native vlan mismatches
D. allowing only vlan 2 on the destination.

Answer: C

Question 8

Which statement about vlan operation on Cisco Catalyst switches is true?

A. when a packet is received from an 802.1Q trunk, the vlan id can be determined from the source MAC address table.
B. unknown unicast frames are retransmitted only to the ports that belong to the same vlan.
C. ports between switches should be configured in access mode so that vlans can span across the ports.
D. broadcast and multicast frames are retransmitted to ports that are configured on different vlan.

Answer: B

Question 9

Which two benefits are provided by creating VLANs? (Choose two)
A. added security
B. dedicated bandwidth
C. provides segmentation
D. allows switches to route traffic between subinterfaces
E. contains collisions

Answer: A C

Question 10

Assuming the default switch configuration which vlan range can be added modified and removed on a Cisco switch?

A. 2 through 1001
B. 1 through 1001
C. 1 through 1002
D. 2 through 1005

Answer: A

CCNA – Trunking Questions

Question 1

Refer to the topology and router output shown in the exhibit:
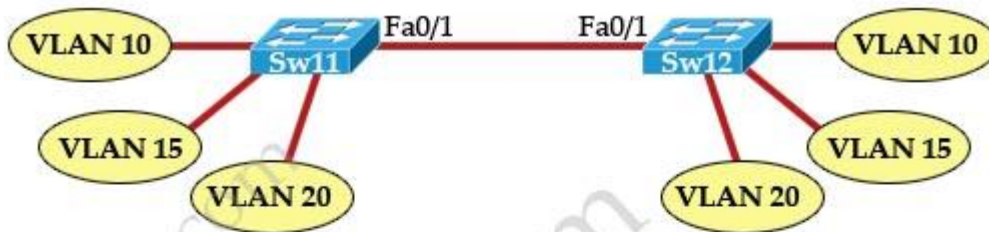

```
Sw11# show vlan brief

VLAN Name              Status    Ports
---------- -------     -------   -------------------------------
1     default          active
10    Marketing        active    Fa0/6, Fa0/7, Fa0/8, Fa0/9
                                 Fa0/10, Fa0/11, Fa0/12, Fa0/13
                                 Fa0/14, Fa0/15
15    Accounting       active    Fa0/16, Fa0/18, Fa0/19, Fa0/20
                                 Fa0/21, Fa0/22, Fa0/24
20    Admin            active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                 Fa0/5
1002  fddi-default     active
1003  token-ring-default active
1004  fddinet-default  active
1005  trnet-default    active
Switch#
```

A technician is troubleshooting host connectivity issues on the switches. The hosts in VLANs 10 and 15 on Sw11 are unable to communicate with hosts in the same VLANs on Sw12. Hosts in the Admin VLAN are able to communicate. The port-to-VLAN assignments are identical on the two switches. What could be the problem?

A. The Fa0/1 port is not operational on one of the switches.
B. The Link connecting the switches has not been configured as a trunk.
C. At lease one port needs to be configured in VLAN 1 for VLANs 10 and 15 to be able to communicate.
D. Port FastEthernet 0/1 needs to be configured as an access link on both switches.
E. A router is required for hosts on Sw11 in VLANs 10 and 15 to communicate with hosts in the same VLAN on Sw12.

Answer: B

Question 2

In a switched environment, what does the IEEE 802.1Q standard describe?

A. the operation of VTP
B. a method of VLAN trunking
C. an approach to wireless LAN communication
D. the process for root bridge selection
E. VLAN pruning

Answer: B

Question 3

As a network technician, do you know which are valid modes for a switch port used as a VLAN trunk? (Choose three)

A. transparent
B. auto
C. on
D. desirable
E. blocking
F. forwarding

Answer: B C D

Question 4

Refer to the exhibit:

SwitchA# show running-config
Building configuration...
Current configuration: 100 bytes
!
interface FasEthernet0/24
  switchport mode access
  no ip address
!
end

SwitchB# show running-config
Building configuration...
Current configuration: 100 bytes
!
interface FasEthernet0/24
  switchport mode access
  no ip address
!
end
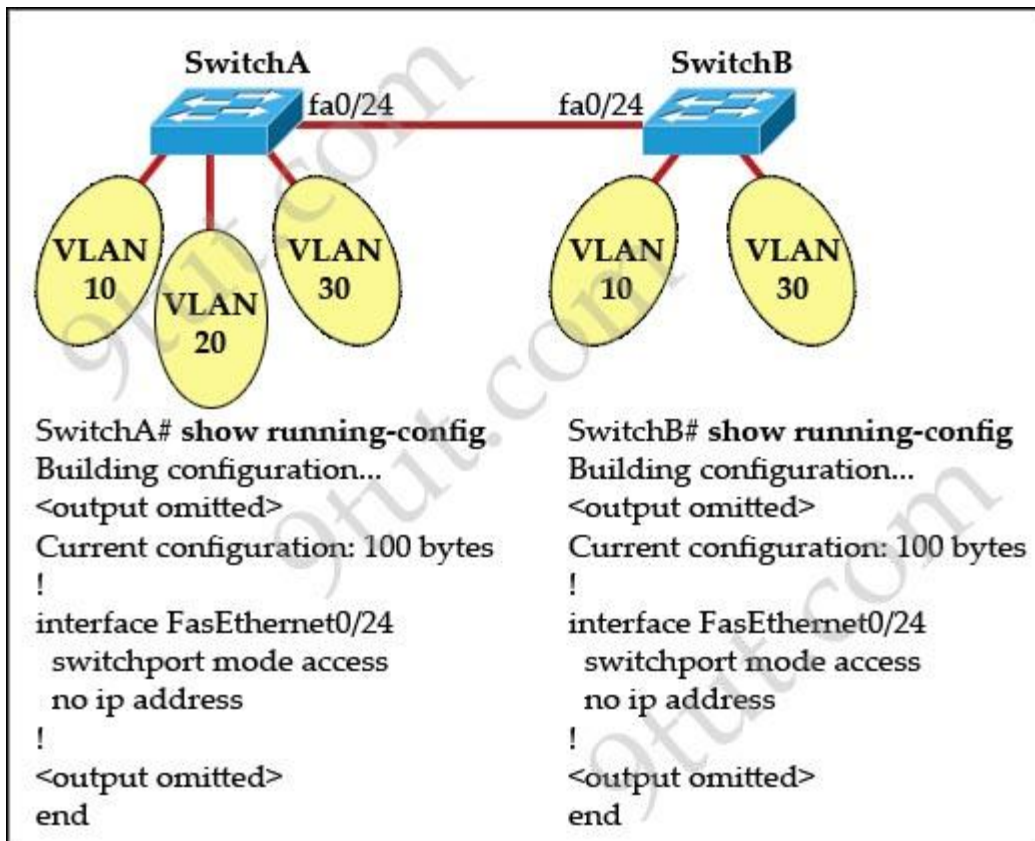
All switch ports are assigned to the correct VLANs, but none of the hosts connected to SwitchA can communicate with hosts in the same VLAN connected to SwitchB. Based on the output shown, what is the most likely problem?

A. The access link needs to be configured in multiple VLANs.
B. The link between the switches is configured in the wrong VLAN
C. The link between the switches needs to be configured as a trunk.
D. VTP is not configured to carry VLAN information between the switches.
E. Switch IP addresses must be configured in order for traffic to be forwarded between the switches.

Answer: C

Question 5

Which IEEE standard protocol is initiated as a result of successful DTP completion in a switch over FastEthernet?

A. 802.3ad
B. 802.1w
C. 802.1Q
D. 802.1d

Answer: C

Question 6

Which three of these statements regarding 802.1Q trunking are correct? (Choose three)

A. 802.1Q native VLAN frames are untagged by default.
B. 802.1Q trunking ports can also be secure ports.
C. 802.1Q trunks can use 10 Mb/s Ethernet interfaces.
D. 802.1Q trunks require full-duplex, point-to-point connectivity.
E. 802.1Q trunks should have native VLANs that are the same at both ends.

Answer: A C E

Question 7

Refer to the exhibit:

Fa0/0.1 - 172.19.1.254/24 VLAN 1
Fa0/0.2 - 172.19.2.254/24 VLAN 2
Fa0/0.3 - 172.19.3.254/24 VLAN 3

C-router is to be used as a "router-on-a-stick" to route between the VLANs. All the interfaces have been properly configured and IP routing is operational. The hosts in the VLANs have been configured with the appropriate default gateway. What can be said about this configuration?

A. These commands need to be added to the configuration:
C-router(config)# router eigrp 123
C-router(config-router)# network 172.19.0.0

B. No further routing configuration is required.

C. These commands need to be added to the configuration:
C-router(config)# router ospf 1
C-router(config-router)# network 172.19.0.0 0.0.3.255 area 0

D. These commands need to be added to the configuration:
C-router(config)# router rip
C-router(config-router)# network 172.19.0.0

Answer: B

Question 8

Refer to the exhibit:
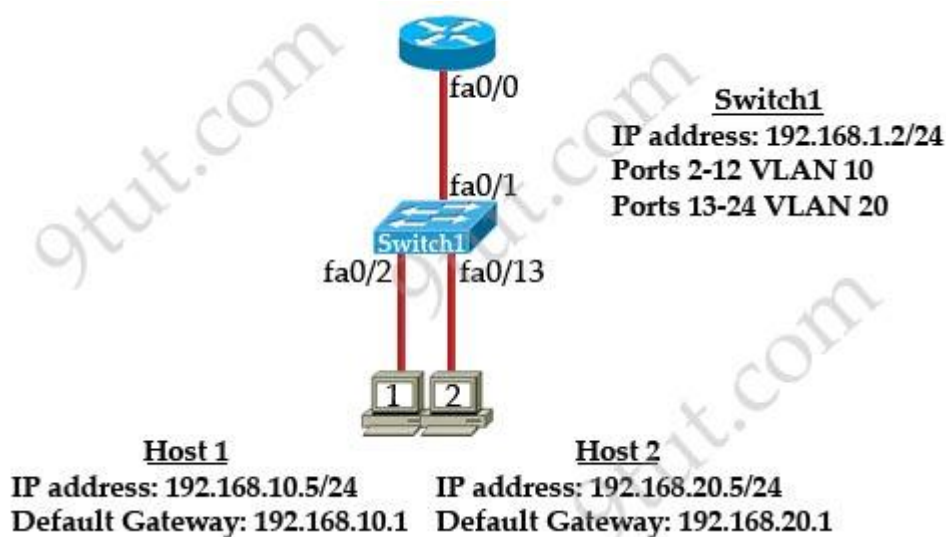
What commands must be configured on the 2950 switch and the router to allow communication between host 1 and host 2? (Choose two)

A. Router(config)#interface fastethernet 0/0
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#no shut down

B. Router(config)#interface fastethernet 0/0
Router(config-if)#no shutdown
Router(config)#interface fastethernet 0/0.1
Router(config-subif)#encapsulation dot1q 10
Router(config-subif)#ip address 192.168.10.1 255.255.255.0
Router(config-subif)#interface fastethernet 0/0.2
Router(config-subif)#encapsulation dot1q 20
Router(config-subif)#ip address 192.168.20.1 255.255.255.0

C. Router (config)#router eigrp 100
Router(config-router)#network 192.168.10.0
Router(config-router)#network 192.168.20.0

D. Switch1(config)# vlan database
Switch1(config-vlan)# vtp domain XYZ
Switch1(config-vlan)# vtp server

E. Switch1(config) # interface fastEthernet 0/1
Switch1(config-if)# switchport mode trunk

F. Switch1(config)# interface vlan 1
Switch1(config-if)# ip default-gateway 192.168.1.1

Answer: B E

Question 9

Which two of these are characteristics of the 802.1Q protocol? (Choose two)

A. It is a layer 2 messaging protocol which maintains vlan configurations across network.
B. It includes an 8-bit field which specifies the priority of a frame.
C. It is used exclusively for tagging vlan frames and does not address network reconvergence following switched network topology changes.
D. It modifies the 802.3 frame header and thus requires that the FCS be recomputed.
E. It is a trunking protocol capable of earring untagged frames.

Answer: D E

Question 10

What are the possible trunking modes for a switch port? (Choose three)

A. transparent
B. auto
C. on
D. desirable
E. client
F. forwarding

Answer: B C D

CCNA – Trunking Questions 2

Question 1

What is the function of the command **switchport trunk native vlan 999** on a trunk port?

A. It designates VLAN 999 for untagged traffic.
B. It blocks VLAN 999 traffic from passing on the trunk.
C. It creates a VLAN 999 interface.
D. It designates VLAN 999 as the default for all unknown tagged traffic.

Answer: A

Question 2

Which three elements must be used when you configure a router interface for vlan trunking? (Choose three)

A. one IP network or subnetwork for each subinterface
B. subinterface numbering that matches vlan tages
C. subinterface encapsulation identifiers that match vlan tags
D. a management domain for each subinterface G E. one physical interface for each subinterface
F. one subinterface per vlan

Answer: A C F

Question 3

Which two link protocols are used to carry multiple VLANs over a single link? (Choose two)

A. VTP
B. 802.1q
C. IGP
D. ISL
E. 802.3u

Answer: B D

Question 4

Which two commands can be used to verify a trunk link configuration status on a Cisco switch? (choose two)

A. show interfaces trunk
B. show interfaces switchport
C. show ip interface brief
D. show interfaces vlan

Answer: A B

Question 5

Refer to the exhibit:
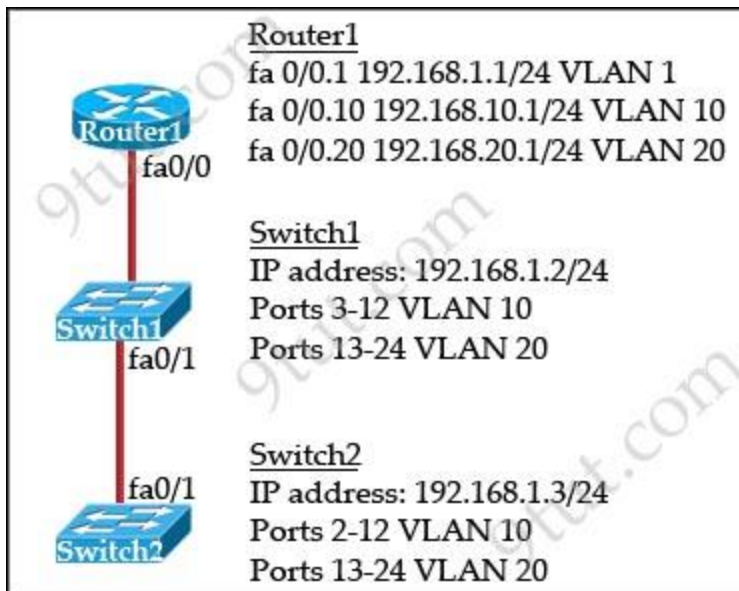
How should the FastEthernet0/1 port on the 2950 model switches that are shown in the exhibit be configured to allow connectivity between all devices?
A. The ports only need to be connected by a crossover cable.
B. SwitchX (config)#interface FastEthernet 0/1
SwitchX(config-if)#switchport mode trunk
C. SwitchX (config)#interface FastEthernet 0/1
SwitchX(config-if)#switchport mode access
SwitchX(config-if)#switchport access vlan 1
D. SwitchX (config)#interface FastEthernet 0/1
SwitchX(config-if)#switchport mode trunk
SwitchX(config-if)#switchport trunk vlan 1
SwitchX(config-if)#switchport trunk vlan 10
SwitchX(config-if)#switchport trunk vlan 20

Answer: B

CCNA – EtherChannel

Question 1

Refer to the exhibit.

SW1
interface FastEthernet 0/1
 channel-group 1 mode auto
 switchport trunk encapsulation dot1q
 switchport mode trunk

interface FastEthernet 0/2
 channel-group 1 mode auto
 switchport trunk encapsulation dot1q
 switchport mode trunk

A network administrator is configuring an EtherChannel between SW1 and SW2. The SW1 configuration is shown. What is the correct configuration for SW2?

A. interface FastEthernet 0/1
channel-group 1 mode active
switchport trunk encapsulation dot1q
switchport mode trunk
!
interface FastEthernet 0/2
channel-group 1 mode active
switchport trunk encapsulation dot1q
switchport mode trunk

B. interface FastEthernet 0/1
channel-group 2 mode auto
switchport trunk encapsulation dot1q
switchport mode trunk
!
interface FastEthernet 0/2
channel-group 2 mode auto
switchport trunk encapsulation dot1q
switchport mode trunk

C. interface FastEthernet 0/1
channel-group 1 mode desirable
switchport trunk encapsulation dot1q

switchport mode trunk
!
interface FastEthernet 0/2
channel-group 1 mode desirable
switchport trunk encapsulation dot1q
switchport mode trunk

D. interface FastEthernet 0/1
channel-group 1 mode passive
switchport trunk encapsulation dot1q
switchport mode trunk
!
interface FastEthernet 0/2
channel-group 1 mode passive
switchport trunk encapsulation dot1q
switchport mode trunk

Answer: C

Question 2

Refer to the exhibit.

SW1#show etherchannel summary
Flags: D - down   P - bundled in port-channel
        I - stand-alone s - suspended
        H - Hot-standby (LACP only)
        R - Layer3   S - Layer2
        U - in use   f - failed to allocate aggregator
        M - not in use, minimum links not met
        u - unsuitable for bundling
        w - waiting to be aggregated
        d - default port
Number of channel-groups in use: 2
Number of aggregators: 2

Group Port-channel Protocol Ports
--------+-----------------+-------------+----------------------------
1   Po1(SU)   LACP   Fa0/2(P) Fa0/1(D)

SW1#show interface fa0/1
FastEthernet0/1 is down, line protocol is down (disabled)
  Hardware is AmdP2, address is aabb.cc00.0510
      (bia aabb.cc00.0510)
  MTU 1500 bytes, BW 10000 Kbit/sec, DLY 1000 usec,
      reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 10Mb/s
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:04, output 00:00:00, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/2000/0/0 (size/max/drops/flushes);
      Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/0 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec

SW2#show etherchannel summary
Flags: D - down   P - bundled in port-channel
        I - stand-alone s - suspended
        H - Hot-standby (LACP only)
        R - Layer3   S - Layer2
        U - in use   f - failed to allocate aggregator
        M - not in use, minimum links not met
        u - unsuitable for bundling
        w - waiting to be aggregated
        d - default port
Number of channel-groups in use: 2
Number of aggregators: 2

Group Port-channel Protocol Ports
--------+-----------------+-------------+----------------------------
1   Po1(SU)   LACP   Fa0/2(P) Fa0/1(D)

SW2#show interface fa0/1
FastEthernet0/1 is down, line protocol is down (disabled)
  Hardware is AmdP2, address is aabb.cc00.0510
      (bia aabb.cc00.0510)
  MTU 1500 bytes, BW 10000 Kbit/sec, DLY 1000 usec,
      reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:04, output 00:00:00, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/2000/0/0 (size/max/drops/flushes);
      Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/0 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec

If the devices produced the given output, what is the cause of the EtherChannel problem?

A. SW1's Fa0/1 interface is administratively shut down.
B. There is an encapsulation mismatch between SW1's Fa0/1 and SW2's Fa0/1 interfaces.
C. There is an MTU mismatch between SW1's Fa0/1 and SW2's Fa0/1 interfaces.
D. There is a speed mismatch between SW1's Fa0/1 and SW2's Fa0/1 interfaces.

Answer: D

Question 3

A network administrator creates a layer 3 EtherChannel, bundling four interfaces into channel group 1. On what interface is the IP address configured?

A. the port-channel 1 interface
B. the highest number member interface
C. all member interfaces
D. the lowest number member interface

Answer: A

Question 4

What parameter can be different on ports within an EtherChannel?

A. speed
B. DTP negotiation settings
C. trunk encapsulation
D. duplex

Answer: B

Question 5

Refer to the exhibit.

```
FastEthernet0/3:
Port state      = 1
Channel group  = 2      Mode = Passive      Gcchange = -
Port-channel   = Po2  GC    = -             Pseudo port-channel = Po2
Port index     = 0      Load  = 0x00        Protocol  = LACP
```

What set of commands was configured on interface Fa0/3 to produce the given output?

A. interface FastEthernet 0/3
channel-group 1 mode desirable
switchport trunk encapsulation dot1q
switchport mode trunk

B. interface FastEthernet 0/3
channel-group 2 mode passive
switchport trunk encapsulation dot1q
switchport mode trunk

C. interface FastEthernet 0/3
channel-group 2 mode active
switchport trunk encapsulation dot1q
switchport mode trunk

D. interface FastEthernet 0/3
channel-group 2 mode on
switchport trunk encapsulation dot1q
switchport mode trunk

Answer: B

CCNA – InterVLAN Questions

Question 1

Refer to the exhibit:
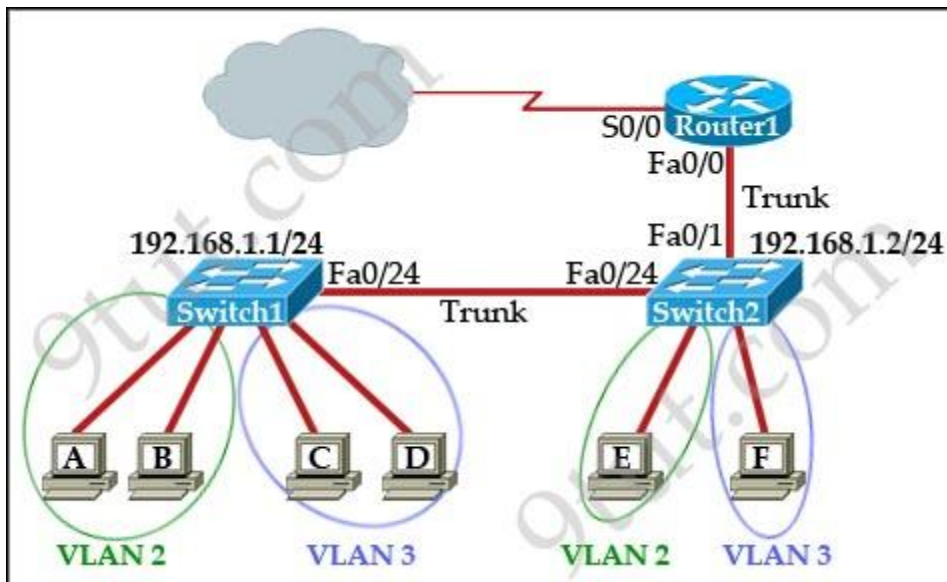
Which two statements are true about interVLAN routing in the topology that is shown in the exhibit? (Choose two)

A. Host E and host F use the same IP gateway address.
B. Routed and Switch2 should be connected via a crossover cable.
C. Router1 will not play a role in communications between host A and host D.
D. The FastEthernet 0/0 interface on Router1 must be configured with subinterfaces.
E. Router1 needs more LAN interfaces to accommodate the VLANs that are shown in the exhibit.
F. The FastEthernet 0/0 interface on Router1 and Switch2 trunk ports must be configured using the same encapsulation type.

Answer: D F

CCNA – STP

Question 1

Refer to the topology shown in the exhibit. Which ports will be STP designated ports if all the links are operating at the same bandwidth? (Choose three)

MAC: 0f00.0ace.0000
default priority

B

Fa0/0   Fa0/1

Fa0/0   Fa0/0
          Fa0/1   Fa0/1

A   C

MAC: 0f00.cafe.1111   MAC: 0f00.face.0000
default priority   default priority
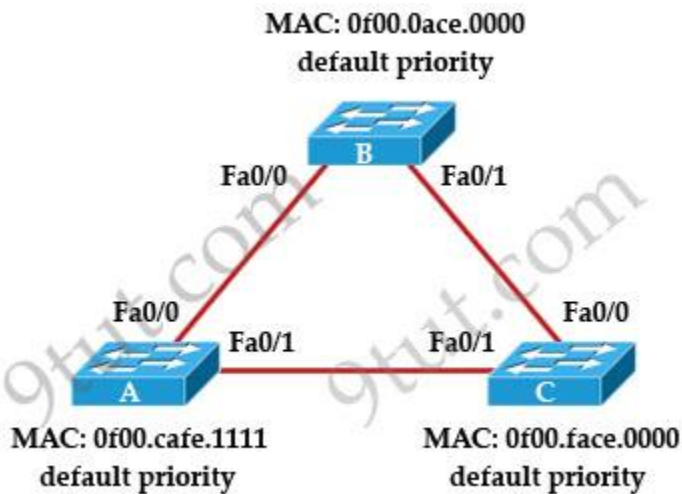
A. Switch A – Fa0/0
B. Switch A – Fa0/1
C. Switch B – Fa0/0
D. Switch B – Fa0/1
E. Switch C – Fa0/0
F. Switch C – Fa0/1

Answer: B C D

Question 2

What value is primarily used to determine which port becomes the root port on each non-root switch in a spanning-tree topology?

A. lowest port MAC address
B. port priority number and MAC address.
C. VTP revision number
D. highest port priority number.
E. path cost

Answer: E

Question 3

What is one benefit of PVST+?

A. PVST+ reduces the CPU cycles for all the switches in the network.
B. PVST+ automatically selects the root bridge location, to provide optimization.
C. PVST+ allows the root switch location to be optimized per vlan.
D. PVST+ supports Layer 3 load balancing without loops.

Answer: C

Question 4

Which two protocols are used by bridges and/or switches to prevent loops in a layer 2 network?
(Choose two)

A. 802.1d
B. VTP
C. 802.1q
D. STP
E. SAP

Answer: A D

Question 5

In which circumstance are multiple copies of the same unicast frame likely to be transmitted in a switched LAN?

A. after broken links are re-established
B. in an improperly implemented redundant topology
C. when upper-layer protocols require high reliability
D. during high traffic periods
E. when a dual ring topology is in use

Answer: B

Question 6

Refer to the exhibit.
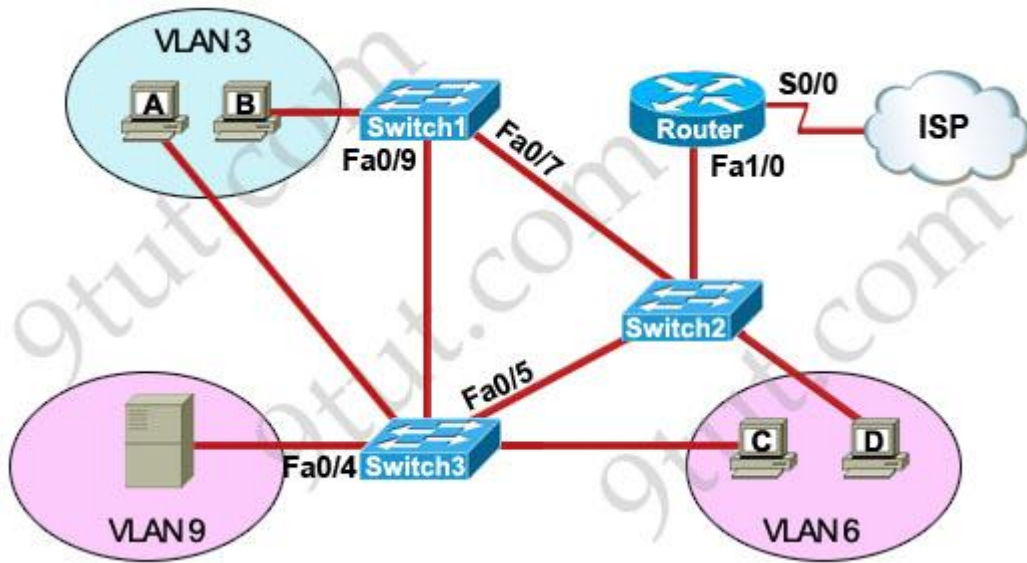
A problem with network connectivity has been observed. It is suspected that the cable connected to switch port Fa0/9 on Switch1 is disconnected. What would be an effect of this cable being disconnected?

A. Host B would not be able to access the server in VLAN9 until the cable is reconnected.
B. Communication between VLAN3 and the other VLANs would be disabled.
C. The transfer of files from Host B to the server in VLAN9 would be significantly slower.
D. For less than a minute, Host B would not be able to access the server in VLAN9. Then normal network function would resume.

Answer: D

Question 7

Which port state is introduced by Rapid-PVST?

A. learning
B. listening
C. discarding
D. forwarding

Answer: C

Question 8

Refer to the exhibit. Based on the information given, which switch will be elected root bridge and why?
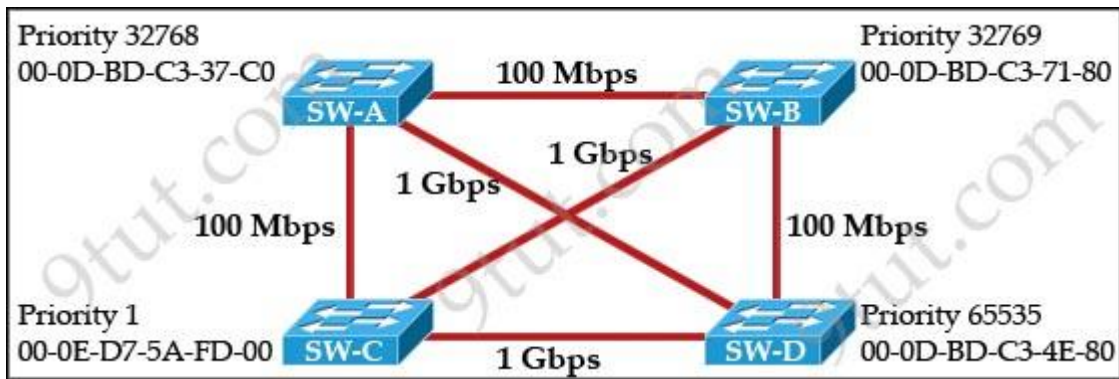
A. Switch A, because it has the lowest MAC address
B. Switch A, because it is the most centrally located switch
C. Switch B, because it has the highest MAC address
D. Switch C, because it is the most centrally located switch
E. Switch C, because it has the lowest priority
F. Switch D, because it has the highest priority

Answer: E

Question 9

Which term describes a spanning-tree network that has all switch ports in either the blocking or forwarding state?

A. redundant
B. spanned
C. provisioned
D. converged

Answer: D

Question 10

Refer to the exhibit. Given the output shown from this Cisco Catalyst 2950, what is the most likely reason that interface FastEthernet 0/10 is not the root port for VLAN 2?

Switch# show spanning-tree interface fastethernet0/10

Vlan	Role	Sts	Cost	Prio.Nbr	Type
VLAN0001	Root	FWD	19	128.1	P2p
VLAN0002	Altn	BLK	19	128.2	P2p
VLAN0003	Root	FWD	19	128.2	P2p

A. This switch has more than one interface connected to the root network segment in VLAN 2.
B. This switch is running RSTP while the elected designated switch is running 802.1d Spanning Tree.
C. This switch interface has a higher path cost to the root bridge than another in the topology.
D. This switch has a lower bridge ID for VLAN 2 than the elected designated switch.

Answer: C

CCNA – STP 2

Question 1

Three switches are connected to one another via trunk ports. Assuming the default switch configuration, which switch is elected as the root bridge for the spanning-tree instance of VLAN 1?

A. the switch with the highest MAC address
B. the switch with the lowest MAC address
C. the switch with the highest IP address
D. the switch with the lowest IP address

Answer: B

Question 2

Based on the network shown in the graphic
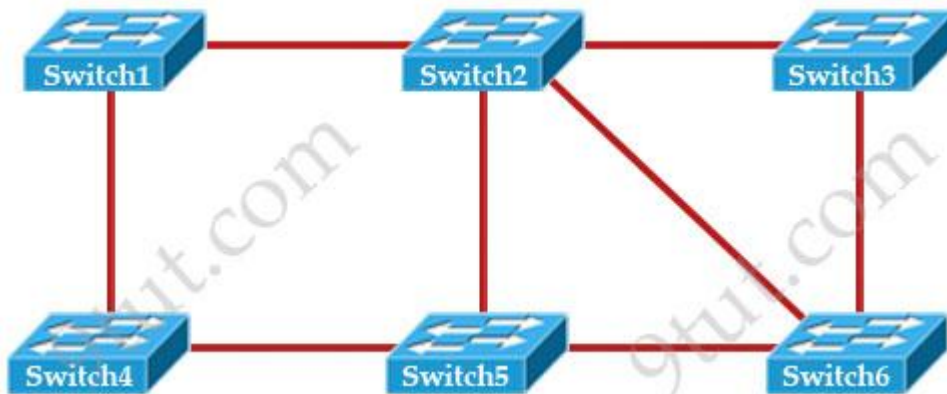
Which option contains both the potential networking problem and the protocol or setting that should be used to prevent the problem?

A. routing loops, hold down timers
B. Switching loops, split horizon
C. routing loops, split horizon
D. Switching loops, VTP
E. routing loops, STP
F. Switching loops, STP

Answer: F

Question 3

Refer to the exhibit. Which switch provides the spanning-tree designated port role for the network segment that services the printers?
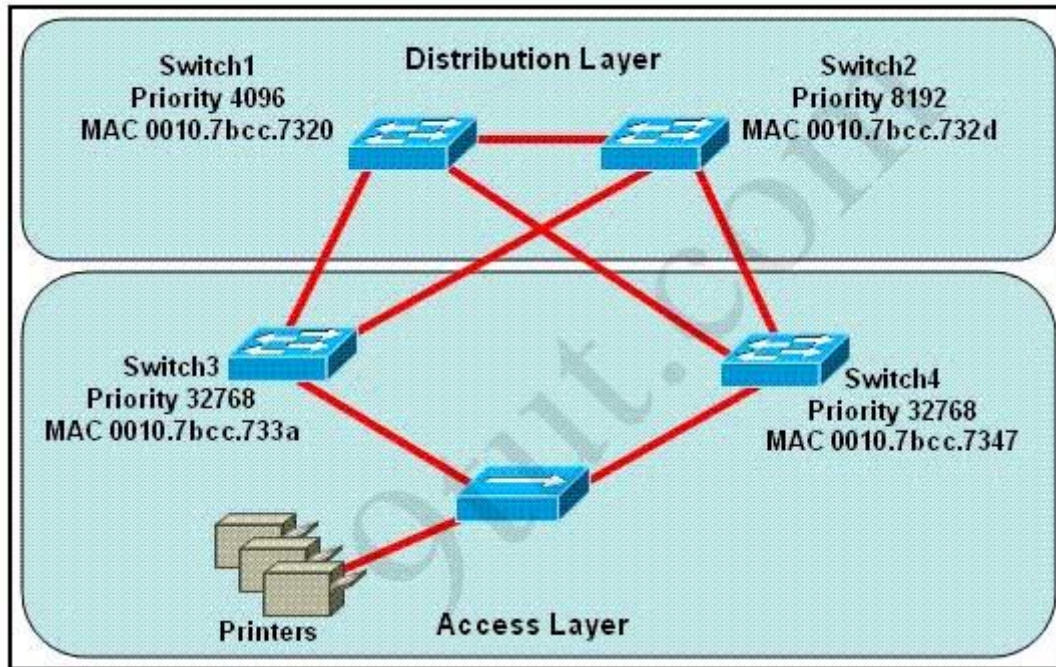
A. Switch1
B. Switch2
C. Switch3
D. Switch4

Answer: C

CCNA – RSTP

Question 1

Which three statements about RSTP are true? (Choose three)

A. RSTP significantly reduces topology reconvening time after a link failure.
B. RSTP expands the STP port roles by adding the alternate and backup roles.
C. RSTP port states are blocking, discarding, learning, or forwarding.
D. RSTP provides a faster transition to the forwarding state on point-to-point links than STP does.
E. RSTP also uses the STP proposal-agreement sequence.
F. RSTP uses the same timer-based process as STP on point-to-point links.

Answer: A B D

Question 2

Refer to the exhibit:

```
Switch# show spanning-tree vlan 1
VLAN0001
      Spanning tree enabled pcotocol rstp
      Root ID    Priority    20481
                 Address    0008.217a.5800
                 Cost       38
                 Port       1 (FastEthernet0/1)
                 Hello Time  2 sec Max Age 20 sec Forward Delay 15 sec

      Bridge ID     Priority    32769 (priority 32768 sys-id-ext 1)
                    Address    0008.205e.6600
                    Hello Time  2 sec Max Age 20 sec Forward Delay 15 sec
                    Aging Time 300

      Interface       Role  Sts       Cost        Prio.Nbr  Type
      --------------- ----- ----      ----------  --------- ---------------------
      Fa0/1           Root  FWD       19          128.1     P2p
      Fa0/4           Desg  FDD       38          128.1     P2p
      Fa0/11          Altn  BLK       57          128.1     P2p
      Fa0/13          Desg  FWD       38          128.1     P2p
```

Why has this switch not been elected the root bridge for VLAN1?

A. It has more than one internee that is connected to the root network segment.
B. It is running RSTP while the elected root bridge is running 802.1d spanning tree.

C. It has a higher MAC address than the elected root bridge.
D. It has a higher bridge ID than the elected root bridge.

Answer: D

Question 3

Which command enables RSTP on a switch?

A. spanning-tree mode rapid-pvst
B. spanning-tree uplinkfast
C. spanning-tree backbonefast
D. spanning-tree mode mst

Answer: A

Question 4

Refer to the exhibit. Which statement is true?

```
SwitchA# show spanning-tree vlan 20

VLAN 0020
  Spanning tree enabled protocol rstp
  Root ID     Priority    24596
              Address     0017.596d.2a00
              Cost        38
              Port        11 (FastEthernet0/10)
              Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    28692  (priority 28672 sys-id-ext 1)
             Address     0017.596d.1580
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  300

Interface          Role Sts Cost       Prio.Nbr Type
---------------- ---- --- ---------- -------- ---------------------------
Fa0/11             Root FWD 19         128.11   P2p
Fa0/12             Altn BLK 19         128.12   P2p
```

A. The Fa0/11 role confirms that SwitchA is the root bridge for VLAN 20.
B. VLAN 20 is running the Per VLAN Spanning Tree Protocol.
C. The MAC address of the root bridge is 0017.596d.1580.
D. SwitchA is not the root bridge, because not all of the interface roles are designated.

Answer: D

Question 5

Refer to the exhibit. The output that is shown is generated at a switch. Which three of these statements are true? (Choose three)

```
Switch# show spanning-tree vlan 30
VLAN0030
Spanning tree enabled protocol rstp
Root ID Priority 24606
Address 00d0.047b.2800
This bridge is the root
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
Bridge ID Priority 24606 (priority 24576 sys-id-ext 30)
Address 00d0.047b.2800
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
Aging Time 300
Interface    Role  Sts    Cost  Prio.Nbr   Type
----------   ----- -----  ----  --------   ----- -----------
Fa1/1        Desg  FWD    4     128.1      p2p
Fa1/2        Desg  FWD    4     128.2      p2p
Fa5/1        Desg  FWD    4     128.257    p2p
```

A. All ports will be in a state of discarding, learning or forwarding.
B. Thirty VLANs have been configured on this switch.
C. The bridge priority is lower than the default value for spanning tree.
D. All interfaces that are shown are on shared media.
E. All designated ports are in a forwarding state.
F. The switch must be the root bridge for all VLANs on this switch.

Answer: A C E

Question 6

Which two states are the port states when RSTP has converged? (choose two)

A. blocking
B. learning
C. disabled
D. forwarding
E. listening

Answer: A D

Question 7

Which two of these statements regarding RSTP are correct? (Choose two)

A. RSTP cannot operate with PVST+.
B. RSTP defines new port roles.
C. RSTP defines no new port states.
D. RSTP is a proprietary implementation of IEEE 802.1D STP.
E. RSTP is compatible with the original IEEE 802.1D STP.

Answer: B E

Question 8

Refer to the exhibit. Each of these four switches has been configured with a hostname, as well as being configured to run RSTP. No other configuration changes have been made. Which three of these show the correct RSTP port roles for the indicated switches and interfaces? (Choose three)
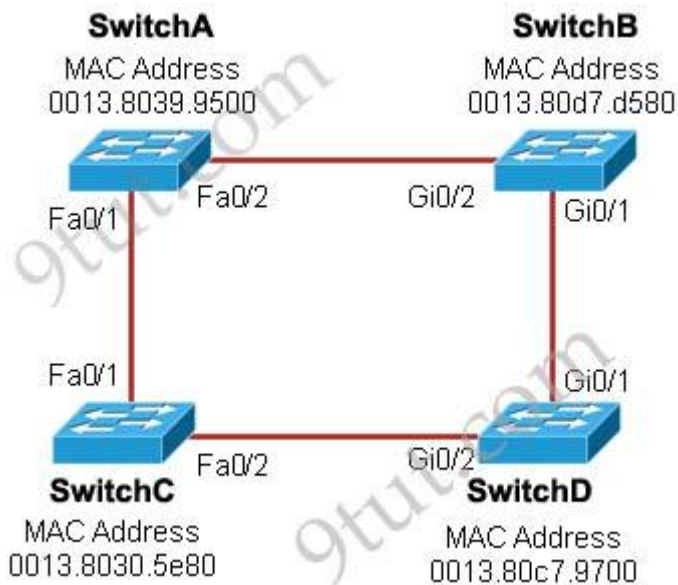
A. SwitchA, Fa0/2, designated
B. SwitchA, Fa0/1, root
C. SwitchB, Gi0/2, root
D. SwitchB, Gi0/1, designated
E. SwitchC, Fa0/2, root
F. SwitchD, Gi0/2, root

Answer: A B F

Question 9

Refer to the exhibit. At the end of an RSTP election process, which access layer switch port will assume the discarding role?
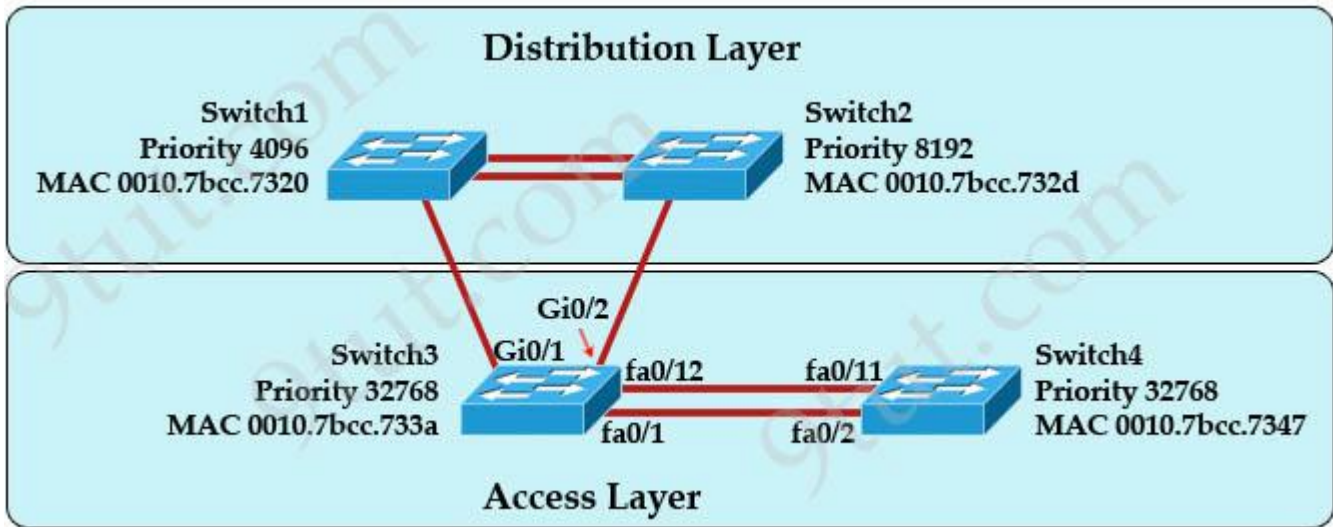
A. Switch3, port fa0/1
B. Switch3, port fa0/12
C. Switch4, port fa0/11
D. Switch4, port fa0/2
E. Switch3, port Gi0/1

Answer: C

CCNA – Access list Questions

Question 1

Which item represents the standard IP ACL?

A. access-list 50 deny 192.168.1.1 0.0.0.255
B. access-list 110 permit ip any any
C. access-list 2500 deny tcp any host 192.168.1.1 eq 22
D. access-list 101 deny tcp any host 192.168.1.1

Answer: A

Question 2

A network administrator is configuring ACLs on a Cisco router, to allow traffic from hosts on networks 192.168.146.0, 192.168.147.0, 192.168.148.0, and 192.168.149.0 only. Which two ACL statements, when combined, would you use to accomplish this task? (Choose two)

A. access-list 10 permit ip 192.168.146.0 0.0.1.255
B. access-list 10 permit ip 192.168.147.0 0.0.255.255
C. access-list 10 permit ip 192.168.148.0 0.0.1.255
D. access-list 10 permit ip 192.168.149.0 0.0.255.255
E. access-list 10 permit ip 192.168.146.0 0.0.0.255
F. access-list 10 permit ip 192.168.146.0 255.255.255.0

Answer: A C

Question 3

Refer to the exhibit.

```
ACL 102
access-list 102 deny tcp 172.21.1.1 0.0.0.255 any eq 80
access-list 102 deny ip any any

RouterA#show ip int
FastEthernet0/0 is up, line protocol is up
Internet address is 192.168.1.144/20
Broadcast address is 255.255.255.255
Address determined by DHCP
MTU is 1500 bytes
```

Helper address is not set
Directed broadcast forwarding is enabled
Outgoing access list is 102
Inbound access list is not set
Proxy ARP is enabled

An attempt to deny web access to a subnet blocks all traffic from the subnet. Which interface command immediately removes the effect of ACL 102?

A. no ip access-class 102 in
B. no ip access-class 102 out
C. no ip access-group 102 in
D. no ip access-group 102 out
E. no ip access-list 102 in

Answer: D

Question 4

On which options are standard access lists based?

A. destination address and wildcard mask
B. destination address and subnet mask
C. source address and subnet mask
D. source address and wildcard mask

Answer: D

Question 5

Refer to the exhibit.

ACL 10
Statements are written in this order:
A. permit any
B. deny 172.21.1.128 0.0.0.15
C. permit 172.21.1.129 0.0.0.0
D. permit 172.21.1.142 0.0.0.0

Statements A, B, C, and D of ACL 10 have been entered in the shown order and applied to interface E0 inbound, to prevent all hosts (except those whose addresses are the first and last IP of subnet 172.21.1.128/28) from accessing the network. But as is, the ACL does not restrict anyone from the network. How can the ACL statements be re-arranged so that the system works as intended?

A. ACDB
B. BADC
C. DBAC
D. CDBA

Answer: D

Question 6

Which statement about access lists that are applied to an interface is true?

A. you can apply only one access list on any interface
B. you can configure one access list, per direction, per layer 3 protocol
C. you can place as many access lists as you want on any interface
D. you can configure one access list, per direction, per layer 2 protocol

Answer: B

Question 7

A network engineer wants to allow a temporary entry for a remote user with a specific username and password so that the user can access the entire network over the internet. Which ACL can be used?

A. reflexive
B. extended
C. standard
D. dynamic

Answer: D

CCNA – Subnetting

Question 1

Refer to the exhibit. Which subnet mask will place all hosts on Network B in the same subnet with the least amount of wasted addresses?
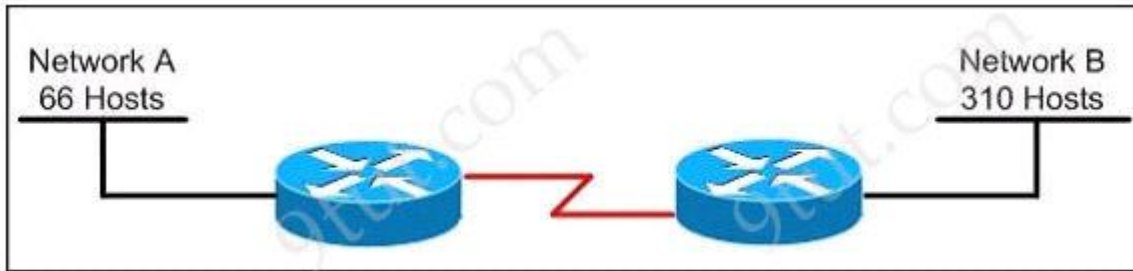
A. 255.255.255.0
B. 255.255.254.0
C. 255.255.252.0
D. 255.255.248.0

Answer: B

Question 2

Refer to the exhibit. All of the routers in the network are configured with the ip subnet-zero command. Which network addresses should be used for Link A and Network A? (Choose two)
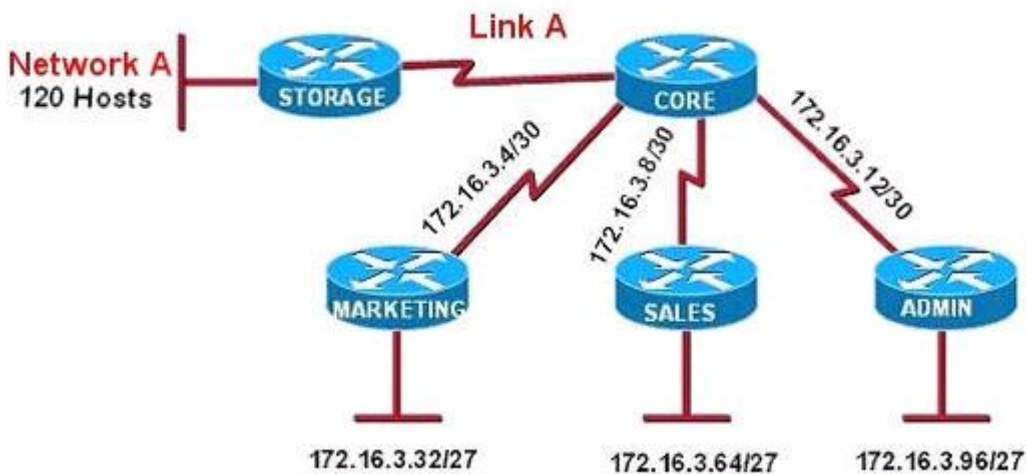
A. Network A – 172.16.3.48/26
B. Network A – 172.16.3.128/25

C. Network A – 172.16.3.192/26
D. Link A – 172.16.3.0/30
E. Link A – 172.16.3.40/30
F. Link A – 172.16.3.112/30

Answer: B D

Question 3

You have been asked to come up with a subnet mask that will allow all three web servers to be on the same network while providing the maximum number of subnets. Which network address and subnet mask meet this requirement?

A. 192.168.252.0 255.255.255.252
B. 192.168.252.8 255.255.255.248
C. 192.168.252.8 255.255.255.252
D. 192.168.252.16 255.255.255.240
E. 192.168.252.16 255.255.255.252

Answer: B

Question 4

Which subnet mask would be appropriate for a network address range to be subnetted for up to eight LANs, with each LAN containing 5 to 26 hosts?

A. 0.0.0.240
B. 255.255.255.252
C. 255.255.255.0
D. 255.255.255.224
E. 255.255.255.240

Answer: D

Question 5

An administrator must assign static IP addresses to the servers in a network. For network 192.168.20.24/29, the router is assigned the first usable host address while the sales server is given the last usable host address. Which of the following should be entered into the IP properties box for the sales server?

A. IP address: 192.168.20.14
Subnet Mask: 255.255.255.248
Default Gateway: 192.168.20.9

B. IP address: 192.168.20.254
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.20.1

C. IP address: 192.168.20.30
Subnet Mask: 255.255.255.248
Default Gateway: 192.168.20.25

D. IP address: 192.168.20.30
Subnet Mask: 255.255.255.240
Default Gateway: 192.168.20.17

E. IP address: 192.168.20.30
Subnet Mask: 255.255.255.240
Default Gateway: 192.168.20.25

Answer: C

Question 6

Refer to the exhibit. In this VLSM addressing scheme, what summary address would be sent from router A?
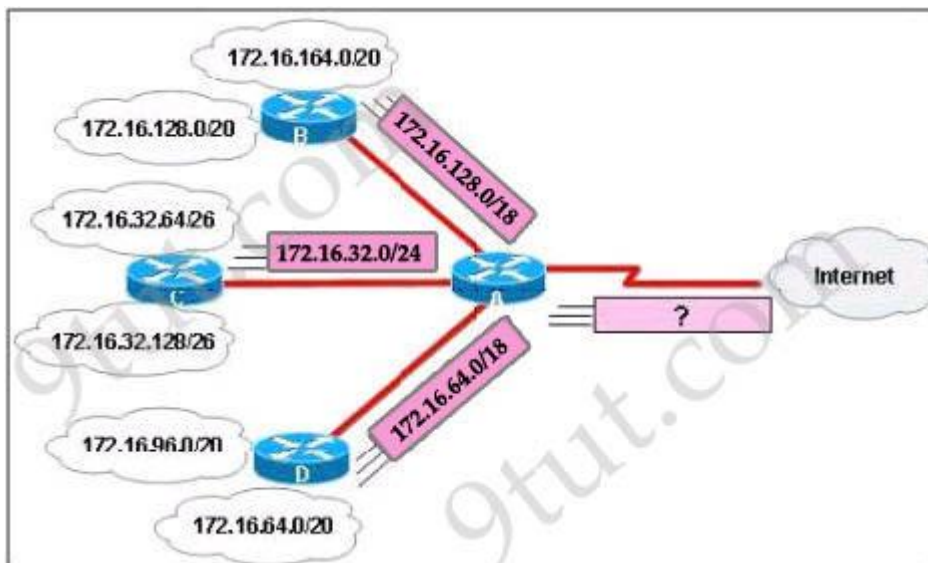
A. 172.16.0.0/16
B. 172.16.0.0/20
C. 172.16.0.0/24
D. 172.32.0.0/16
E. 172.32.0.0/17
F. 172.64.0.0/16

Answer: A

Question 7

You are working in a data center environment and are assigned the address range 10.188.31.0/23. You are asked to develop an IP addressing plan to allow the maximum number of subnets with as many as 30 hosts each.Which IP address range meets these requirements?

A. 10.188.31.0/27
B. 10.188.31.0/26
C. 10.188.31.0/29
D. 10.188.31.0/28
E. 10.188.31.0/25

Answer: A

Question 8

Which two benefits are provided by using a hierarchical addressing network addressing scheme? (Choose two)

A. reduces routing table entries
B. auto-negotiation of media rates
C. efficient utilization of MAC addresses
D. dedicated communications between devices
E. ease of management and troubleshooting

Answer: A E

Question 9

The network administrator is asked to configure 113 point-to-point links. Which IP addressing scheme best defines the address range and subnet mask that meet the requirement and waste the fewest subnet and host addresses?

A. 10.10.0.0/18 subnetted with mask 255.255.255.252
B. 10.10.0.0/25 subnetted with mask 255.255.255.252
C. 10.10.0.0/24 subnetted with mask 255.255.255.252
D. 10.10.0.0/23 subnetted with mask 255.255.255.252
E. 10.10.0.0/16 subnetted with mask 255.255.255.252

Answer: D

Question 10

Given an IP address 172.16.28.252 with a subnet mask of 255.255.240.0, what is the correct network address?

A. 172.16.16.0
B. 172.16.24.0
C. 172.16.0.0
D. 172.16.28.0

Answer: A

CCNA – Subnetting 2

Question 1

Refer to the exhibit. A new subnet with 60 hosts has been added to the network. Which subnet address should this network use to provide enough usable addresses while wasting the fewest addresses?

192.168.1.0/27   192.168.1.32/28   192.168.1.48/28   60 hosts
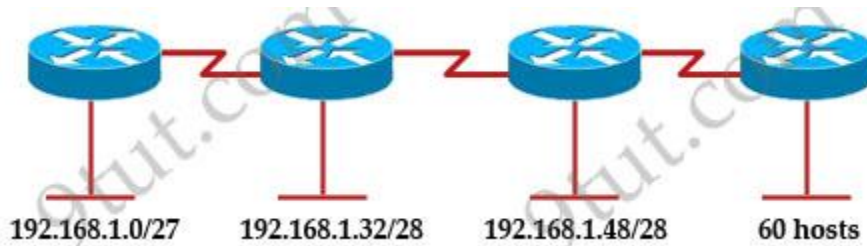
A. 192.168.1.56/27
B. 192.168.1.64/26
C. 192.168.1.64/27
D. 192.168.1.56/26

Answer: B

Question 2

Refer to the exhibit. The Lakeside Company has the internetwork in the exhibit. The Administrator would like to reduce the size of the routing table to the Central Router. Which partial routing table entry in the Central router represents a route summary that represents the LANs in Phoenix but no additional subnets?
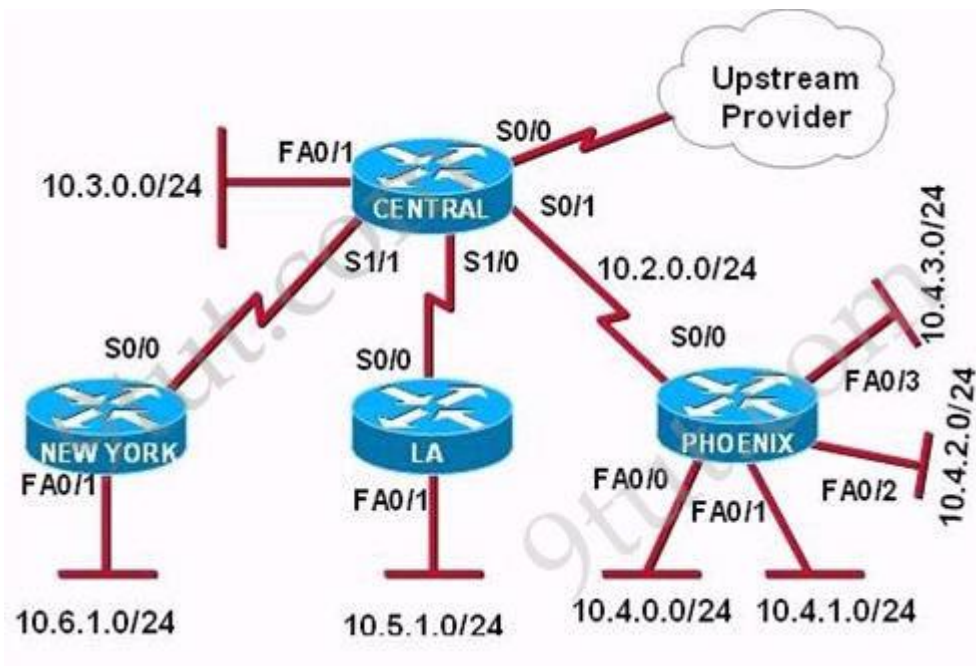
A. 10.0.0.0 /22 is subnetted, 1 subnet
D 10.0.0.0 [90/20514560] via 10.2.0.2 6w0d, serial 0/1

B. 10.0.0.0 /28 is subnetted, 1 subnet
D 10.2.0.0 [90/20514560] via 10.2.0.2 6w0d, serial 0/1

C. 10.0.0.0 /30 is subnetted, 1 subnet
D 10.2.2.0 [90/20514560] via 10.2.0.2 6w0d, serial 0/1

D. 10.0.0.0 /22 is subnetted, 1 subnet
D 10.4.0.0 [90/20514560] via 10.2.0.2 6w0d, serial 0/1

E. 10.0.0.0 /28 is subnetted, 1 subnet
D 10.4.4.0 [90/20514560] via 10.2.0.2 6w0d, serial 0/1

F. 10.0.0.0 /30 is subnetted, 1 subnet
D 10.4.4.4 [90/20514560] via 10.2.0.2 6w0d, serial 0/1

Answer: D

Question 3

Refer to the exhibit. What is the most appropriate summarization for these routes?
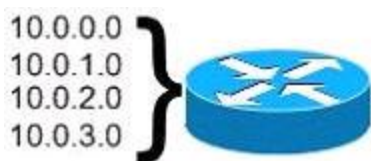
A. 10.0.0.0/21
B. 10.0.0.0/22
C. 10.0.0.0/23
D. 10.0.0.0/24

Answer: B

Question 4

A national retail chain needs to design an IP addressing scheme to support a nationwide network. The company needs a minimum of 300 sub-networks and a maximum of 50 host addresses per subnet. Working with only one Class B address, which of the following subnet masks will support an appropriate addressing scheme? (Choose two)

A. 255.255.255.0
B. 255.255.255.128
C. 255.255.252.0
D. 255.255.255.224
E. 255.255.255.192
F. 255.255.248.0

Answer: B E

Question 5

Which address range efficiently summarizes the routing table of the addresses for router main?
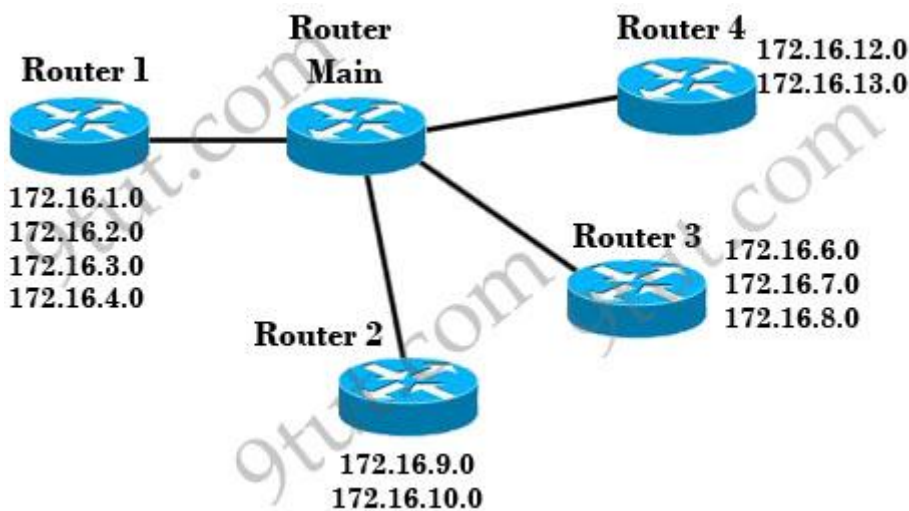
A. 172.16.0.0/18
B. 172.16.0.0/16
C. 172.16.0.0/20
D. 172.16.0.0/21

Answer: C

Question 6

Refer to the diagram. All hosts have connectivity with one another. Which statements describe the addressing scheme that is in use in the network? (Choose three)
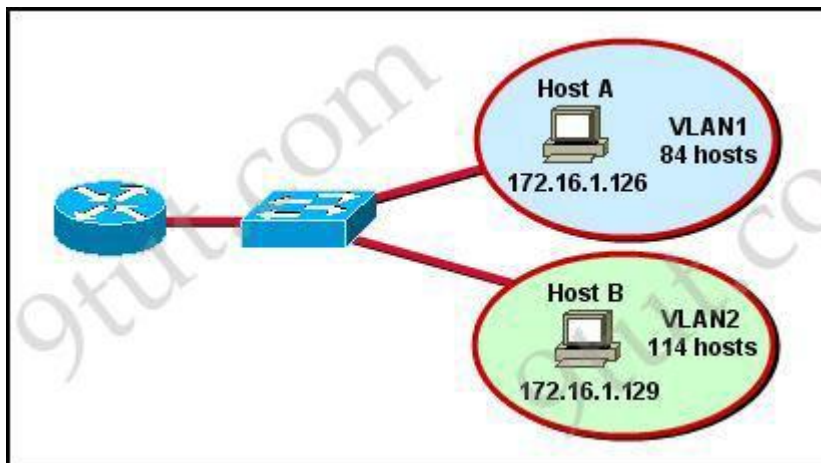
A. The subnet mask in use is 255.255.255.192.
B. The subnet mask in use is 255.255.255.128.
C. The IP address 172.16.1.25 can be assigned to hosts in VLAN1
D. The IP address 172.16.1.205 can be assigned to hosts in VLAN1
E. The LAN interface of the router is configured with one IP address.
F. The LAN interface of the router is configured with multiple IP addresses.

Answer: B C F

Question 7

The network administrator needs to address seven LANs. RIP version 1 is the only routing protocol in use on the network and subnet 0 is not being used. What is the maximum number of usable IP addresses that can be supported on each LAN if the organization is using one class C address block?

A. 6
B. 8
C. 14
D. 16
E. 30
F. 32

Answer: E

Question 8

Refer to the exhibit. What is the most efficient summarization that R1 can use to advertise its networks to R2?
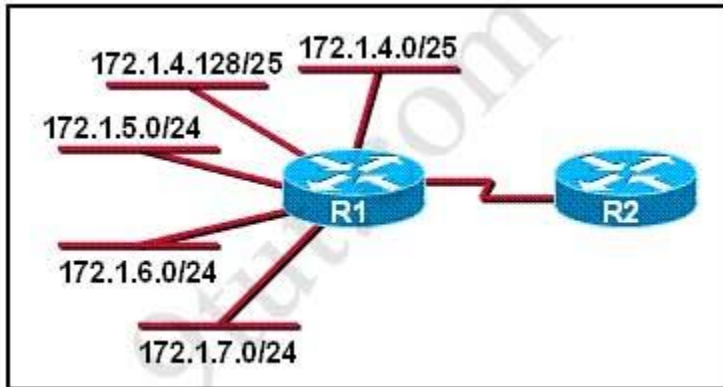
A. 172.1.0.0/22

B. 172.1.0.0/21

C. 172.1.4.0/22

D. 172.1.4.0/24
172.1.5.0/24
172.1.6.0/24
172.1.7.0/24

E. 172.1.4.0/25
172.1.4.128/25
172.1.5.0/24
172.1.6.0/24
172.1.7.0/24

Answer: C

Question 9

```
Gateway of last resort is not set
192.168.25.0/30 is subnetted, 4 subnets
D 192.168.25.20 [90/2681856] via 192.168.15.5, 00:00:10, Serial0/1
D 192.168.25.16 [90/1823638] via 192.168.15.5, 00:00:50, Serial0/1
D 192.168.25.24 [90/3837233] via 192.168.15.5, 00:05:23, Serial0/1
D 192.168.25.28 [90/8127323] via 192.168.15.5, 00:06:45, Serial0/1
C 192.168.15.4/30 is directly connected, Serial0/1
C 192.168.2.0/24 is directly connected, FastEthernet0/0
```

Which address and mask combination a summary of the routes learned by EIGRP?

A. 192.168.25.0 255.255.255.240
B. 192.168.25.16 255.255.255.252
C. 192.168.25.0 255.255.255.252
D. 192.168.25.28 255.255.255.240
E. 192.168.25.16 255.255.255.240
F. 192.168.25.28 255.255.255.240

Answer: E

CCNA – IP Routing Questions

Question 1

A router receives information about network 192.168.10.0/24 from multiple sources. What will the router consider the most reliable information about the path to that network?

A. an OSPF update for network 192.168.0.0/16
B. a static router to network 192.168.10.0/24
C. a static router to network 192.168.10.0/24 with a local serial interface configured as the next hop
D. a RIP update for network 192.168.10.0/24
E. a directly connected interface with an address of 192.168.10.254/24
F. a default route with a next hop address of 192.168.10.1

Answer: E

Question 2

Refer to the graphic.
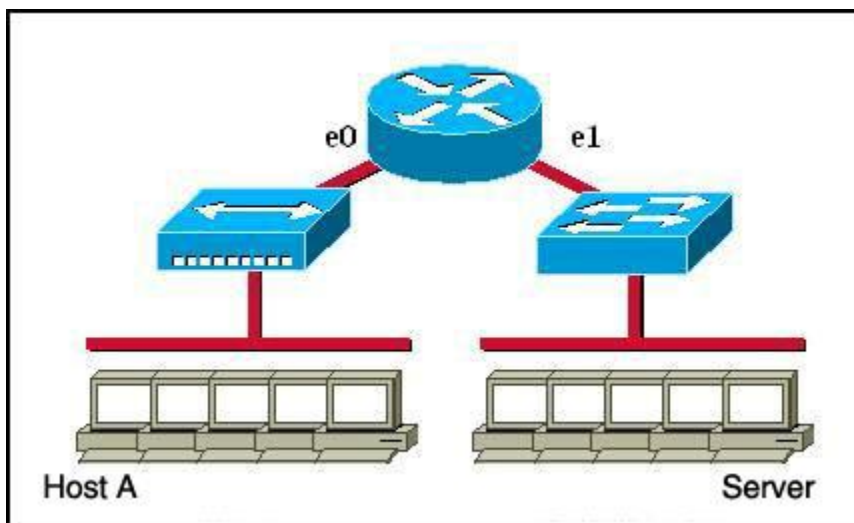
Host A is communicating with the server. What will be the source MAC address of the frames received by Host A from the server?

A. the MAC address of router interface e0
B. the MAC address of router interface e1
C. the MAC address of the server network interface
D. the MAC address of host A

Answer: A

Question 3

A router has learned three possible routes that could be used to reach a destination network. One route is from EIGRP and has a composite metric of 20514560. Another route is from OSPF with a metric of 782. The last is from RIPv2 and has a metric of 4. Which route or routes will the router install in the routing table?

A. the OSPF route
B. the EIGRP route
C. the RIPv2 route
D. all three routes
E. the OSPF and RIPv2 routes

Answer: B

Question 4

A router has two FastEthernet interfaces and needs to connect to four vlans in the local network. How can you accomplish this task, using the fewest physical interfaces and without decreasing network performance?

A. Add two more FastEthernet interfaces.
B. Add a second router to handle the vlan traffic.
C. Use a hub to connect the four vlans with a FastEthernet interface on router.
D. Implement a router-on-a-stick configuration.

Answer: D

Question 5

Refer to the exhibit, Host A pings interface S0/0 on router 3, what is the TTL value for that ping?
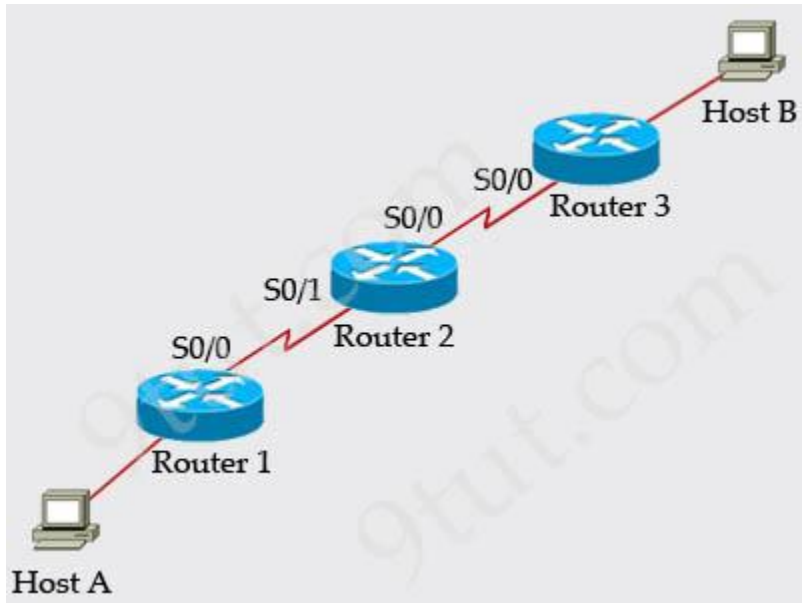
A. 253
B. 252
C. 255
D. 254

Answer: A

Question 6

If IP routing is enabled, which two commands set the gateway of last resort to the default gateway? (Choose two)

A. ip default-gateway 0.0.0.0
B. ip route 172.16.2.1 0.0.0.0 0.0.0.0
C. ip default-network 0.0.0.0
D. ip default-route 0.0.0.0 0.0.0.0 172.16.2.1
E. ip route 0.0.0.0 0.0.0.0 172.16.2.1

Answer: C E

Question 7

Refer to the exhibit. A network administrator attempts to ping Host2 from Host1 and receives the results that are shown. What is a possible problem?
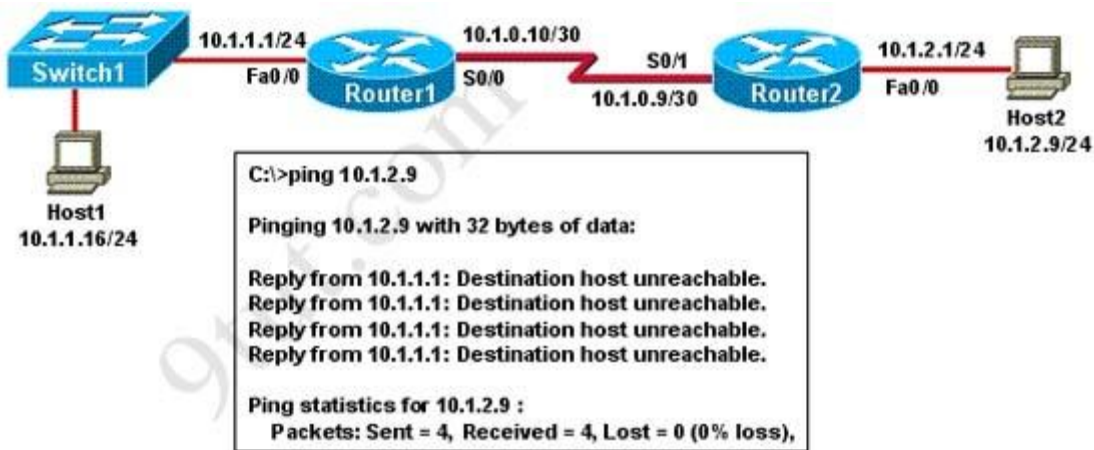
A. The link between Host1 and Switch1 is down.
B. TCP/IP is not functioning on Host1
C. The link between Router1 and Router2 is down.
D. The default gateway on Host1 is incorrect.
E. Interface Fa0/0 on Router1 is shutdown.
F. The link between Switch1 and Router1 is down.

Answer: C

Question 8

Refer to the exhibit. The network administrator requires easy configuration options and minimal routing protocol traffic. Which two options provide adequate routing table information for traffic that passes between the two routers and satisfy the requests of the network administrator? (choose two)
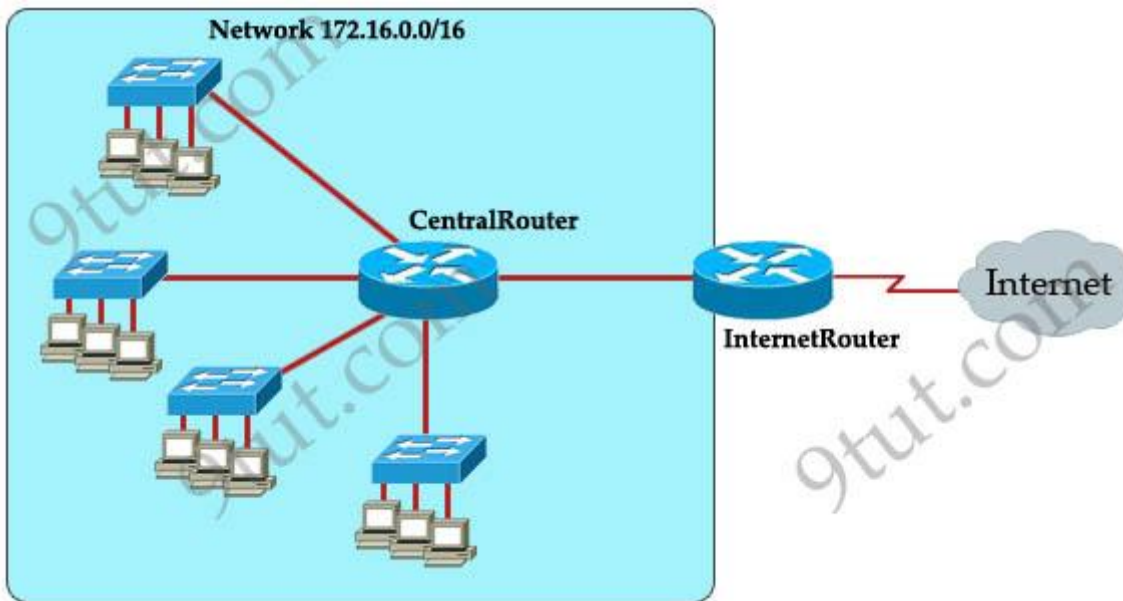
A. a dynamic routing protocol on InternetRouter to advertise summarized routers to CentralRouter.
B. a dynamic routing protocol on CentralRouter to advertise summarized routers to InternetRouter.

C. a static route on InternetRouter to direct traffic that is destined for 172.16.0.0/16 to CentralRouter.
D. a dynamic routing protocol on InternetRouter to advertise all routes to CentralRouter.
E. a dynamic routing protocol on CentralRouer to advertise all routes to InternetRouter
F. a static, default route on CentralRouter that directs traffic to InternetRouter.

Answer: C F

Question 9

Refer to the graphic. A static route to the 10.5.6.0/24 network is to be configured on the HFD router. Which commands will accomplish this? (Choose two)
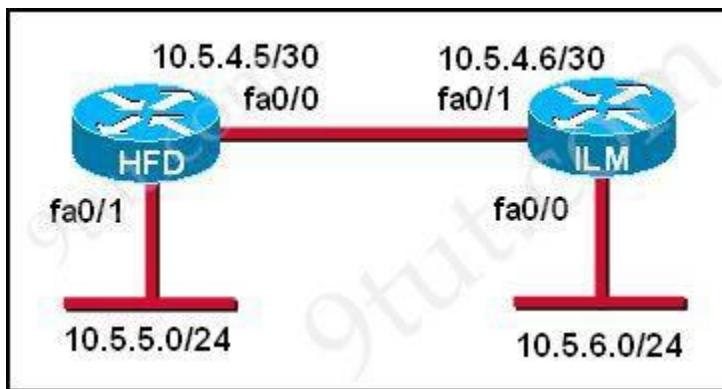
A. HFD (config) #ip route 10.5.6.0 0.0.0.255 fa0/0
B. HFD(config)# ip route 10.5.6.0 0.0.0.255 10.5.4.6
C. HFD(config)# ip route 10.5.6.0 255.255.255.0 fa0/0
D. HFD(config)# ip route 10.5.6.0 255.255.255.0 10.5.4.6
E. HFD(config)# ip route 10.5.4.6 0.0.0.255 10.5.6.0
F. HFD(config)# ip route 10.5.4.6 255.255.255.0 10.5.6.0

Answer: C D

CCNA – IP Routing 2

Question 1

Users on the 172.17.22.0 network cannot reach the server located on the 172.31.5.0 network. The network administrator connected to router Coffee via the console port, issued the **show ip route** command. Based on the output of the **show ip route** command and the topology shown in the graphic, what is the cause of the failure?
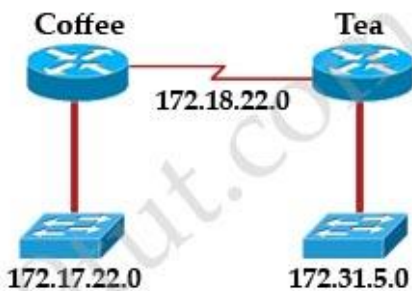
```
Coffee #show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP. EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i- IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is 172.19.22.2 to network 0.0.0.0

C      172.17.22.0 is directly connected, FastEthernet0/0
C      172.18.22.0 is directly connected, Serial0/0
S*     0.0.0.0/0 [1/0] via 172.19.22.2
```

A. The network has not fully converged.
B. IP routing is not enabled.
C. A static route is configured incorrectly.
D. The FastEthernet interface on Coffee is disabled.
E. The neighbor relationship table is not correctly updated.
F. The routing table on Coffee has not updated.

Answer: C

Question 2

The speed of all serial links is E1 and the speed of the all other links is 100Mb/s. A static route will be established on the Manchester router to direct traffic toward to the internet over the most direct path available. What configuration of the Manchester router will establish a route toward to the internet for traffic from workstation on the Manchester LAN?
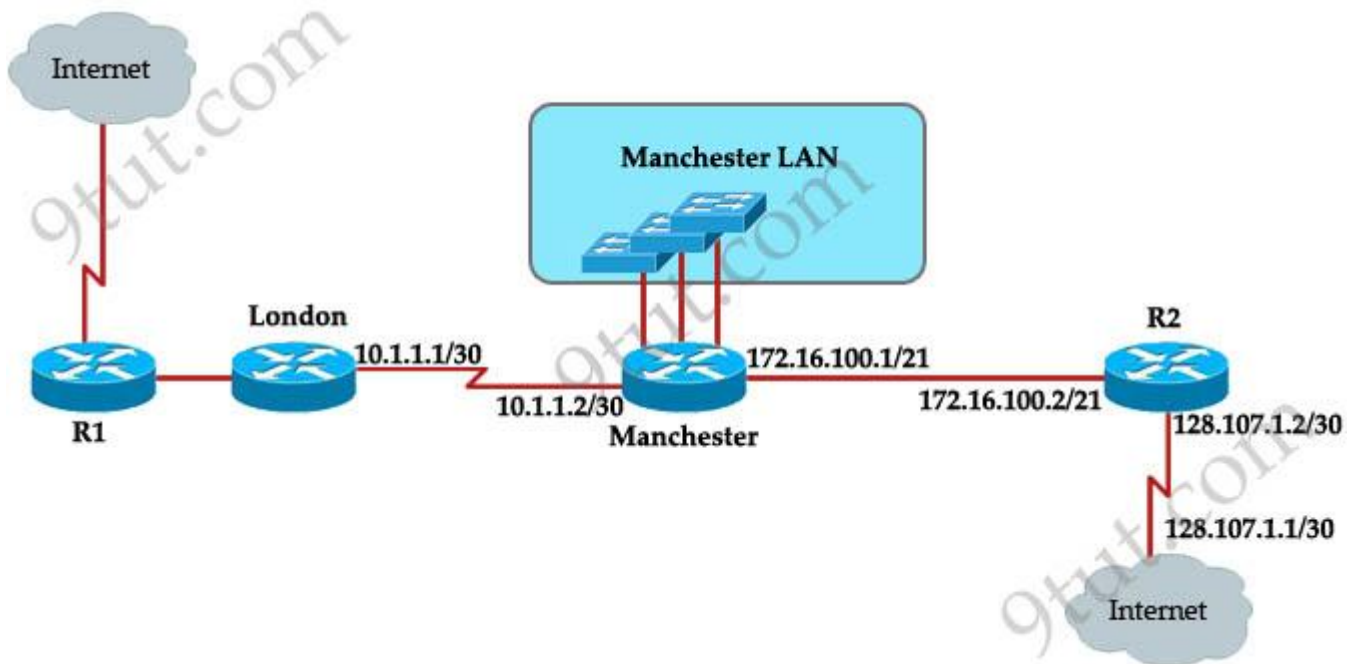
A. ip route 0.0.0.0 255.255.255.0 172.16.100.2
B. ip route 0.0.0.0 255.255.255.252 128.107.1.1
C. ip route 0.0.0.0 0.0.0.0 128.107.1.1
D. ip route 0.0.0.00.0:0:0 172.16.100.1
E. ip route 0.0.0.0 255.255.255.255 172.16.100.2
F. ip route 0.0.0.0 0.0.0.0 172.16.100.2

Answer: F

Question 3

Which two are advantages of static routing when compared to dynamic routing? (choose two)

A. Security increases because only the network administrator may change the routing tables.
B. Configuration complexity decreases as network size increases.
C. Routing updates are automatically sent to neighbors.
D. Route summarization is computed automatically by the router.
E. Routing traffic load is reduced when used in stub network links.
F. An efficient algorithm is used to build routing tables using automatic updates.
G. Routing tables adapt automatically to topology changes.

Answer: A E

Question 4

Refer to the exhibit. According to the routing table, where will the router send a packet destined for 10.1.5.65?

Network	Interface	Next-hop
10.1.1.0/24	e0	directly connected
10.1.2.0/24	e1	directly connected
10.1.3.0/25	s0	directly connected
10.1.4.0/24	s1	directly connected
10.1.5.0/24	e0	10.1.1.2
10.1.5.64/28	e1	10.1.2.2
10.1.5.64/29	s0	10.1.3.3
10.1.5.64/27	s1	10.1.4.4

A. 10.1.1.2
B. 10.1.2.2
C. 10.1.3.3
D. 10.1.4.4

Answer: C

Question 5

Which destination addresses will be used by Host A to send data to Host C? (Choose two)
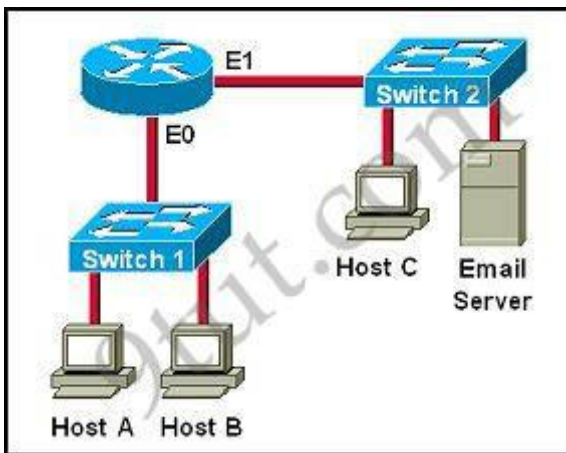
A. the IP address of Switch 1
B. the MAC address of Switch 1
C. the IP address of Host C
D. the MAC address of Host C
E. the IP address of the router's E0 interface
F. the MAC address of the router's E0 interface

Answer: C F

Question 6

Refer to the exhibit. The network administrator must establish a route by which London workstations can forward traffic to the Manchester workstations. What is the simplest way to accomplish this?
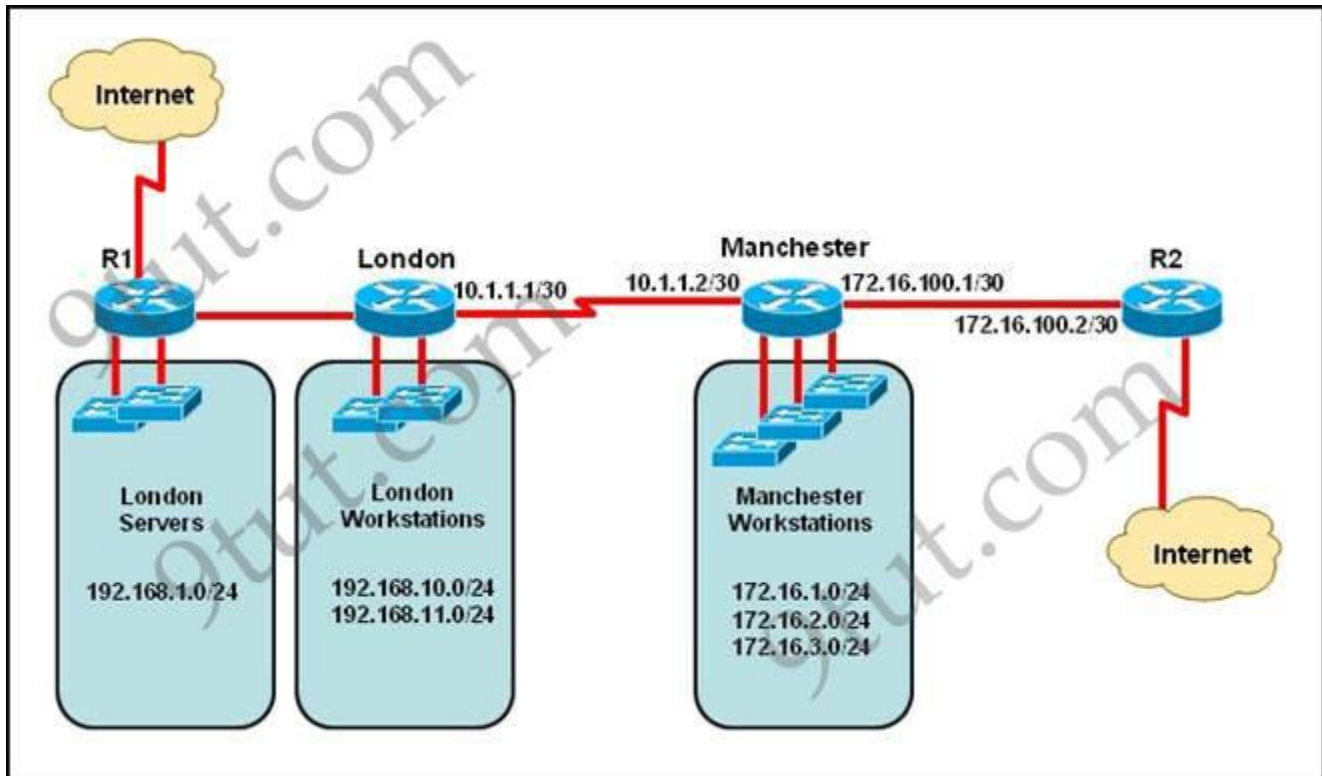
A. Configure a dynamic routing protocol on London to advertise all routes to Manchester.
B. Configure a dynamic routing protocol on London to advertise summarized routes to Manchester.
C. Configure a dynamic routing protocol on Manchester to advertise a default route to the London router.
D. Configure a static default route on London with a next hop of 10.1.1.1.
E. Configure a static route on London to direct all traffic destined for 172.16.0.0/22 to 10.1.1.2.
F. Configure Manchester to advertise a static default route to London.

Answer: E

Question 7

Which parameter can be tuned to affect the selection of a static route as a backup when a dynamic protocol is also being used?

A. link bandwidth
B. hop count
C. link cost

D. administrative distance
E. link delay

Answer: D

Question 8

Refer to the exhibit:
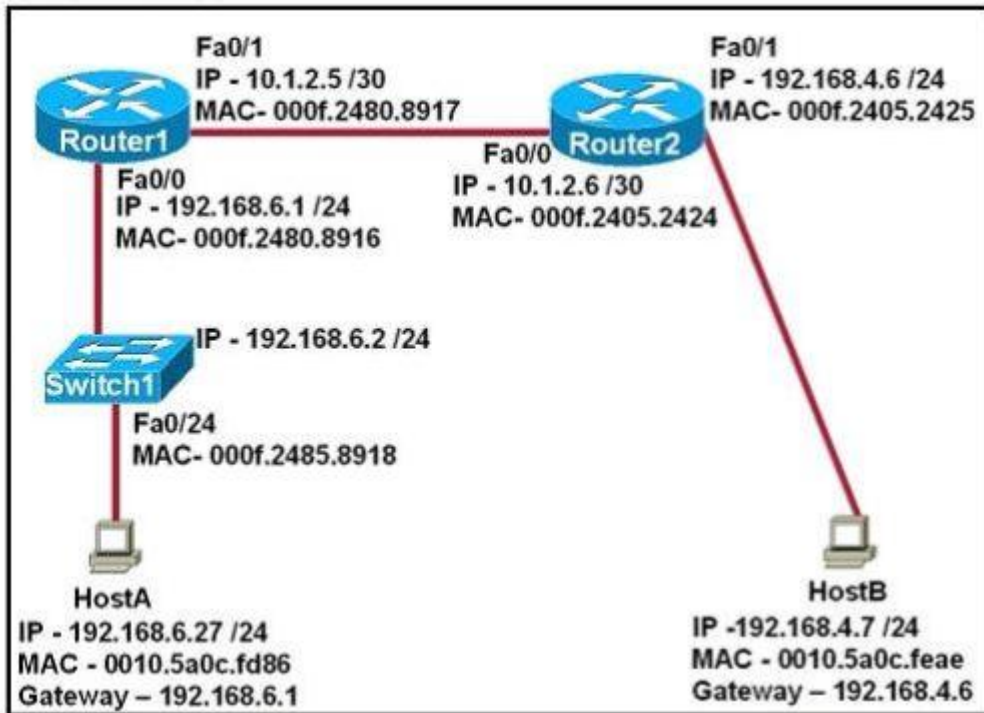
After HostA pings HostB, which entry will be in the ARP cache of HostA to support this transmission?

A.

Interface Address	Physical Address	Type
192.168.4.7	000f.2480.8916	dynamic

B.

Interface Address	Physical Address	Type
192.168.4.7	0010.5a0c.feae	dynamic

C.

Interface Address	Physical Address	Type
192.168.6.1	0010.5a0c.feae	dynamic

D.

Interface Address	Physical Address	Type
192.168.6.1	000f.2480.8916	dynamic

E.

Interface Address	Physical Address	Type
192.168.6.2	0010.5a0c.feae	dynamic

F.

Interface Address	Physical Address	Type
192.168.6.2	000f.2485.8918	dynamic

Answer: D

CCNA – Frame Relay

Question 1

The output of the show frame-relay pvc command shows "PVC STATUS=INACTIVE". What does this mean?

A. The PVC is configured correctly and is operating normally,but no data packets have been detected for more than five minutes.
B. The PVC is configured correctly, is operating normally and is no longer actively seeking the address the remote route.
C. The PVC is configured correctly, is operating normally and is waiting for interesting to trigger a call to the remote router.
D. The PVC is configured correctly on the local switch, but there is a problem on the remote end of the PVC.
E. The PVC is not configured on the switch.

Answer: D

Question 2

Which command allows you to verify the encapsulation type (CISCO or IETF) for a frame relay link?

A. show frame-relay map
B. show frame-relay lmi
C. show inter serial
D. show frame-relay pvc

Answer: A

Question 3

Refer to the exhibit. Which statement describes DLCI 17?
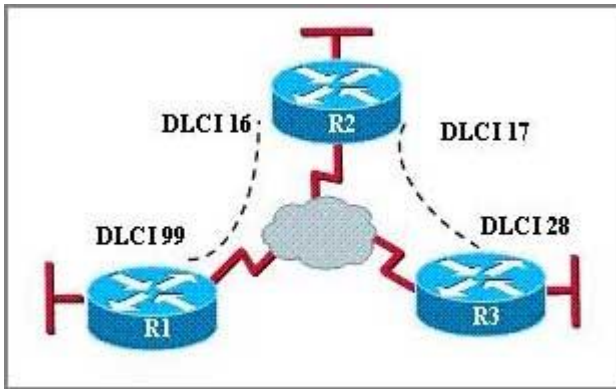
A: DLCI 17 describes the ISDN circuit between R2 and R3.
B: DLCI 17 describes a PVC on R2. It cannot be used on R3 or R1.
C: DLCI 17 is the Layer 2 address used by R2 to describe a PVC to R3.
D: DLCI 17 describes the dial-up circuit from R2 and R3 to the service provider.

Answer: C

Question 4

Users have been complaining that their Frame Relay connection to the corporate site is very slow. The network administrator suspects that the link is overloaded. Based on the partial output of the **Router#show frame relay pvc** command shown in the graphic, which output value indicates to the local router that traffic sent to the corporate site is experiencing congestion?

A. DLCI=100
B. last time PVC status changed 00:25:40
C. in BECN packets 192
D. in FECN packets 147
E. in DF packets 0

Answer: C

Question 5

What occurs on a Frame Relay network when the CIR is exceeded?

A. All TCP traffic is marked discard eligible.
B. All UDP traffic is marked discard eligible and a BECN is sent.
C. All TCP traffic is marked discard eligible and a BECN is sent.
D. All traffic exceeding the CIR is marked discard eligible.

Answer: D

Question 6

What command is used to verify the DLCI destination address in a Frame Relay static configuration?

A show frame-relay pvc
B. show frame-relay lmi
C. show frame-relay map
D. show frame relay end-to-end

Answer: C

Question 7

```
Router 1# show running-config

interface serial0/0
bandwidth 64
ip address 172.16.100.2 255.255.0.0
encapsulation frame-relay
frame-relay map ip 172.16.100.1 100 broadcast
```


As a technician, you found the router1 is unable to reach the second router. Both routers are running IOS version 12.0.
Based on this information, what is the most likely cause of the problem?

A. incorrect IP address
B. incorrect bandwidth configuration

C. incorrect map statement
D. incorrect LMI configuration

Answer: C (In fact none is correct)

Question 8

Refer to the exhibit. What is the meaning of the term **dynamic** as displayed in the output of the show frame-relay map command shown?

```
R1# show frame-relay map
Serial0/0 (up): ip 172.16.3.1 dlci 100 (0x64, 0x1840), dynamic
          broadcast,, status defined, active
```

A. The Serial0/0 interface is passing traffic.
B. The DLCI 100 was dynamically allocated by the router
C. The Serial0/0 interface acquired the IP address of 172.16.3.1 from a DHCP server
D. The DLCI 100 will be dynamically changed as required to adapt to changes in the Frame Relay cloud
E. The mapping between DLCI 100 and the end station IP address 172.16.3.1 was learned through Inverse ARP

Answer: E

Question 9

Refer to the exhibit. Which WAN protocol is being used?

```
RouterA#show interface pos8/o/o
pos8/0/0 is up, line protocol is up
Hardware is Packet over Sonet
Keepalive set (10 sec)
Scramble disabled
LMI enq sent 2474988, LMI stat recvd 2474969, LMI upd recvd 0, DTE LMI up
Broadcast queue 0/256, broadcasts sent/dropped 25760668/0, interface broadcasts 25348176
Last Input 00:00:00, output 00:00:00, output hang never
Last clearing of "show interface" counters 40w6d
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 39000 bits/sec, 60 packets/sec
        63153396 packets Input, 4389121455 bytes, 0 no buffer
        Received 0 broadcasts (0 IP multicast)
        0 runts, 0 giants, 0 throttles
                0 parity
44773 input errors, 39138 CRC, 0 frame, 0 overrun, 0 ignored, 27 abort
945596253 packets output, 62753244360 bytes, 0 underruns
0 output errors, 0 applique, 0 interface resets
0 output buffer failures, 0 output buffers swapped out
0 carrier transitions
```

A. ATM
B. HDLC
C. Frame Relay
D. PPP

Answer: C

Question 10

The command **frame-relay map ip 10.121.16.8 102 broadcast** was entered on the router. Which of the following statements is true concerning this command?

A. This command should be executed from the global configuration mode.
B. The IP address 10.121.16.8 is the local router port used to forward data.
C. 102 is the remote DLCI that will receive the information.
D. This command is required for all Frame Relay configurations.
E. The broadcast option allows packets, such as RIP updates, to be forwarded across the PVC.

Answer: E

CCNA – Frame Relay 2

Question 1

What are two characteristics of Frame Relay point-to-point subinterfaces? (Choose two)

A. They create split-horizon issues.
B. They require a unique subnet within a routing domain.
C. They emulate leased lines.
D. They are ideal for full-mesh topologies.
E. They require the use of NBMA options when using OSPF.

Answer: B C

Question 2

In the Frame Relay network, which IP addresses whould be assigned to the interfaces with point-to-point PVCs?
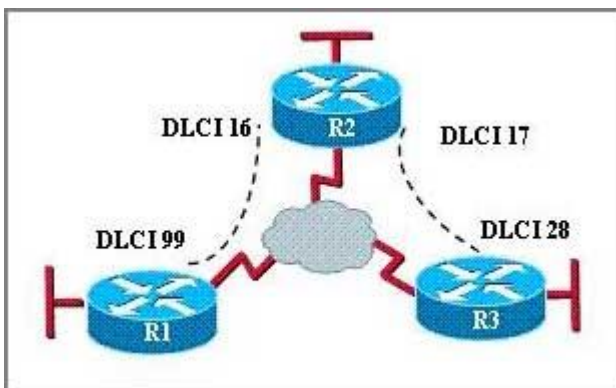
A. DLCI 16 192.168.10.1/24
DLCI 17 192.168.10.1/24
DLCI 99 192.168.10.2/24
DLCI 28 192.168.10.3/24

B. DLCI 16 192.168.10.1 /24
DLCI 17 192.168.11.1/24
DLCI 99 192.168.12.1/24
DLCI 28 192.168.13.1/24

C. DLCI 16 192.168.10.1/24
DLCI 17 192.168.11.1/24
DLCI 99 192.168.10.2/24
DLCI 28 192.168.11.2/24

D. DLCI 16 192.168.10.1/24
DLCI 17 192.168.10.2/24
DLCI 99 192.168.10.3/24
DLCI 28 192.168.10.4/24

Answer: C

Question 3

What two statistics appear in **show frame-relay map** output? (Choose two)

A. The number of FECN packets that are received by the router
B. The number of BECN packets that are received by the router
C. The ip address of the local router
D. The value of the local DLCI
E. The status of the PVC that is configured on the router

Answer: D E

Question 4

It has become necessary to configure an existing serial interface to accept a second Frame Relay
virtual circuit. Which of the following are required to solve this? (Choose three)

A. configure static frame relay map entries for each subinterface network.
B. remove the ip address from the physical interface
C. create the virtual interfaces with the interface command
D. configure each subinterface with its own IP address
E. disable split horizon to prevent routing loops between the subinterface networks
F. encapsulate the physical interface with multipoint PPP

Answer: B C D

Question 5

Which encapsulation type is a Frame Relay encapsulation type that is supported by Cisco routers?

A. Q933-A Annex A
B. IETF
C. ANSI Annex D
D. HDLC

Answer: B

Question 6

What is the result of issuing the frame-relay map ip 192.168.1.2 202 broadcast command?

A. defines the destination IP address that is used in all broadcast packets on DLCI 202
B. defines the source IP address that is used in all broadcast packets on DLCI 202
C. defines the DLCI on which packets from the 192.168.1.2 IP address are received
D. defines the DLCI that is used for all packets that are sent to the 192.168.1.2 IP address

Answer: D

CCNA – NAT PAT Questions

Question 1

Which two statements about static NAT translations are true? (choose two)

A. They are always present in the NAT table.
B. They allow connection to be initiated from the outside.
C. They can be configured with access lists, to allow two or more connections to be initiated from the outside.
D. They require no inside or outside interface markings because addresses are statically defined.

Answer: A B

Question 2

What are two benefits of using NAT? (choose two)

A. NAT protects network security because private networks are not advertised.
B. NAT accelerates the routing process because no modifications are made on the packets.
C. Dynamic NAT facilitates connections from the outside of the network.
D. NAT facilitates end-to-end communication when IPsec is enable.
E. NAT eliminates the need to re-address all host that require external access.
F. NAT conserves addresses through host MAC-level multiplexing.

Answer: A E

Question 3

Refer to the exhibit. What statement is true of the configuration for this network?
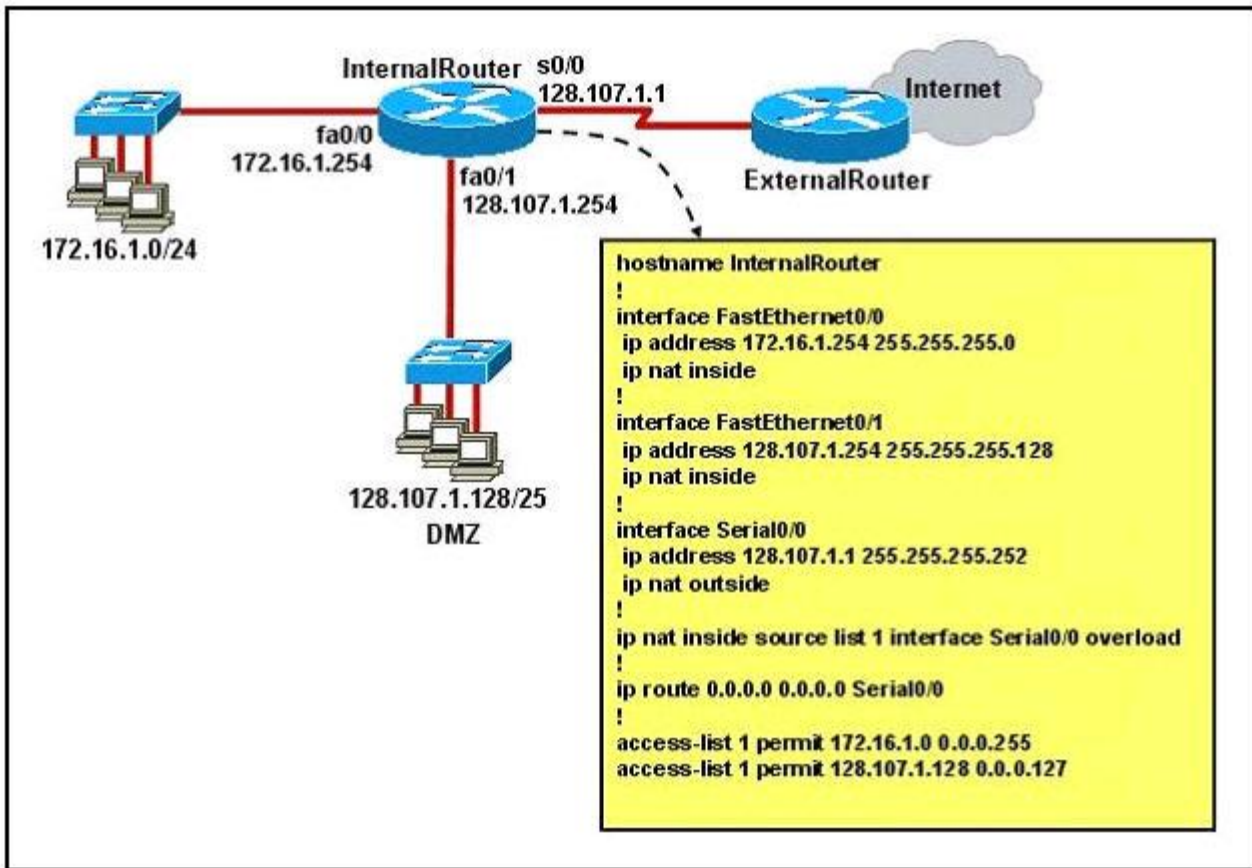
A. The configuration that is shown provides inadequate outside address space for translation of the number of inside addresses that are supported.

B. Because of the addressing on interface FastEthernet0/1, the Serial0/0 interface address will not support the NAT configuration as shown.

C. The number 1 referred to in the ip nat inside source command references access-list number 1.

D. ExternalRouter must be configured with static routers to network 172.16.2.0/24

Answer: C

CCNA – OSPF Questions

Question 1

Which characteristics are representative of a link-state routing protocol? (Choose three)

A. provides common view of entire topology
B. exchanges routing tables with neighbors
C. calculates shortest path
D. utilizes event-triggered updates
E. utilizes frequent periodic updates

Answer: A C D

Question 2

Which statements describe the routing protocol OSPF? (Choose three)

A. It supports VLSM.
B. It is used to route between autonomous systems.
C. It confines network instability to one area of the network.
D. It increases routing overhead on the network.
E. It allows extensive control of routing updates
F. It is simpler to configure than RIPv2.

Answer: A C E

Question 3

A network administrator is trying to add a new router into an established OSPF network. The networks attached to the new router do not appear in the routing tables of the other OSPF routers. Given the information in the partial configuration shown below, what configuration error is causing this problem?

Router(config)# router ospf 1
Router(config-router)# network 10.0.0.0 255.0.0.0 area 0

A. The process id is configured improperly.
B. The OSPF area is configured improperly.
C. The network wildcard mask is configured improperly.
D. The network number is configured improperly.

E. The AS is configured improperly.
F. The network subnet mask is configured improperly.

Answer: C

Question 4

```
City# show ip interface brief

    Interface      IP-Address      OK?    Method    Status    Protcocol
FastEthernet0/0   192.168.12.48    YES    manual     up        up
FastEthernet0/1   192.168.12.65    YES    manual     up        up
Serial0/0         192.168.12.121   YES    manual     up        up
Serial0/1         unassigned       YES    unset      up        up
Serial0/1.102     192.168.12.125   YES    manual     up        up
Serial0/1.103     192.168.12.129   YES    manual     up        up
Serial0/1.104     192.168.12.133   YES    manual     up        up

City#
```

A network associate has configured OSPF with the command:
City(config-router)# network 192.168.12.64 0.0.0.63 area 0

After completing the configuration, the associate discovers that not all the interfaces are participating in OSPF.
Which three of the interfaces shown in the exhibit will participate in OSPF according to this configuration statement? (Choose three)

A. FastEthernet0/0
B. FastEthernet0/1
C. Serial0/0
D. Serial0/1.102
E. Serial0/1.103
F. Serial0/1.104

Answer: B C D

Question 5

What is the default maximum number of equal-cost paths that can be placed into the routing of a Cisco OSPF router?

A. 16
B. 2

C. unlimited
D. 4

Answer: D

Question 6

Which two statements describe the process identifier that is used in the command to configure OSPF on a router? (Choose two)

Router(config)# router ospf 1
A. All OSPF routers in an area must have the same process ID.
B. Only one process number can be used on the same router.
C. Different process identifiers can be used to run multiple OSPF processes
D. The process number can be any number from 1 to 65,535.
E. Hello packets are sent to each neighbor to determine the processor identifier.

Answer: C D

Question 7

Why do large OSPF networks use a hierarchical design? (Choose three)

A. to confine network instability to single areas of the network.
B. to reduce the complexity of router configuration
C. to speed up convergence
D. to lower costs by replacing routers with distribution layer switches
E. to decrease latency by increasing bandwidth
F. to reduce routing overhead

Answer: A C F

Question 8

Which commands are required to properly configure a router to run OSPF and to add network 192.168.16.0/24 to OSPF area 0? (choose two)

A. Router(config)#router ospf 1
B. Router(config)#router ospf 0
C. Router(config)#router ospf area 0
D. Router(config-router)#network 192.168.16.0 0.0.0.255 area 0
E. Router(config-router)#network 192.168.16.0 0.0.0.255 0
F. Router(config-router)#network 192.168.16.0 255.255.255.0 area 0

Answer: A D

Question 9

Refer to the exhibit. Given the output for this command, if the router ID has not been manually set, what router ID will OSPF use for this RouterD?

RouterD# show ip interface brief

Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/0	192.160.5.3	YES	manual	up	up
FastEthernet0/1	10.1.1.2	YES	manual	up	up
Loopback0	172.16.5.1	YES	NVRAM	up	up
Loopback1	10.154.154.1	YES	NVRAM	up	up

A. 10.1.1.2
B. 10.154.154.1
C. 172.16.5.1
D. 192.168.5.316

Answer: C

Question 10

What is the default administrative distance of OSPF?
A. 120
B. 100
C. 90
D. 110

Answer: D

CCNA – OSPF Questions 2

Question 1

Why R1 can't establish an OSPF neighbor relationship with R3 according to the following graphic? (Choose two)

A – Configure EIGRP on these routers with a lower administrative distance
B – All routers should be configured for backbone Area 1
C – R1 and R3 have been configured in different areas
D – The hello and dead interval timers are not configured the same values on R1 and R3

Answer: C D

Question 2

Which parameter or parameters are used to calculate OSPF cost in Cisco routers?

A. Bandwidth, Delay and MTU
B. Bandwidth
C. Bandwidth and MTU
D. Bandwidth, MTU, Reliability, Delay and Load

Answer: B

Question 3

A network administrator is troubleshooting the OSPF configuration of routers R1 and R2. The routers cannot establish an adjacency relationship on their common Ethernet link. The graphic shows the output of the show ip ospf interface e0 command for routers R1 and R2. Based on the information in the graphic, what is the cause of this problem?

```
R1:    Ethernet0 is up, line protocol is up
       Internet address 192.168.1.2/24, Area 0
       Process ID 1, Router ID 192.168.31.33, Network Type BROADCAST, Cost: 10
       Transmit Delay is 1 sec, State DR, Priority 1
       Designated Router (ID) 192.168.31.33, Interface address 192.168.1.2
       No backup designated router on this network
       Timer intervals configured, Hello 5, Dead 20, Wait 20, Retransmit 5

R2:    Ethernet0 is up, line protocol is up
       Internet address 192.168.1.1/24, Area 0
       Process ID 2, Router ID 192.168.31.11, Network Type BROADCAST, Cost: 10
       Transmit Delay is 1 sec, State DR, Priority 1
       Designated Router (ID) 192.168.31.11, Interface address 192.168.1.1
       No backup designated router on this network
       Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
```

A. The OSPF area is not configured properly.
B. The priority on R1 should be set higher.
C. The cost on R1 should be set higher.
D. The hello and dead timers are not configured properly.
E. A backup designated router needs to be added to the network.
F. The OSPF process ID numbers must match.

Answer: D

Question 4

What information does a router running a link-state protocol use to build and maintain its topological database? (Choose two)

A. hello packets
B. SAP messages sent by other routers
C. LSAs from other routers
D. beacons received on point-to-point links
E. routing tables received from other link-state routers
F. TTL packets from designated routers

Answer: A C

Question 5

Which command is used to display the collection of OSPF link states?
A. show ip ospf link-state
B. show ip ospf lsa database
C. show ip ospf neighbors
D. show ip ospf database

Answer: D

Question 6

When running OSPF, what would cause router A not to form an adjacency with router B?
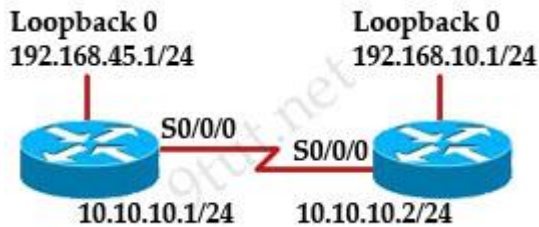
A. The loopback addresses are on different subnets.
B. The values of the dead timers on the routers are different.
C. Route summarization is enabled on both routers.
D. The process identifier on router A is different than the process identifier on router

Answer: B

Question 7

Which is true about OSPF router-id? (Choose two)

A. It is used for type 1 router LSA
B. Highest IP address of the loopback is used
C. router-id needs to be matched on ospf neighbors
D. router-id is 16 bit

Answer: A B

Question 8

Which two statements about the OSPF Router ID are true? (Choose two)

A. It identifies the source of Type 1 LSA
B. It should be the same on all routers in an OSPF routing instance
C. By default, the lowest IP address on the router becomes the OSPF router ID
D. The router automatically chooses the IP address of a loopback as the OSPF Router ID
E. It is created using the MAC Address of the loopback interface

Answer: A D

Question 9

What are two benefits of using a single OSPF area network design? (Choose two)

A. It is less CPU intensive for routers in the single area.
B. It reduces the types of LSAs that are generated.
C. It removes the need for virtual links.
D. It increases LSA response times.
E. It reduces the number of required OSPF neighbor adjacencies.

Answer: B C

Question 10

What OSPF command, when configured, will include all interfaces into area 0?

A. network 0.0.0.0 255.255.255.255 area 0
B. network 0.0.0.0 0.0.0.0 area 0
C. network 255.255.255.255 0.0.0.0 area 0
D. network all-interfaces area 0

Answer: A

CCNA – EIGRP Questions

Question 1

A network administrator is troubleshooting an EIGRP problem on a router and needs to confirm the IP addresses of the devices with which the router has established adjacency. The retransmit interval and the queue counts for the adjacent routers also need to be checked. What command will display the required information?

A. Router# show ip eigrp adjacency

B. Router# show ip eigrp topology

C. Router#show ip eigrp interfaces

D. Router#show ip eigrp neighbors

Answer: D

Question 2

Refer to the exhibit. Based on the exhibited routing table, how will packets from a host within the 192.168.10.192/26 LAN be forwarded to 192.168.10.1?
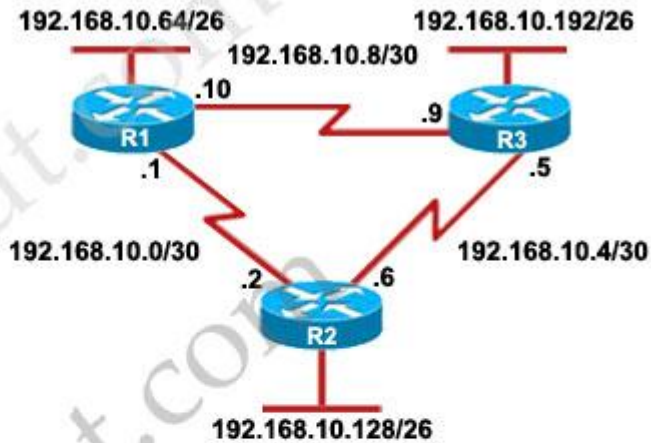
192.168.10.64/26   192.168.10.192/26
              192.168.10.8/30
              .10
                                    .9
        R1   R3
        .1   .5

    192.168.10.0/30   192.168.10.4/30
              .2   .6
                  R2

          192.168.10.128/26

R3# show ip route
Gateway of last resort is not set
   192.168.10.0/24 is variably subnetted, 6 subnets, 2 masks
D   192.168.10.64/26 [90/2195456] via 192.168.10.9, 00:03:31, Serial0/0
D   192.168.10.0/30 [90/2681856] via 192.168.10.9, 00:03:31, Serial0/0
                        [90/2681856] via 192.168.10.5, 00:03:31, Serial0/1
C   192.168.10.4/30 is directly connected, Serial0/1
C   192.168.10.8/30 is directly connected, Serial0/0
C   192.168.10.192/30 is directly connected, FastEthernet0/0
C   192.168.10.128/26 [90/2195456] via 192.168.10.5, 00:03:31, Serial0/1

A. The router will forward packets from R3 to R2 to R1

B. The router will forward packets from R3 to R1

C. The router will forward packets from R3 to R1 to R2

D. The router will forward packets from R3 to R2 to R1 AND from R3 to R1

Answer: D

Question 3

Refer to the exhibit, when running EIGRP what is required for R1 to exchange routing updates with R3?
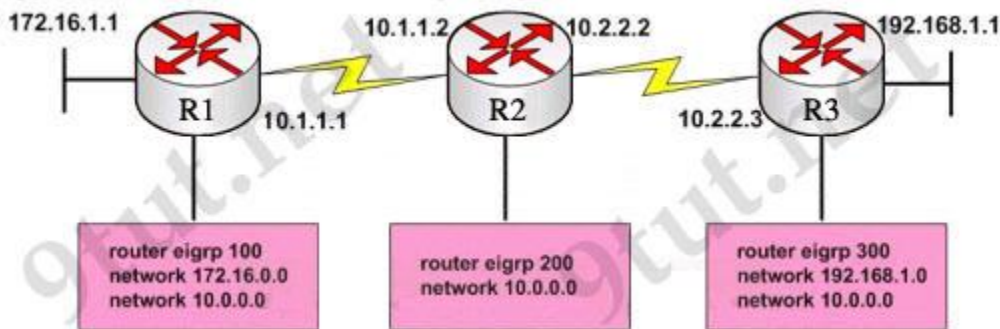
A – AS numbers must be changed to match on all the routers

B – Loopback interfaces must be configured so a DR is elected

C – The no auto-summary command is needed on R1 and R3

D – R2 needs to have two network statements, one for each connected network

Answer: A

Question 4

Which type of EIGRP route entry describes a feasible successor?

A. a primary route,stored in the routing table

B. a backup route,stored in the routing table

C. a backup route,stored in the topology table

D. a primary route,stored in the topology table

Answer: C

Question 5

Refer to the exhibit. The company uses EIGRP as the routing protocol. What path will packets take from a host on 192.168.10.192/26 network to a host on the LAN attached to router R1?
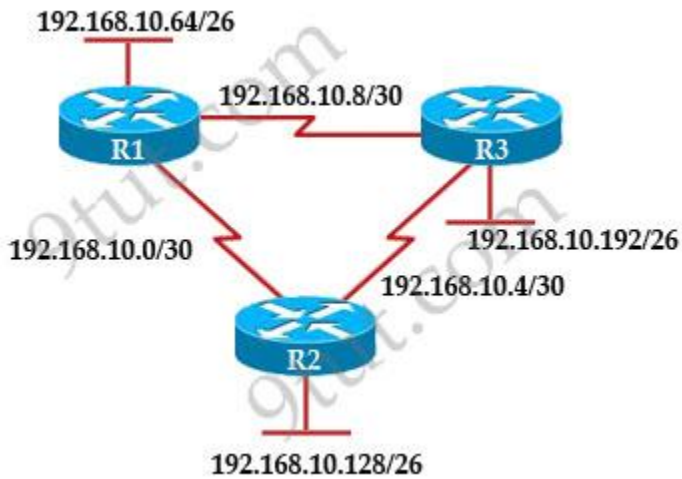
192.168.10.64/26
192.168.10.8/30
R1
R3
192.168.10.0/30
192.168.10.192/26
192.168.10.4/30
R2
192.168.10.128/26

R3# show ip route

Gateway of last resort is not set

192 168.10.0/24 is variably subnetted, 6 subnets, 2 masks

D 192.168.10.64/26 [90/2195456] via 192.168.10.9, 00:03:31, Serial0/0

D 192.168.10.0/30 [90/2681856] via 192.168.10.9, 00:03:31, Serial0/0

C 192.168.10.4/30 is directly connected, Serial0/1

C 192.168.10.8/30 is directly connected, Serial0/0

C 192.168.10.192/26 is directly connected, FastEthernet0/0

D 192.168.10.128/26 [90/2195456] via 192.168.10.5,00:03:31, Serial0/1

A. The path of the packets will be R3 to R2 to R1.

B. The path of the packets will be R3 to R1 to R2.

C. The path of the packets will be both R3 to R2 to R1 and R3 to R1.

D. The path of the packets will be R3 to R1

Answer: D

CCNA – DHCP Questions

Question 1

When a DHCP server is configured, which two IP addresses should never be assignable to hosts? (Choose two)

A. network or subnetwork IP address
B. broadcast address on the network
C. IP address leased to the LAN
D. IP address used by the interfaces
E. manually assigned address to the clients
F. designated IP address to the DHCP server

Answer: A B

Question 2

Which two tasks does the Dynamic Host Configuration Protocol perform? (Choose two)

A. Set the IP gateway to be used by the network.
B. Perform host discovery used DHCPDISCOVER message.
C. Configure IP address parameters from DHCP server to a host.
D. Provide an easy management of layer 3 devices.
E. Monitor IP performance using the DHCP server.
F. Assign and renew IP address from the default pool.

Answer: C F

Question 3

Refer to the exhibit. Which rule does the DHCP server use when there is an IP address conflict?

```
Router# show ip dhcp conflict
IP address     Detection method    Detection time
172.16.1.32    Ping                Feb 16 1998 12:28 PM
172.16.1.64    Gratuitous ARP      Feb 23 1998 08:12 AM
```

A. The address is removed from the pool until the conflict is resolved.
B. The address remains in the pool until the conflict is resolved.
C. Only the IP detected by Gratuitous ARP is removed from the pool.

D. Only the IP detected by Ping is removed from the pool.
E. The IP will be shown, even after the conflict is resolved.

Answer: A

Question 4

How does a DHCP server dynamically assign IP address to host?

A. Addresses are allocated after a negotiation between the server and the host to determine the length of the agreement.
B. Addresses are assigned for a fixed period of time. At the end of period, a new quest for an address must be made, and another address is then assigned.
C. Addresses are leased to host. A host will usually keep the same address by periodically contacting the DHCP sever to renew the lease.
D. Addresses are permanently assigned so that the host uses the same address at all times.

Answer: C

Question 5

Which statement is correct regarding the operation of DHCP?

A. A DHCP client uses a ping to detect address conflicts.
B. A DHCP server uses a gratuitous ARP to detect DHCP clients.
C. A DHCP client uses a gratuitous ARP to detect a DHCP server.
D. If an address conflict is detected, the address is removed from the pool and an administrator must resolve the conflict.
E. If an address conflict is detected, the address is removed from the pool for an amount of time configurable by the administrator.
F. If an address conflict is detected, the address is removed from the pool and will not be reused until the server is rebooted.

Answer: D

CCNA – HSRP VRRP GLBP

Question 1

Which one of these is a valid HSRP Virtual Mac Address?

A. 0000.0C07.AC01
B. 0000.5E00.0110
C. 0007.B400.1203
D. 0000.C007.0201

Answer: A

Question 2

Which three statements about HSRP operation are true? (Choose three)

A. The virtual IP address and virtual MAC address are active on the HSRP Master router.
B. The HSRP default timers are a 3 second hello interval and a 10 second dead interval.
C. HSRP supports only clear-text authentication.
D. The HSRP virtual IP address must be on a different subnet than the routers' interfaces on the same LAN.
E. The HSRP virtual IP address must be the same as one of the router's interface addresses on the LAN.
F. HSRP supports up to 255 groups per interface, enabling an administrative form of load balancing.

Answer: A B F

Question 3

Which statement describes VRRP object tracking?

A. It monitors traffic flow and link utilization.
B. It ensures the best VRRP router is the virtual router master for the group.
C. It causes traffic to dynamically move to higher bandwidth links
D. It thwarts man-in-the-middle attacks.

Answer: B

Question 4

In GLBP, which router will respond to client ARP requests?

A. The active virtual gateway will reply with one of four possible virtual MAC addresses.
B. All GLBP member routers will reply in round-robin fashion.
C. The active virtual gateway will reply with its own hardware MAC address.
D. The GLBP member routers will reply with one of four possible burned in hardware addresses.

Answer: A

Question 5

In a GLBP network, who is responsible for the arp request?

A. AVF
B. AVG
C. Active Router
D. Standby Router

Answer: B

Question 6

What are three benefits of GLBP? (Choose three)

A. GLBP supports up to eight virtual forwarders per GLBP group.
B. GLBP supports clear text and MD5 password authentication between GLBP group members.
C. GLBP is an open source standardized protocol that can be used with multiple vendors.
D. GLBP supports up to 1024 virtual routers.
E. GLBP can load share traffic across a maximum of four routers.
F. GLBP elects two AVGs and two standby AVGs for redundancy.

Answer: B D E

CCNA – SNMP Questions

Question 1

Which three are the components of SNMP? (Choose three)

A. MIB
B. SNMP Manager
C. SysLog Server
D. SNMP Agent

Answer: A B D

Question 2

Which protocol can cause overload on a CPU of a managed device?

A. Netflow
B. WCCP
C. IP SLA
D. SNMP

Answer: D

Question 3

What is the alert message generated by SNMP agents called ?

A. TRAP
B. INFORM
C. GET
D. SET

Answer: A B

Question 4

Which three features are added in SNMPv3 over SNMPv2?

A. Message Integrity
B. Compression

C. Authentication
D. Encryption
E. Error Detection

Answer: A C D

Question 5

What is SNMPv3 authentication protocol?

Answer: HMAC-MD5 or HMAC-SHA (Maybe either of them will appear in the exam)

Question 6

Which three statements about the features of SNMPv2 and SNMPv3 are true? (Choose three)

A. SNMPv3 enhanced SNMPv2 security features
B. SNMPv3 added the Inform protocol message to SNMP.
C. SNMPv2 added the Inform protocol message to SNMP.
D. SNMPv3 added the GetBulk protocol messages to SNMP.
E. SNMPv2 added the GetBulk protocol message to SNMP.
F. SNMPv2 added the GetNext protocol message to SNMP.

Answer: A C E

Question 7

What authentication type is used by SNMPv2?

A. HMAC-MD5
B. HMAC-SHA
C. CBC-DES
D. community strings

Answer: D

CCNA – NetFlow Questions

Question 1

What are the benefit of using Netflow? (Choose three)

A. Network, Application & User Monitoring
B. Network Planning
C. Security Analysis
D. Accounting/Billing

Answer: A C D

Question 2

What are the three things that the NetFlow uses to consider the traffic to be in a same flow?

A. IP address
B. Interface name
C. Port numbers
D. L3 protocol type
E. MAC address

Answer: A C D

Question 3

What NetFlow component can be applied to an interface to track IPv4 traffic?

A. flow monitor
B. flow record
C. flow sampler
D. flow exporter

Answer: A

Question 4

What command visualizes the general NetFlow data on the command line?

A. show ip flow export
B. show ip flow top-talkers
C. show ip cache flow
D. show mls sampling
E. show mls netflow ip

Answer: C

Question 5

What are three reasons to collect NetFlow data on a company network? (Choose three)

A. To identify applications causing congestion.
B. To authorize user network access.
C. To report and alert link up / down instances.
D. To diagnose slow network performance, bandwidth hogs, and bandwidth utilization.
E. To detect suboptimal routing in the network.
F. To confirm the appropriate amount of bandwidth that has been allocated to each Class of Service.

Answer: A D F

Question 6

What are three factors a network administrator must consider before implementing Netflow in the network? (Choose three)

A. CPU utilization
B. where Netflow data will be sent
C. number of devices exporting Netflow data
D. port availability
E. SNMP version
F. WAN encapsulation

Answer: A B C

Question 7

What Cisco IOS feature can be enabled to pinpoint an application that is causing slow network performance?

A. SNMP
B. Netflow
C. WCCP
D. IP SLA

Answer: B

CCNA – Syslog Questions

Question 1

What are the popular destinations for Syslog messages to be saved?

A. Flash
B. The logging buffer RAM
C. The console terminal
D. Other terminals
E. Syslog server

Answer: B C E

Question 2

Syslog was configured with a level 3 trap. Which 3 types of logs would be generated (choose four)

A. Emergencies
B. Alerts
C. Errors
D. Warnings
E. Critical

Answer: A B C E

Question 3

Which three statements about Syslog utilization are true? (Choose three)

A. Utilizing Syslog improves network performance.
B. The Syslog server automatically notifies the network administrator of network problems.
C. A Syslog server provides the storage space necessary to store log files without using router disk space.
D. There are more Syslog messages available within Cisco IOS than there are comparable SNMP trap messages.
E. Enabling Syslog on a router automatically enables NTP for accurate time stamping.
F. A Syslog server helps in aggregation of logs and alerts.

Answer: C D F

Question 4

What command instructs the device to timestamp Syslog debug messages in milliseconds?

A. service timestamps log datetime localtime
B. service timestamps debug datetime msec
C. service timestamps debug datetime localtime
D. service timestamps log datetime msec

Answer: B

Question 5

What is the default Syslog facility level?

A. local4
B. local5
C. local6
D. local7

Answer: D

Question 6

What levels will be trapped if the administrator executes the command

router(config)# logging trap 4

A. Emergency
B. Notice
C. Alert
D. Error
E. Warning

Answer: A C D E

Question 7

A network administrator enters the following command on a router: logging trap 3. What are three message types that will be sent to the Syslog server? (Choose three)

A. informational
B. emergency
C. warning

D. critical
E. debug
F. error

Answer: B D F

CCNA – Security Questions

Question 1

Which Cisco Catalyst feature automatically disables the port in an operational PortFast upon receipt of a BPDU?

A. BackboneFast
B. UplinkFast
C. Root Guard
D. BPDU Guard
E. BPDU Filter

Answer: D

Question 2

Which two commands correctly verily whether port security has been configured on port FastEthernet 0/12 on a switch? (Choose two)

A. SW1# show switchport port-security interface FastEthernet 0/12
B. SW1# show switchport port-secure interface FastEthernet 0/12
C. SW1# show port-security interface FastEthernet 0/12
D. SW1# show running-config

Answer: C D

Question 3

Select the action that results from executing these commands:

Switch(config-if)# switchport port-security
Switch(config-if)# switchport port-security mac-address sticky

A. A dynamically learned MAC address is saved in the startup-configuration file.
B. A dynamically learned MAC address is saved in the running-configuration file.
C. A dynamically learned MAC address is saved in the VLAN database.
D. Statically configured MAC addresses are saved in the startup-configuration file if frames from that address are received.
E. Statically configured MAC addresses are saved in the running-configuration file if frames from that address are received.

Answer: B

Question 4

Refer to the exhibit. The following commands are executed on interface fa0/1 of 2950Switch.

2950Switch(config-if)#switchport port-security
2950Switch(config-if)#switchport port-security mac-address sticky
2950Switch(config-if)#switchport port-security maximum 1

The Ethernet frame that is shown arrives on interface fa0/1. What two functions will occur when this frame is received by 2950Switch? (Choose two)
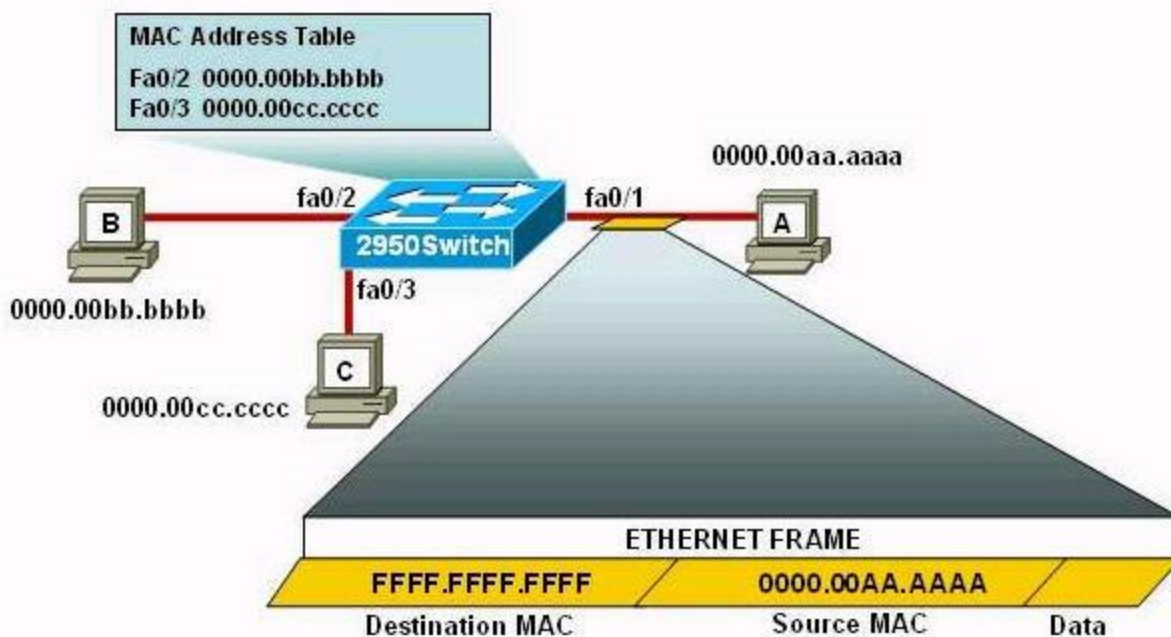
A. The MAC address table will now have an additional entry of fa0/1 FFFF.FFFF.FFFF.
B. Only host A will be allowed to transmit frames on fa0/1.
C. This frame will be discarded when it is received by 2950Switch.
D. All frames arriving on 2950Switch with a destination of 0000.00aa.aaaa will be forwarded out fa0/1.
E. Hosts B and C may forward frames out fa0/1 but frames arriving from other switches will not be forwarded out fa0/1.
F. Only frames from source 0000.00bb.bbbb, the first learned MAC address of 2950Switch, will be forwarded out fa0/1.

Answer: B D

Question 5

Which set of commands is recommended to prevent the use of a hub in the access layer?

A.
switch(config-if)#switchport mode trunk
switch(config-if)#switchport port-security maximum 1

B.
switch(config-if)#switchport mode trunk
switch(config-if)#switchport port-security mac-address 1

C.
switch(config-if)#switchport mode access
switch(config-if)#switchport port-security maximum 1

D.
switch(config-if)#switchport mode access
switch(config-if)#switchport port-security mac-address 1

Answer: C

Question 6

Refer to the exhibit. A junior network administrator was given the task of configuring port security on SwitchA to allow only PC_A to access the switched network through port fa0/1. If any other device is detected, the port is to drop frames from this device. The administrator configured the interface and tested it with successful pings from PC_A to RouterA, and then observes the output from these two show commands.

```
SwitchA# show port-security interface fa0/1
Port Security            : Disabled
Port Status              : Secure-down
Violation Mode           : Restrict
Aging Time               : 0 mins
Aging Type               : Absolute
SecureStatic Address Aging : Disabled
Maximum MAC Addresses    : 2
Total MAC Addresses      : 0
Configured MAC Addresses : 0
Sticky MAC Addresses     : 0
Last Source Address:Vlan : 0000.0000.0000:0
Security Violation Count : 0

SwitchA# show running-config interface fa0/1
Building configuration...

Current configuration : 209 bytes
!
interface FastEthernet0/1
 switchport access vlan 3
 switchport mode access
 switchport port-security maximum 2
 switchport port-security violation restrict
 switchport port-security mac-address sticky
end
```

Which two of these changes are necessary for SwitchA to meet the requirements? (Choose two)

A. Port security needs to be globally enabled.
B. Port security needs to be enabled on the interface.
C. Port security needs to be configured to shut down the interface in the event of a violation.
D. Port security needs to be configured to allow only one learned MAC address.
E. Port security interface counters need to be cleared before using the show command.
F. The port security configuration needs to be saved to NVRAM before it can become active.

Answer: B D

Question 7

A network administrator needs to configure port security on a switch. Which two statements are true? (Choose two)

A. The network administrator can apply port security to dynamic access ports
B. The network administrator can configure static secure or sticky secure mac addresses in the voice vlan.
C. The sticky learning feature allows the addition of dynamically learned addresses to the running configuration.
D. The network administrator can apply port security to EtherChannels.

E. When dynamic mac address learning is enabled on an interface, the switch can learn new addresses up to the maximum defined.

Answer: C E

Question 8

Which protocol is an open standard protocol framework that is commonly used in VPNs to provide secure end-to-end connections?

A. PPTP
B. IPsec
C. RSA
D. L2TP

Answer: B

CCNA – Operation Questions

Question 1

Which command would you use on a Cisco router to verify the Layer 3 path to a host?
A. traced address
B. traceroute address
C. telnet address
D. ssh address

Answer: B

Question 2

Refer to the exhibit:
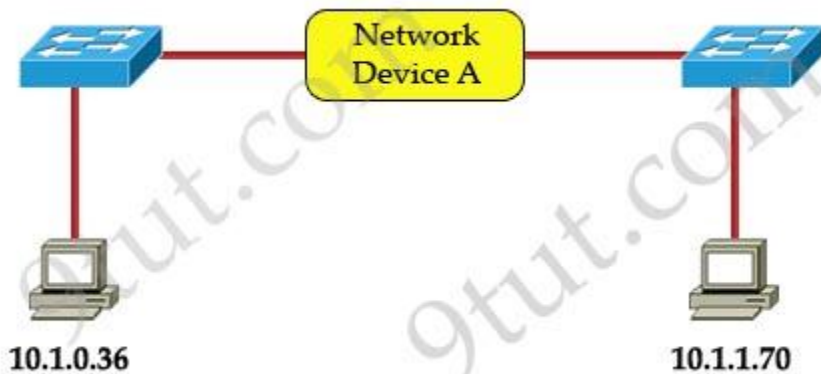
Which three statements correctly describe Network Device A? (Choose three)

A. With a network wide mask of 255.255.255.128, each interface does not require an IP address.
B. With a network wide mask of 255.255.255.128, each interface does require an IP address on a unique IP subnet.
C. With a network wide mask of 255.255.255.0, must be a Layer 2 device for the PCs to communicate with each other.
D. With a network wide mask of 255.255.255.0, must be a Layer 3 device for the PCs to communicate with each other.
E. With a network wide mask of 255.255.254.0, each interface does not require an IP address.

Answer: B D E

Question 3

What are three reasons that an organization with multiple branch offices and roaming users might implement a Cisco VPN solution instead of point-to-point WAN links? (Choose three)

A. reduced cost
B. better throughput
C. broadband incompatibility
D. increased security
E. scalability
F. reduced latency

Answer: A D E

Question 4

What two things will a router do when running a distance vector routing protocol? (Choose two)

A. Send periodic updates regardless of topology changes.
B. Send entire routing table to all routers in the routing domain.
C. Use the shortest-path algorithm to the determine best path.
D. Update the routing table based on updates from their neighbors.
E. Maintain the topology of the entire network in its database.

Answer: A D

Question 5

What is the purpose of the inverse ARP?

A. to map a known DLCI to an IP address
B. to map a known IP address to a MAC address
C. to map known SPID to a MACaddress
D. to map a known DLCI to a MAC address
E. to map a known IP address to a SPID.
F. to map a known MAC address to an IP address

Answer: A

Question 6

The network shown in the diagram is experiencing connectivity problems. Which of the following will correct the problems? (Choose two.)
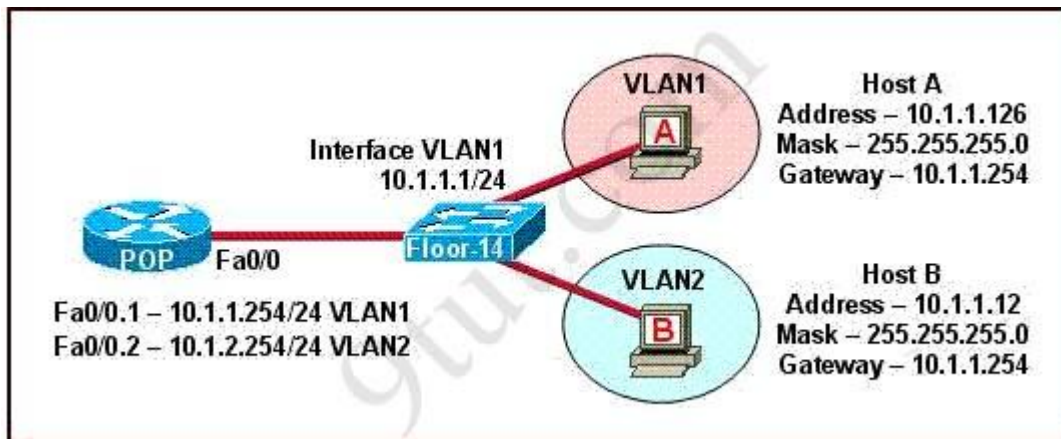
A. Configure the gateway on Host A as 10.1.1.1.
B. Configure the gateway on Host B as 10.1.2.254.
C. Configure the IP address of Host A as 10.1.2.2.
D. Configure the IP address of Host B as 10.1.2.2.
E. Configure the masks on both hosts to be 255.255.255.224.
F. Configure the masks on both hosts to be 255.255.255.240.

Answer: B D

Question 7

Refer to the exhibit. For what two reasons has the router loaded its IOS image from the location that is shown? (Choose two)

```
Router1> show version
Cisco Internetwork Operating System Software
IOS ™ 7200 Software (C7200-J-M), Experimental Version 11.3tl997091S:1647S2)
[hampton-nitro-baseline 249]
Copyright (c) 1986-1997 by cisco Systems, Inc.
Compiled Wed 08-0ct-97 06:39 by hampton
Image text-base: 0×60008900, data-base: 0x60B98000

ROM: System Bootstrap, Version 11.1(11855) [beta 2], INTERIM SOFTWARE
BOOTPLASH: 7200 Software (C7200-BOOT-M), Version 11.1(472), RELEASE SOFTWARE (fcl)

Router1 uptime is 23 hours, 33 minutes
System restarted by abort at PC 0x6022322C at 10:50:SS PDT Tue Oct 21 1997
System image file is "tftp://112.16.1.129/hampton/nitro/c7200-j-mz"

cisco 7206 (NPE150) processor with 57344K/8192K bytes of memory.




Configuration register is 0×2102
```

A. Router1 has specific boot system command that instruct it to load IOS from TFTP server.
B. Router1 is acting as a TFTP server for other routers.
C. Router1 cannot locate a valid IOS image in flash memory.
D. Router1 defaulted to ROMMON mode and loaded the IOS image from a TFTP server.
E. Cisco routers will first attempt to load a image from TFTP for management purposes.

Answer: A C

Question 8

Host 1 is trying to communicate with Host 2. The e0 interface on Router C is down. Which of the following are true? (Choose two)
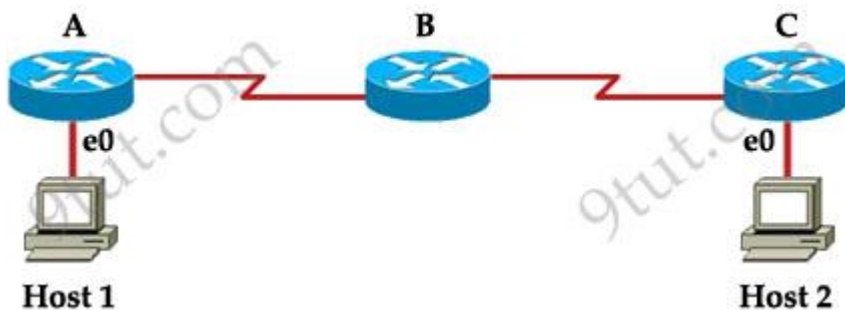
A. Router C will use ICMP to inform Host 1 that Host 2 cannot be reached.
B. Router C will use ICMP to inform Router B that Host 2 cannot be reached.
C. Router C will use ICMP to inform Host 1, Router A, and Router B that Host 2 cannot be reached.
D. Router C will send a Destination Unreachable message type.
E. Router C will send a Router Selection message type.
F. Router C will send a Source Quench message type.

Answer: A D

Question 9

How is an EUI-64 format interface ID created from a 48-bit MAC address?

A. by appending 0xFF to the MAC address.
B. by prefixing the MAC address with 0xFFEE.
C. by prefixing the MAC address with 0xFF and appending 0xFF to it.
D. by inserting 0xFFFE between the upper three bytes and the lower three bytes of the MAC address
E. by prefixing the MAC address with 0xF and inserting 0xF after each of its first three bytes.

Answer: D

Question 10

Refer to the exhibit:
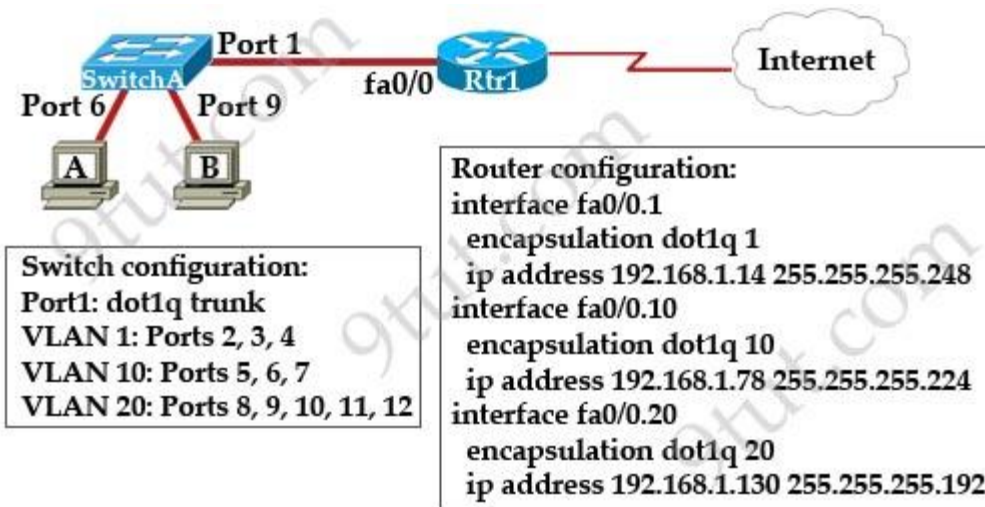
A network administrator is adding two new hosts to SwitchA. Which three values could be used for the configuration of these hosts? (Choose three)

A. host A IP address: 192.168.1.79
B. host A IP address: 192.168.1.64
C. host A default gateway: 192.168.1.78
D. host B IP address: 192.168.1.128
E. host B default gateway: 192.168.1.129
F. host B IP address: 192.168.1.190

Answer: A C F

CCNA – Operation 2

Question 1

Refer to the exhibit. A network technician is asked to design a small network with redundancy. The exhibit represents this design, with all hosts configured in the same VLAN. What conclusions can be made about this design?
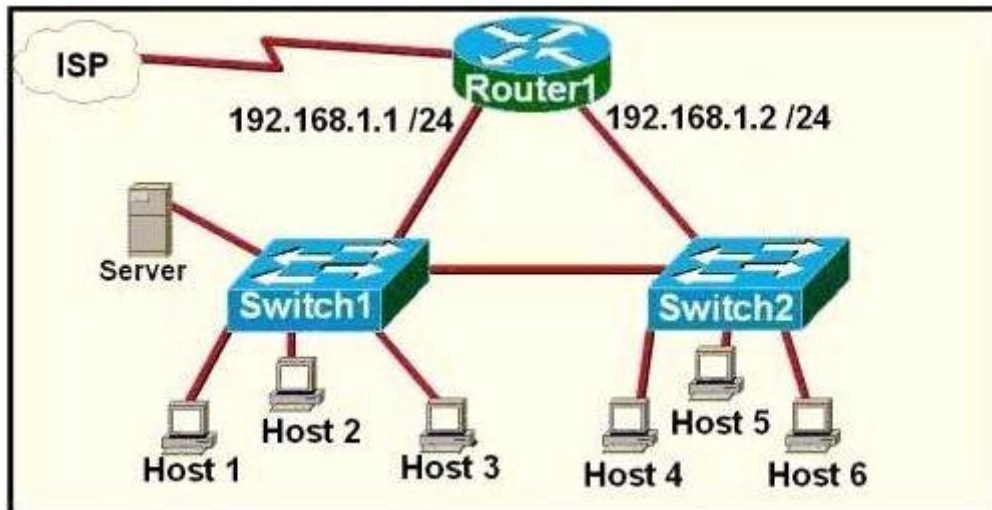
A. The design will function as intended
B. Spanning-tree will need to be used.
C. The router will not accept the addressing scheme.
D. The connection between switches should be a trunk.
E. The router interfaces must be encapsulated with the 802.1Q protocol.

Answer: C

Question 2

Refer to the exhibit. What can be determined about the router from the console output?

```
1 FastEthernet/IEEE 802.3 interface(s)
125K bytes of non-volatile configuration memory.
65536K bytes of ATA PCMCIA card at slot 0 (Sector size 512 bytes) .
8192K bytes of Flash internal SIMM (Sector size 256K).

————-System Configuration Dialog ————-

Would you like to enter the initial configuration dialog? [yes/no]:
```

A. No configuration file was found in NVRAM.
B. No configuration file was found in flash.
C. No configuration file was found in the PCMCIA card.
D. Configuration file is normal and will load in 15 seconds.

Answer: A

Question 3

Which command displays CPU utilization?

A. show protocols
B. show process
C. show system
D. show version

Answer: B

Question 4

Refer to the exhibit:

```
Router1# show ip arp
Protocol   Address          Age(min)  Hardware Adddr   Type    Interface
Internet   192.168.20.5        9       0000.0c07.f892   ARPA    FastEthernet0/0
Internet   192.168.60.5        8       0000.0c07.ac00   ARPA    FastEthernet0/1
Internet   192.168.20.1        -       0000.0c63.ae45   ARPA    FastEthernet0/0
Internet   192.168.40.5        9       0000.0c07.4320   ARPA    FastEthernet0/2
Internet   192.168.60.1        -       0000.0c63.1300   ARPA    FastEthernet0/1
Internet   192.168.40.1        -       0000.0c36.6965   ARPA    FastEthernet0/2


Data Frame:
```

Source MAC	Source IP	Destination MAC	Destination IP
0000.0c07.f892	192.168.20.5	0000.0c63.ae45	192.168.40.5

What will Router1 do when it receives the data frame shown? (Choose three)

A. Router1 will strip off the source MAC address and replace it with the MAC address
0000.0c36.6965.
B. Router1 will strip off the source IP address and replace it with the IP address 192.168.40.1.
C. Router1 will strip off the destination MAC address and replace it with the MAC address
0000.0c07.4320.

D. Router1 will strip off the destination IP address and replace it with the IP address of 192.168.40.1.
E. Router1 will forward the data packet out interface FastEthernet0/1.
F. Router1 will forward the data packet out interface FastEthernet0/2.
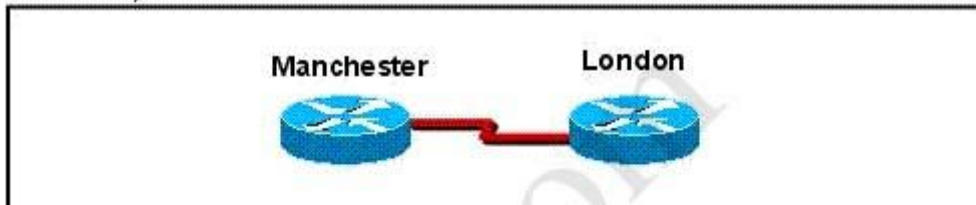
Answer: A C F

CCNA – Show commands

Question 1

Refer to the exhibit. The two exhibited devices are the only Cisco devices on the network. The serial network between the two devices has a mask of 255.255.255.252. Given the output that is shown, what three statements are true of these devices? (Choose three)


```
Manchester# sh cdp entry *
-------------------------
Device ID: London
Entry address (es):
  IP address: 10.1.1.2
Platform: cisco 2610, Capabilities: Router
Interface: Serial10/0, Port ID (outgoing port): Serial0/1
Holdtime : 125 sec

<output omitted>
```

A. The Manchester serial address is 10.1.1.1.
B. The Manchester serial address is 10.1.1.2.
C. The London router is a Cisco 2610.
D. The Manchester router is a Cisco 2610.
E. The CDP information was received on port Serial0/0 of the Manchester router.
F. The CDP information was sent by port Serial0/0 of the London router.

Answer: A C E

Question 2

Which command reveals the last method used to powercycle a router?

A. show reload
B. show boot
C. show running-config
D. show version

Answer: D

Question 3

When you are troubleshooting an ACL issue on a router, which command would you use to verify which interfaces are affected by the ACL?

A. show ip access-lists
B. show access-lists
C. show interface
D. show ip interface
E. list ip interface

Answer: D

CCNA – Troubleshooting

Question 1

Refer to the exhibit:
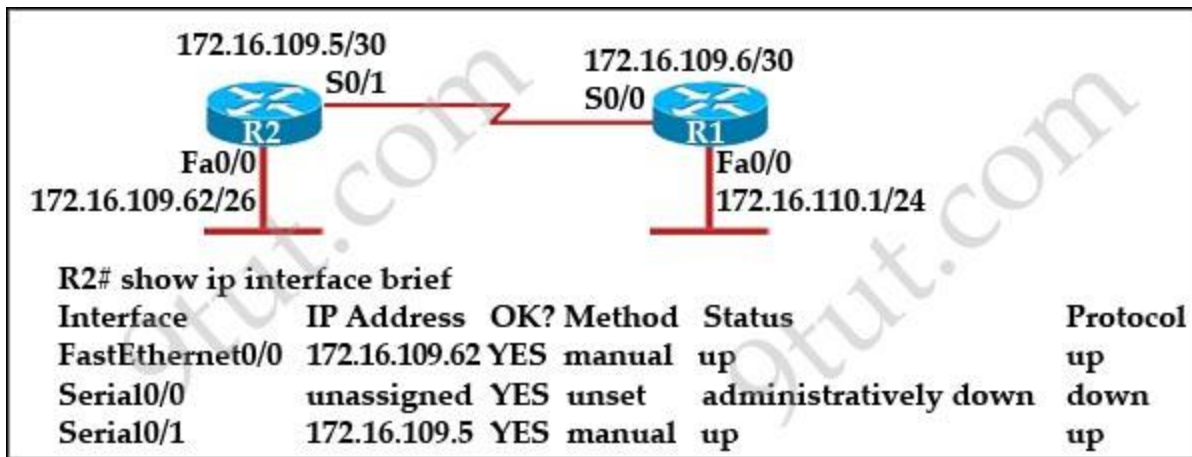
Assuming that the entire network topology is shown, what is the operational status of the interfaces of R2 as indicated by the command output shown?

A. One interface has a problem.
B. Two interfaces have problems.
C. The interfaces are functioning correctly.
D. The operational status of the interfaces cannot be determined from the output shown.

Answer: C

Question 2

Refer to the exhibit:

```
ALSwitch1# show interfaces fastethernet0/24 switchport
Name: Fa0/24
Switchport: Enabled
Administrative Mode: static access
Operational Mode: static access
Administrative Trunking Encapsulation: dot1q
Operatfonal Trunking Encapsulation: native
Negotiation of Trunking: Off
Access Mode VLAN1 (default)
Trunking Native Mode VLAN: 1 (default)
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Operafional private-vlan: none
Trunking VLANs Enabled: ALL
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

Protected: false

Voice VLAN: none (Inactive)
Appliance trust: none
```

Switch port FastEthernet 0/24 on AlSwitch1 will be used to create an IEEE 802.1Q-complaint trunk
to another switch. Based on the output shown, What is the reason the trunk does not form, even
thought the proper cabling has been attached?

A. VLANs have not been created yet.
B. An IP address must be configured for the port.
C. The port is currently configured for access mode.
D. The correct encapsulation type has not been configured.
E. The no shutdown command has not been entered for the port.

Answer: C

Question 3

Refer to the exhibit:

Bigtime(config)# username Littletime password little123 | Littletime(config)# username Bigtime password big123
Bigtime(config)# interface serial0/0 | Littletime(config)# interface serial0/0
Bigtime(config-if)# encapsulation ppp | Littletime(config-if)# encapsulation ppp
Bigtime(config-if)# ppp authentication chap | Littletime(config-if)# ppp authentication chap
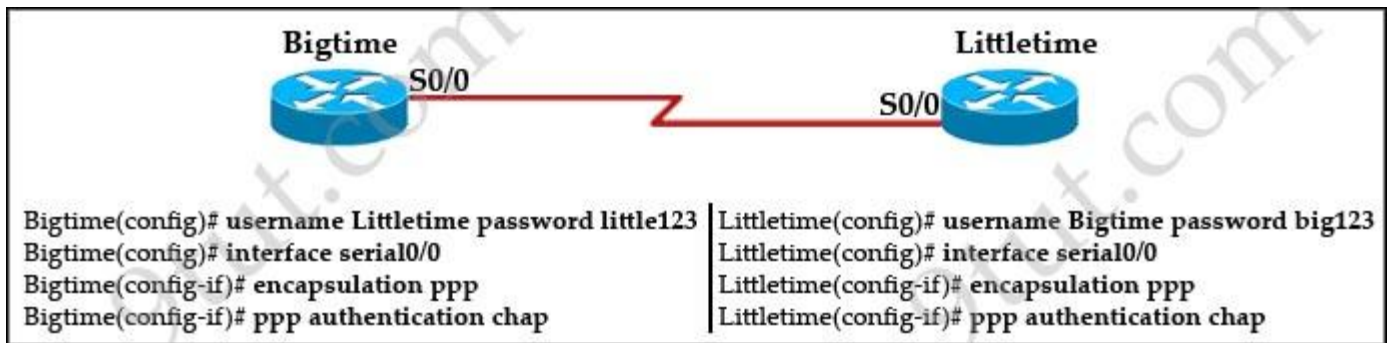
The Bigtime router is unable to authenticate to the Littletime router. What is the cause of the problem?

A. The usernames are incorrectly configured on the two routers.
B. The passwords do not match on the two routers.
C. CHAP authentication cannot be used on a serial interface.
D. The routers cannot be connected from interface S0/0 to interface S0/0.
E. With CHAP authentication, one router must authenticate to another router. The routers cannot be configured to authenticate to each other.

Answer: B

Question 4

Refer to the exhibit. Hosts in network 192.168.2.0 are unable to reach hosts in network 192.168.3.0. Based on the output from RouterA, what are two possible reasons for the failure? (Choose two)
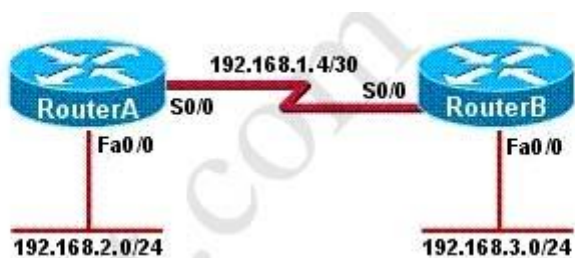

```
RouterA# show ip interface brief
Interface        IP-Address    OK? Method Status                  Protocol
FastEthernet0/0  192.168.2.1   YES manual up                      up
Serial0/0        192.168.1.5   YES manual up                      down
Serial0/1        unassigned    YES manual administratively down   down
```

A. The cable that is connected to S0/0 on RouterA is faulty.
B. Interface S0/0 on RouterB is administratively down.
C. Interface S0/0 on RouterA is configured with an incorrect subnet mask.
D. The IP address that is configured on S0/0 of RouterB is not in the correct subnet.
E. Interface S0/0 on RouterA is not receiving a clock signal from the CSU/DSU.
F. The encapsulation that is configured on S0/0 of RouterB does not match the encapsulation that is configured on S0/0 of RouterA.

Answer: E F

Question 5

Which command can be used from a PC to verify the connectivity between hosts that connect through a switch in the same LAN?

A. pingaddress
B. tracertaddress
C. tracerouteaddress
D. arpaddress

Answer: A

Question 6

Two routers named Atlanta and Brevard are connected by their serial interfaces as illustrated, but there is no connectivity between them. The Atlanta router is known to have a correct configuration. Given the partial configurations, identify the problem on the Brevard router that is causing the lack of connectivity.

Atlanta

S0

Brevard

S1

Atlanta#sh int s0
Serial0 is up, line protocol is up
Hardware is HD64570
Interact address is 192.168.10.1/24
MTU 1500 bytes, BW1544 Kbit,
  reliability 255/255
Encapsulation HDLC, loopback not set
Keepalive set (10 sec)

Brevard#sh int s1
Serial1 is up, line protocol is up
Hardware is HD64570
Internet address is 192.168.11.2/24
MTU 1500 bytes, BW 56000 Kbit,
  reliability 255/255,
Encapsulation HDLC, loopback not set
Keepalive set (10 sec)

A. transmission unit size too large
B. no loopback set
C. an incorrect subnet mask
D. incompatible encapsulation at each end
E. an incorrect IP address
F. incompatible bandwidth between routers

Answer: E

Question 7

Refer to the exhibit. HostA cannot ping HostB. Assuming routing is properly configured, what could be the cause of this problem?
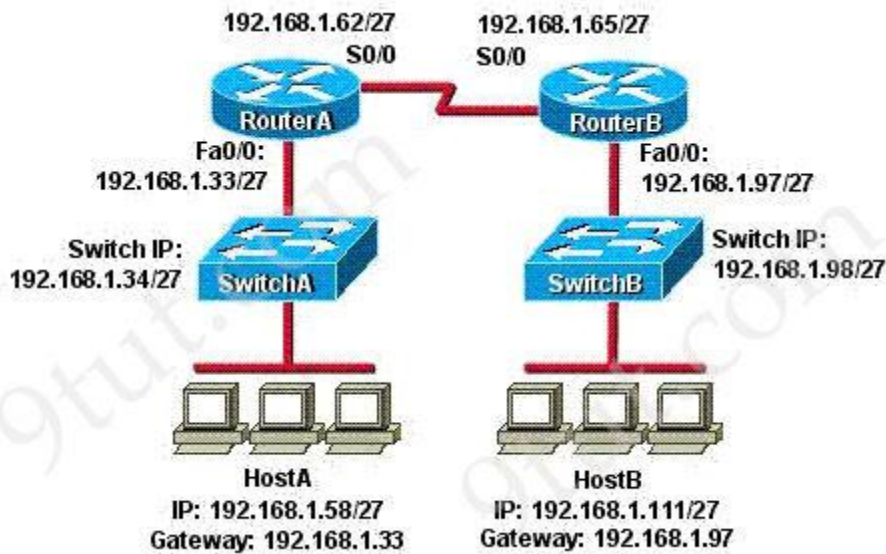
A. HostA is not on the same subnet as its default gateway.
B. The address of SwitchA is a subnet address.
C. The Fa0/0 interface on RouterA is on a subnet that can't be used.
D. The serial interfaces of the routers are not on the same subnet.
E. The Fa0/0 interface on RouterB is using a broadcast address.

Answer: D

Question 8

```
Router# show interface s0/0
Serial 0/0/0 is administratively down, line protocol is down
```

What is the reason that the interface status is "administratively down, line protocol down"?

A. There is no encapsulation type configured.
B. There is a mismatch in encapsulation types.
C. The interface is not receiving any keepalives.
D. The interface has been configured with the shutdown command.
E. The interface needs to be configured as a DTE device.
F. The wrong type of cable is connected to the interface.

Answer: D

Question 9

Refer to the exhibit. A network administrator configures a new router and enters the copy startup-config running-config on the router. The network administrator powers down the router and sets it up at a remote location. When the router starts, it enter the system configuration dialog as shown. What is the cause of the problem?

— System Configuration Dialog —
Would you like to enter the initial configuration dialog? [yes/no]: % Please answer yes' or 'no'.
Would you like to enter the initial configuration dialog? [yes/ho]: n

Would you like to terminate autoinstall? [yes]:

Press RETURN to get started!

A. The network administrator failed to save the configuration.
B. The configuration register is set to 0×2100.
C. The boot system flash command is missing from the configuration.
D. The configuration register is set to 0×2102.
E. The router is configured with the boot system startup command.

Answer: A

CCNA – IPv6

Question 1

Which IPv6 address is valid?

A. 2031:0:130F::9C0:876A:130B
B. 2001:0DB8:0000:130F:0000:0000:08GC:140B
C. 2001:0DB8:0:130H::87C:140B
D. 2031::130F::9C0:876A:130B

Answer: A

Question 2

Which IPv6 address is the equivalent of the IPv4 interface loopback address 127.0.0.1?

A. ::1
B. ::
C. 2000::/3
D. 0::/10

Answer: A

Question 3

How many bits are contained in each field of an IPv6 address?

A. 24
B. 4
C. 8
D. 16

Answer: D

Question 4

Which IPv6 address is the all-router multicast group?

A. FF02::1
B. FF02::2
C. FF02::3
D. FF02::4

Answer: B

Question 5

Which three are characteristics of an IPv6 anycast address? (Choose three)

A. one-to-many communication model
B. one-to-nearest communication model
C. any-to-many communication model
D. a unique IPv6 address for each device in the group
E. the same address for multiple devices in the group
F. delivery of packets to the group interface that is closest to the sending device

Answer: B E F

Question 6

Which two are features of IPv6? (Choose two)

A. multicast
B. broadcast
C. allcast
D. podcast
E. anycast

Answer: A E

Question 7

Which three approaches can be used while migrating from an IPv4 addressing scheme to an IPv6 scheme? (Choose three)

A. static mapping of IPv4 address to IPv6 addresses
B. configuring IPv4 tunnels between IPv6 islands
C. use DHCPv6 to map IPv4 addresses to IPv6 addresses
D. use proxying and translation (NAT-PT) to translate IPv6 packets into IPv4 packets
E. configure IPv6 directly
F. enable dual-stack routing

Answer: B D F

Question 8

Which of these represents an IPv6 link-local address?

A. FE08::280e:611:a:f14f.3d69
B. FE81::280f.512b:e14f:3d69
C. FE80::380e:611a:e14f:3d69
D. FEFE:0345:5f1b::e14d:3d69

Answer: C

Question 9

Which command enables IPv6 forwarding on a cisco router?

A. IPv6 host
B. IPv6 unicast-routing
C. IPv6 local
D. IPv6 neighbor

Answer: B

Question 10

Which two statements describe characteristics of IPv6 unicast addressing? (Choose two)

A. Global addresses start with 2000::/3
B. Link-local addresses start with FE00:/12
C. Link-local addresses start with FF00::/10
D. There is only one loopback address and it is ::1
E. If a global address is assigned to an interface, then that is the only allowable address for the interface.

Answer: A D

CCNA – IPv6 Questions 2

Question 1

What are three features of the IPv6 protocol? (Choose three)
A. optional IPsec
B. autoconfiguration
C. no broadcasts
D. complicated header
E. plug-and-play
F. checksums

Answer: B C E

Question 2

Which two of these statements are true of IPv6 address representation? (Choose two)

A. The first 64 bits represent the dynamically created interface ID.
B. A single interface may be assigned multiple IPV6 addresses of any type.
C. Every IPV6 interface contains at least one loopback address.
D. Leading zeros in an IPV6 16 bit hexadecimal field are mandatory.

Answer: B C

Question 3

Which option is a valid IPv6 address?

A. 2001:0000:130F::099a::12a
B. 2002:7654:A1AD:61:81AF:CCC1
C. FEC0:ABCD:WXYZ:0067::2A4
D. 2004:1:25A4:886F::1

Answer: D

Question 4

What is the alternative notation for the IPV6 address
B514:82C3:0000:0000:0029:EC7A:0000:EC72?

A. B514:82C3:0029::EC7A:0000:EC72
B. B514:82C3:0029:EC7A:EC72
C. B514:82C3::0029:EC7A:0:EC72
D. B514:82C3::0029:EC7A:EC72

Answer: C

Question 5

Which switch would STP choose to become the root bridge in the selection process?

A. 32768: 11-22-33-44-55-66
B. 32768: 22-33-44-55-66-77
C. 32769: 11-22-33-44-55-65
D. 32769: 22-33-44-55-66-78

Answer: A

Question 6

Which command can you use to manually assign a static IPV6 address to a router interface?

A. ipv6 address PREFIX_1::1/64
B. ipv6 autoconfig 2001:db8:2222:7272::72/64
C. ipv6 autoconfig
D. ipv6 address 2001:db8:2222:7272::72/64

Answer: D

Question 7

What is known as "one-to-nearest" addressing in IPv6?

A. global unicast
B. anycast
C. multicast
D. unspecified address

Answer: B

Question 8

The network administrator has been asked to give reasons for moving from IPv4 to IPv6. What are two valid reasons for adopting IPv6 over IPv4? (Choose two)

A. telnet access does not require a password
B. nat
C. no broadcast
D. change of destination address in the IPv6 header
E. change of source address in the IPv6 header
F. autoconfiguration

Answer: C F

CCNA – Drag and Drop 1

Question 1:

A dental firm is redesigning the network that connects its three locations. The administrator gave the networking team 192.168.164.0 to use for addressing the entire netwok. After subnetting the address, the team is ready to assign the addresses. The administrator plans to configure ip subnet-zero and use RIP v2 as the routing protocol. As a member of the networking team, you must address the network and at the same time conserver unused addresses for future growth. With those goals in mind, drag the host addresses on the left to the correct router interface. Once of the routers is partially configured. Move your mouse over a router to view its configuration. Not all of the host addresses on the left are necessary.
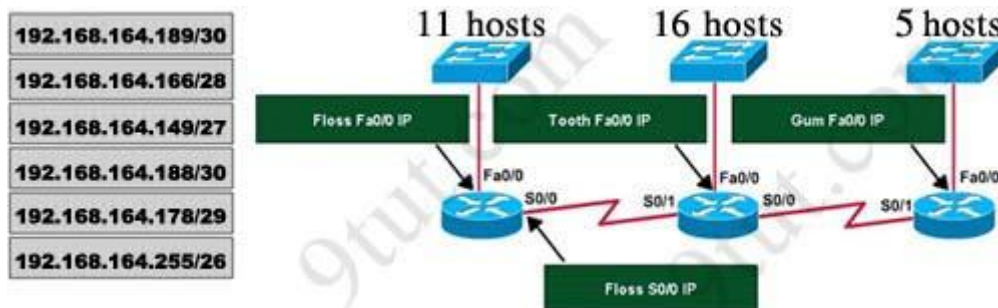
Answer:
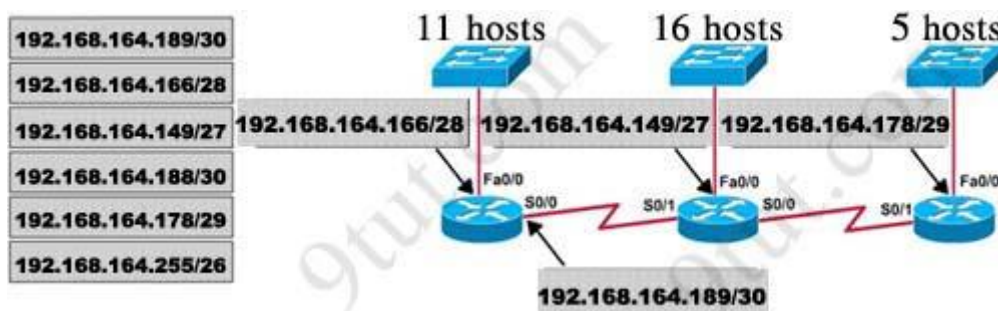
Question 2:

In order to complete a basic switch configuration, drag each switch IOS command on the left to its purpose on the right

Answer:

1) enable

2) configure terminal

3) hostname

4) Interface vlan 1

5) no shutdown

6) ip address

7) ip default-gateway

Question 3:

The Missouri branch office router is connected through its s0 interface to the Alabama Headquarters router s1 interface. The Alabama router has two LANs. Missouri users obtain Internet access through the Headquarters router. The network interfaces in the topology are addressed as follows: **Missouri**: **e0 – 192.168.35.17/28**; **s0 – 192.168.35.33/28**; **Alabama**: **e0 – 192.168.35.49/28**; **e1 – 192.168.35.65/28**; **s1 – 192.168.35.34/28**. The accounting server has the address of **192.168.35.66/28**. Match the access list conditions on the left with the goals on the right. (Not all options on the left are used.)

Answer:

1) deny ip 192.168.35.16 0.0.0.15 host 192.168.35.66

2) deny ip 192.168.35.55 0.0.0.0 host 192.168.35.66

3) permit ip 192.168.35.0 0.0.0.255 host 192.168.35.66

Question 4:

A host with the address of 192.168.125.34/27 needs to be denied access to all hosts outside its own subnet. To accomplish this, complete the command in brackets, **[access-list 100 deny *protocol address mask* any]**, by dragging the appropriate options on the left to their correct placeholders on the right.

Answer:

1) ip

2) 192.168.125.34

3) 0.0.0.0

Full command: access-list 100 deny ip 192.168.125.34 0.0.0.0

Question 5:

Drag and drop the network user application to the appropriate description of its primary use (not all options are used)

e-mail

web browser

instant message

IP telephony

collaboration

database

provides a way to look at and interact with information on the Internet

allows users to create and send text to other users in real time

allows users to send messages and files to users on or outside their network

allows users to store and retrieve information from a central location

creates a space where users can interact on common projects

Answer:

1) web browser

2) instant message

3) e-mail

4) database

5) collaboration

CCNA – Drag and Drop 2

Question 1

The left describes OSI layers, while the right provides some terms. Drag the items on the right to the proper locations.
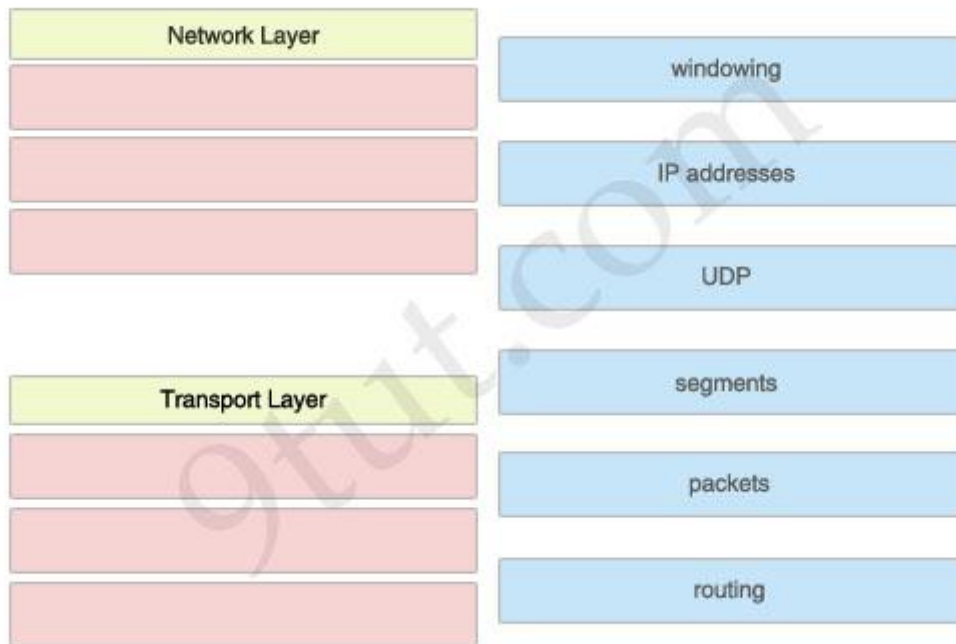
Answer:

Network Layer:

1) IP addresses
2) packets
3) routing

Transport Layer:

1) windowing
2) UDP
3) segments

Question 2

The above describes some categories, while the below provides their corresponding router output lines. Drag the above items to the proper locations.
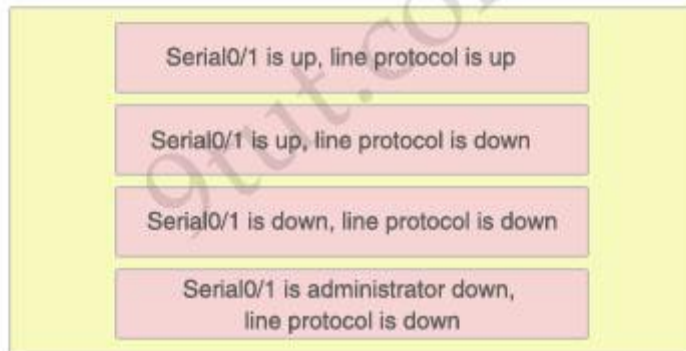
Answer:

1) Port operational: Serial0/1 is up, line protocol is up
2) Layer 2 problem: Serial0/1 is up, line protocol is down
3) Layer 1 problem: Serial0/1 is down, line protocol is down
4) Port disabled: Serial0/1 is administrator down, line protocol is down

Question 3

A user is unable to connect to the Internet. Based on the layered approach to troubleshooting and beginning with the lowest layer. Follow the guide and drag the contents to relevant modules.
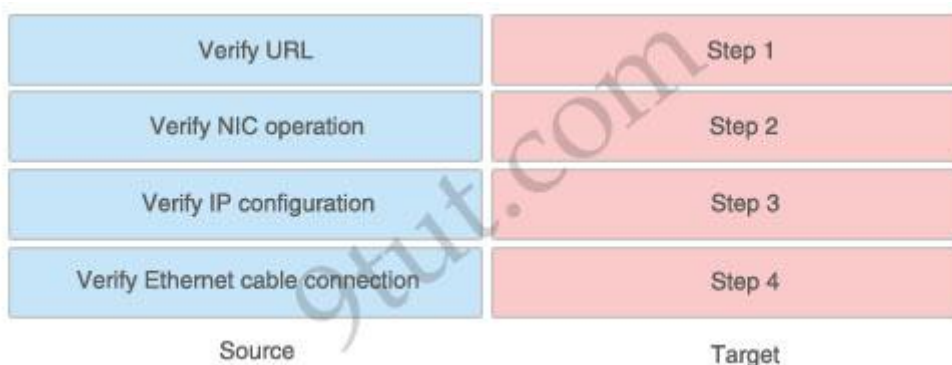
Answer:

1) Verify Ethernet cable connection: Step 1
2) Verify NIC operation: Step 2

3) Verify IP configuration: Step 3
4) Verify URL: Step 4

Question 4

The left describes the types of cables, while the right describes the purposes of the cables. Drag the items on the left to the proper locations. (Not all items can be used).

straight-through	switch access port to router
crossover	switch to switch
rollover	PC COM port to switch

Answer:

1) straight-through: switch access port to router
2) crossover: switch to switch
3) rollover: PC COM port to switch

Question 5

The left describes the types of switch ports, while the right describes the features. Drag the options on the right to the proper locations.

Access Port		carries traffic for a multiple VLAN
		carries traffic for a single VLAN
		uses a straight-through cable to connect a device
		Facilitates interVLAN communications when connected to a Layer 3 device
Trunk Port		uses 802.1q to identify traffic from different VLANs
		connects an end-user workstation to a switch

Answer:

Access Port:

– Carries traffic for a single VLAN
– Uses a straight-through cable to connect a device
– Connects an end-user workstation to a switch

Trunk Port:

– Carries traffic for a multiple VLAN
– Uses 802.1q to identify traffic from different VLANs
– Facilitates interVLAN communications when connected to a Layer 3 device

Question 6

The above describes the Spanning-Tree Protocol port states, while the below describes their functions. Drag the above items to the proper locations.

forwarding	listening
blocking	learning

populating the MAC address table but not forwarding data frames

sending and receiving data frames

preparing to forward data frames without populating the MAC address table

preventing the use of looped paths
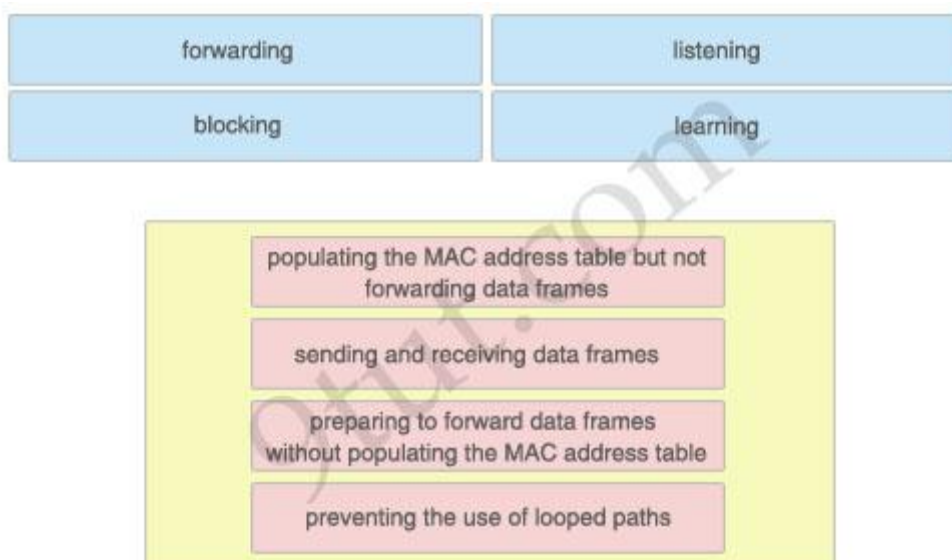
Answer:

– Learning: populating the MAC address table but not forwarding data frames
– Forwarding: sending and receiving data frames
– Listening: preparing to forward data frames without populating the MAC address table
– Blocking: preventing the use of looped paths

CCNA – Drag and Drop 3

Question 1

Drag the security features on the left to the specific security risks they help protect against on the right. (Not all options are used)
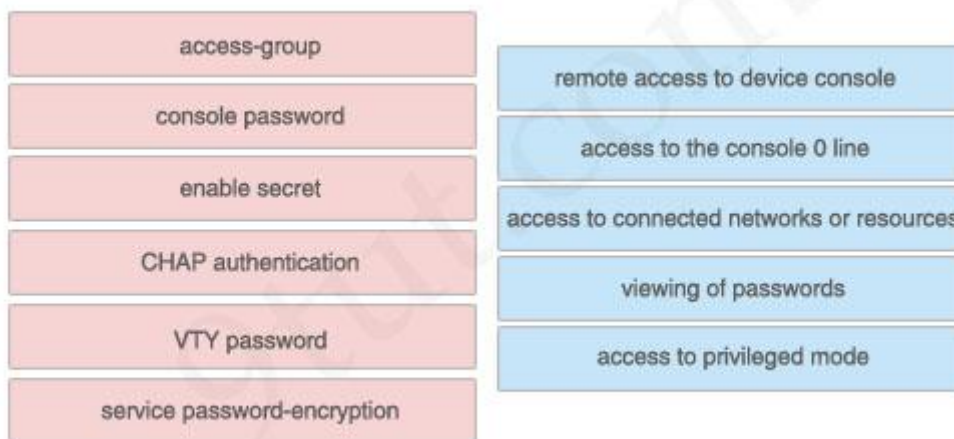
Answer:

1) VTY password: remote access to device console
2) console password: access to the console 0 line
3) access-group: access to connected networks or resources
4) service password-encryption: viewing of passwords
5) enable secret: access to privileged mode

The unselected left-box – CHAP – is used to verify the identity of the peer by means of a three-way handshake.

Question 2

Refer to the exhibit. PC-A is sending packets to the FTP server. Consider the packets as they leave RA interface Fa0/0 forwards RB. Drag the correct frame and packet address to their places in the table.
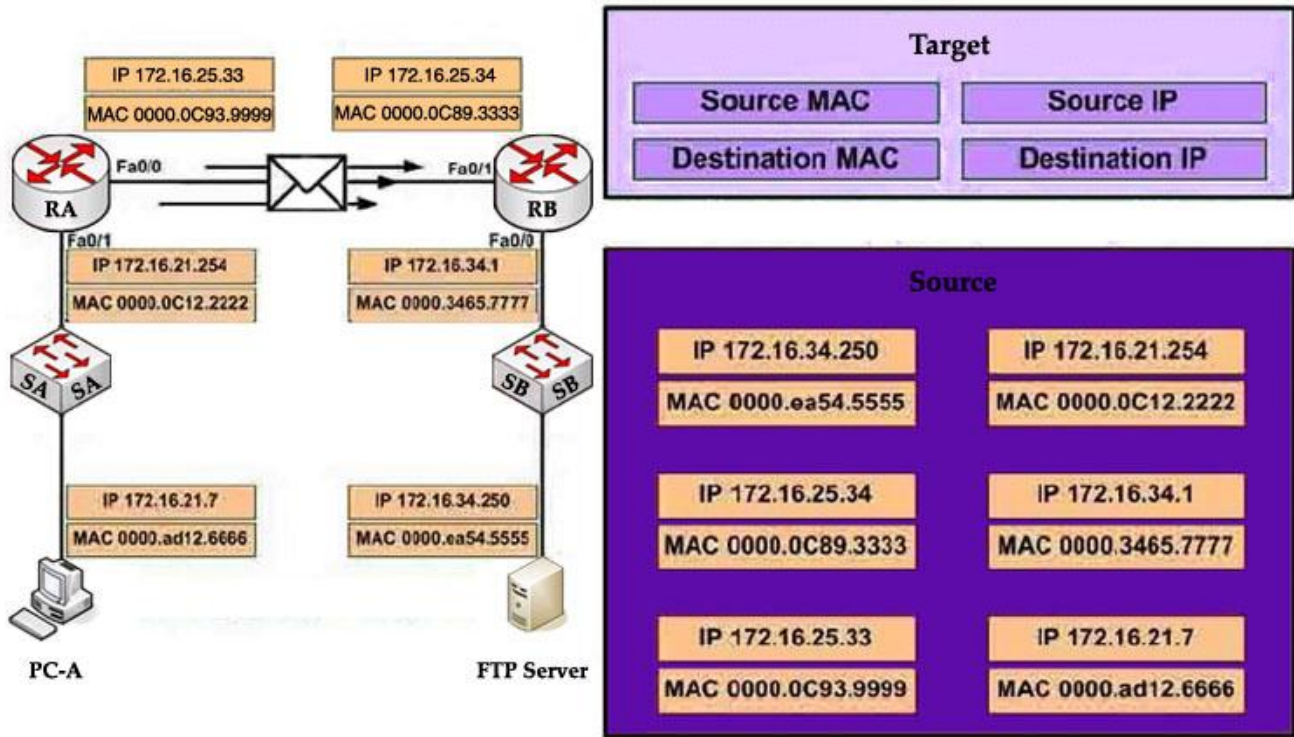
Answer:

Source MAC: 0000.0C93.9999
Destination MAC: 0000.0C89.3333
Source IP: 172.16.21.7
Destination IP: 172.16.34.250

Question 3

As a network administrator, you are required to configure the network security policy. And the policy requires that only one host be permitted to attach dynamically to each switch interface. If that policy is violated, the interface should shut down. Which two commands must the network administrator configure on the 2950 Catalyst switch to meet this policy? Please choose appropriate commands and drag the items to the proper locations.

SW(config-if)# switchport port-security maximum 1

SW(config)# mac-address-table secure

SW(config)# access-list 10 permit ip host

SW(config-if)# switchport port-security violation shutdown

SW(config-if)# ip access-group 10

Appropriate commands

Place here

Place here

Answer:

Appropriate commands:

SW(config-if)# switchport port-security maximum 1
SW(config-if)# switchport port-security violation shutdown

Question 4

The left describes boot sequence, while the right describes the orders. Drag the items on the left to the proper locations.

Answer:

1) Step 1: The power on self test executes.
2) Step 2: The bootstrap loader in ROM executes.
3) Step 3: The IOS is located and loaded based on boot system commands in NVRAM.
4) Step 4: The configuration file is loaded from NVRAM.
5) Step 5: If no configuration file is located, the setup dialog initiates.

Question 5

Drag and Drop question. Drag the items to the proper locations.

Routing has been configured on the local router with these commands:
Local(config)# ip route 0.0.0.0 0.0.0.0 192.168.1.1
Local(config)# ip route 10.1.0.0 255.255.255.0 192.168.2.2
Local(config)# ip route 10.1.0.0 255.255.0.0 192.168.3.3

Drag each destination IP address on the top to its correct next hop address at the bottom.
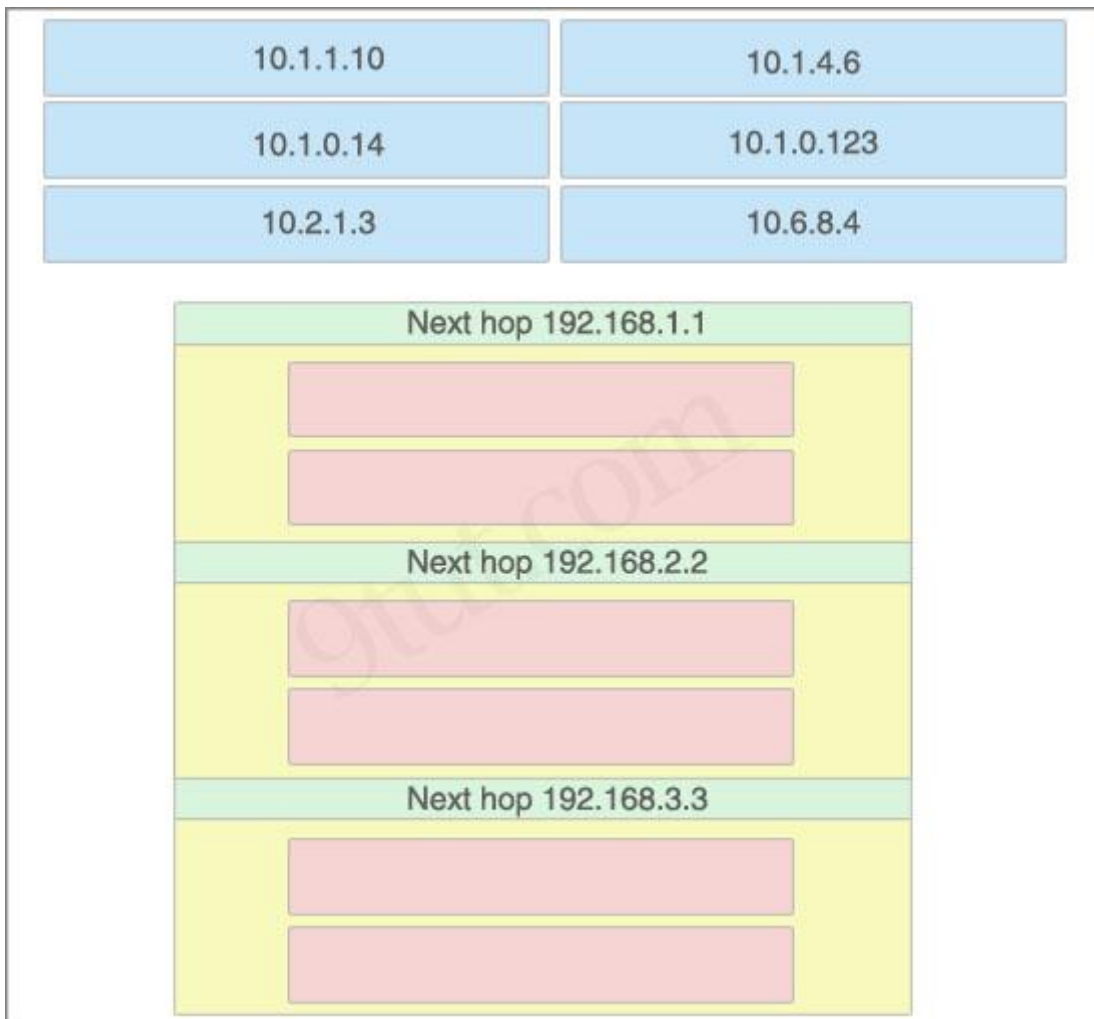
Answer:

Next hop 192.168.1.1:
+ 10.2.1.3
+ 10.6.8.4

Next hop 192.168.2.2:
+ 10.1.0.14
+ 10.1.0.123

Next hop 192.168.3.3:
+ 10.1.1.10
+ 10.1.4.6

Question 6

If a Cisco router has learned about network 10.1.1.0 from multiple sources, the router will select and install only one entry into the routing table. Indicate the order of preference that the router will use by dragging the routes on the left to the order of preference category on the right.

S 10.1 1.0/24 [1/0] via 10.1.2.2	first preference
R 10.1.1.0/24 [120/3] via 10.1.3.1, Senal0	second preference
D 10.1.1.0/24 [90/2172416] via 10.1.5.5, Serial0	third preference
S 10.1.1.0 is directly connected, Serial1	fourth preference
O 10.1.1.0/24 [110/789] via 10.1.3.1, Serial0	fifth preference

Answer:

1) **First preference:** S 10.1.1.0 is directly connected, Serial1
2) **Second preference**: S 10.1 1.0/24 [1/0] via 10.1.2.2
3) **Third preference:** D 10.1.1.0/24 [90/2172416] via 10.1.5.5, Serial0
4) **Fourth preference:** O 10.1.1.0/24 [110/789] via 10.1.3.1, Serial0
5) **Fifth preference:** R 10.1.1.0/24 [120/3] via 10.1.3.1, Senal0

CCNA – Drag and Drop 4

Question 1

Drag the function on the left to the matching security appliance or application on the right. (Not all functions are used)

Answer:

1) antispyware: detects software designed to capture sensitive information and removes it from the computer
2) antivirus: prevents known malicious programs from being installed on workstations
3) IDS: identifies malicious network traffic and alerts network personnel
4) firewall: filters traffic based on source and destination IP address or traffic type

Question 2

Drag the Frame Relay acronym on the left to match its definition on the right. (Not all acronyms are used)
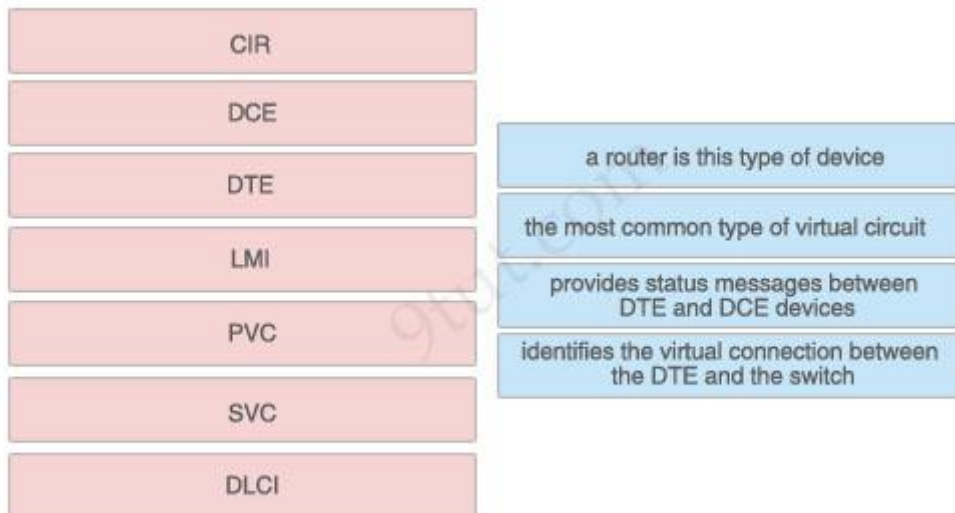
Answer:

1) a router is this type of device: DTE
2) the most common type of virtual circuit: PVC
3) provides status messages between DTE and DCE devices: LMI
4) identifies the virtual connection between the DTE and the switch: DLCI

Question 3

The left describes some types of connections while the right describes some types of cables. Drag the items on the left to the proper locations.
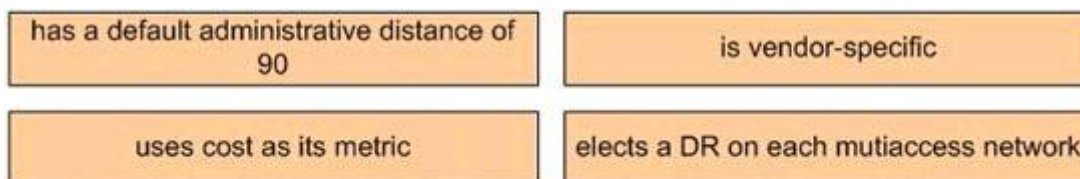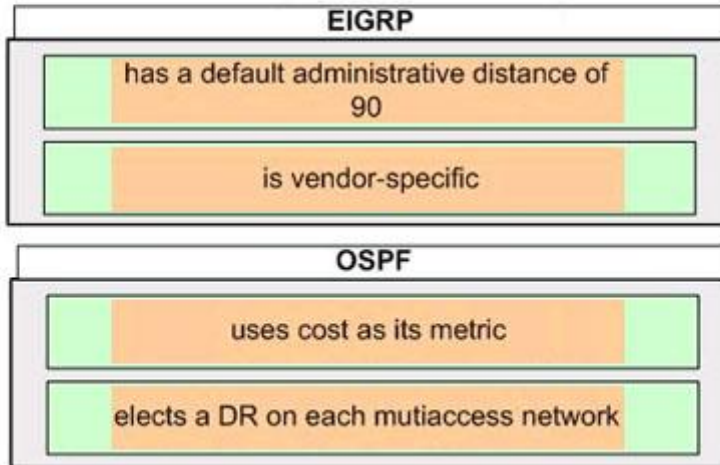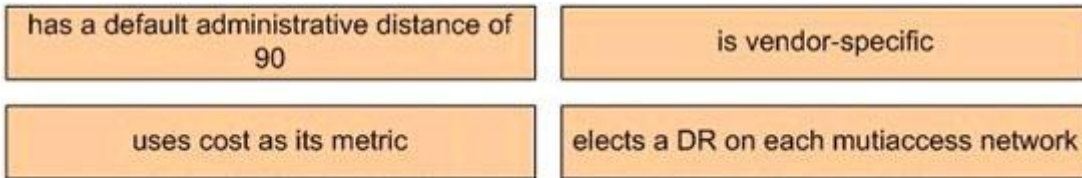

Answer:

Crossover		
	PC to router Fa0/0	
	switch port Fa0/1 to switch2 port Fa0/1	

Straight-through		
	router to hub	
	PC to switch Fa0/1	

Rollover		
	modem to router auxiliary port	
	PC serial port to switch console port	

router to hub

PC to router Fa0/0

PC to switch Fa0/1

modem to router auxiliary port

PC serial port to switch console port

switch port Fa0/1 to switch2 port Fa0/1
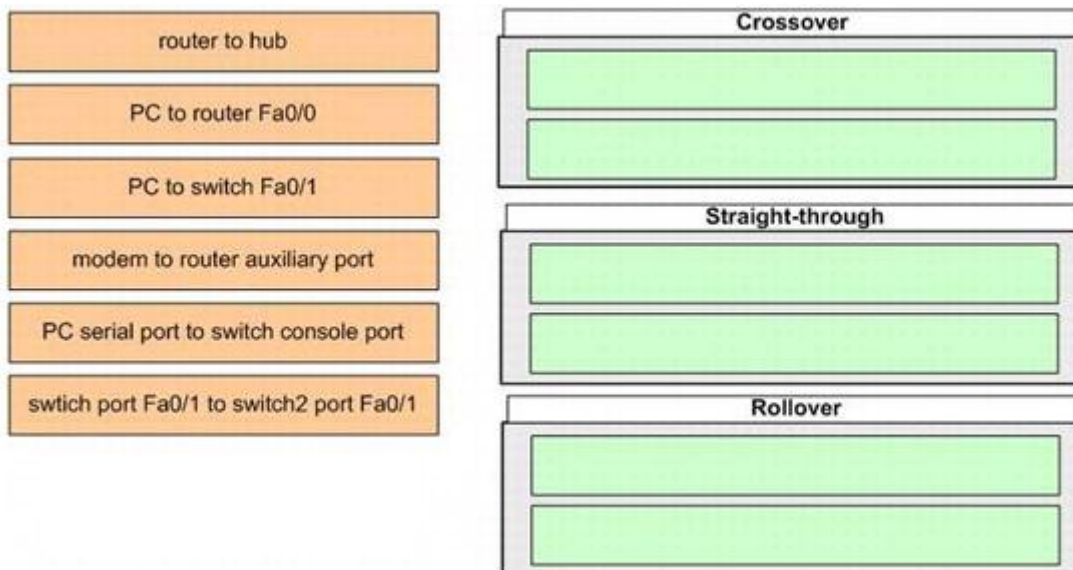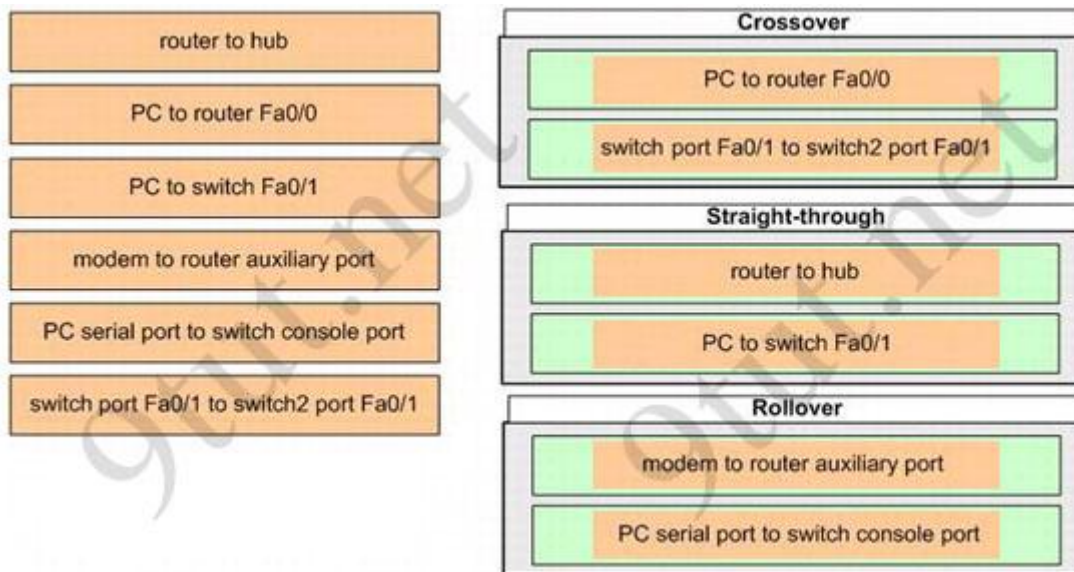
Question 4

The above provides some descriptions, while the below provides some routing protocols. Drag the above items to the proper locations.

has a default administrative distance of 90

is vendor-specific

uses cost as its metric

elects a DR on each mutiaccess network

EIGRP

OSPF
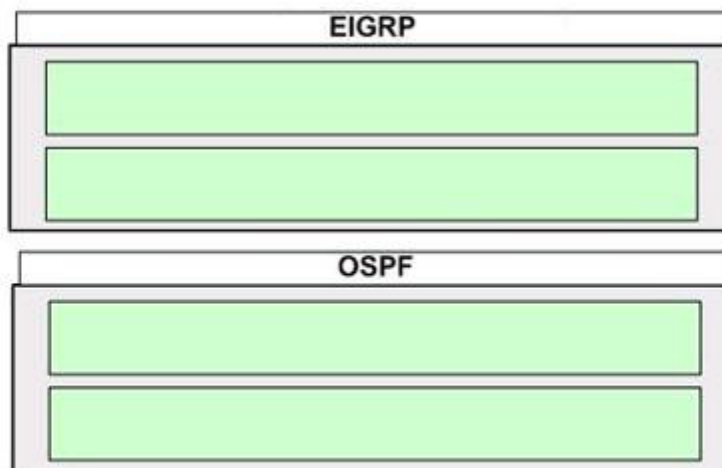
Answer:

Question 5

As a CCNA candidate, you are required to have a firm understanding of the OSI model. At which layers of the OSI model do Wide Area Networks operate in? Please drag the items to the proper locations.
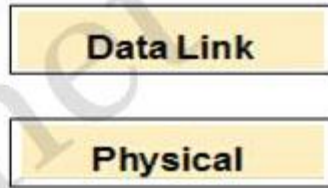

Answer:

OSI Model
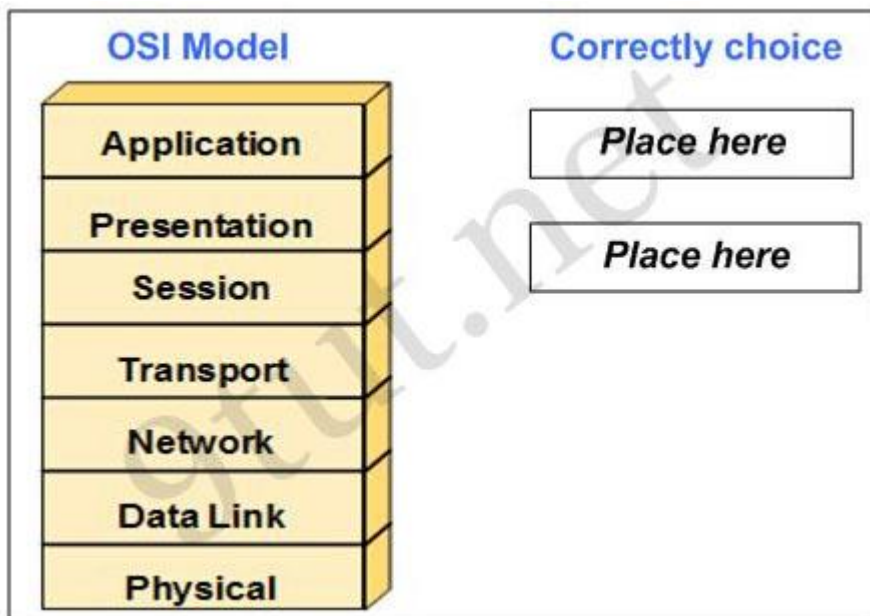
- Application
- Presentation
- Session
- Transport
- Network
- Data Link
- Physical

Correctly choice

- Data Link
- Physical

CCNA – Drag and Drop 5

Question 1

Drag the Cisco default administrative distance to the appropriate routing protocol or route (Not all options are used)

0	RIP
1	OSPF
20	static route referencing IP address of next hop
90	internal EIGRP route
100	directly connected network
110	
120	
130	

Answer:

+ RIP: 120
+ OSPF: 110
+ static route referencing IP address of next hop: 1
+ internal EIGRP route: 90
+ directly connected network: 0

Question 2

Drag the term on the left to its definition on the right (not all options are used)

Answer:

+ **poison reverse**: A router learns from its neighbor that a route is down and the router sends an update back to the neighbor with an infinite metric to that route
+ **LSA**: The packets flooded when a topology change occurs, causing network routers to update their topological databases and recalculate routes
+ **split horizon**: This prevents sending information about a routeback out the same interface that originally learned about the route
+ **holddown timer**: For a given period, this causes the router to ignore any updates with poorer metrics to a lost network

Question 3

Drag the description on the left to the correct router mode on the right

Answer:

+ user EXEC mode: limited to basic monitoring commands
+ privileged EXEC mode: provide access to all other router commands
+ global configuration mode: commands that affect the entire system
+ specific configuration mode: commands that affect interfaces/processes only
+ setup mode: interactive configuration dialog

Question 4

Drag each definition on the left to the matching term on the right

the number of point-to-point links in a transmission path	cost
the data capacity of a link	load
the amount of time required to move a packet from source to destination	bandwidth
the amount of activity on a network resource	hop count
usually refers to the bit error rate of each network link	reliability
a configurable value based by default on the bandwidth of the interface	delay

Answer:

+ cost: a configurable value based by default on the bandwidth of the interface
+ load: the amount of activity on a network resource
+ bandwidth: the data capacity of a link
+ hop count: the number of point-to-point links in a transmission path
+ reliability: usually refers to the bit error rate of each network link
+ delay: the amount of time required to move a packet from source to destination

Question 5

Refer to the exhibit. Complete the network diagram by dragging the correct device name or description to the correct location. Not all the names or descriptions will be used.
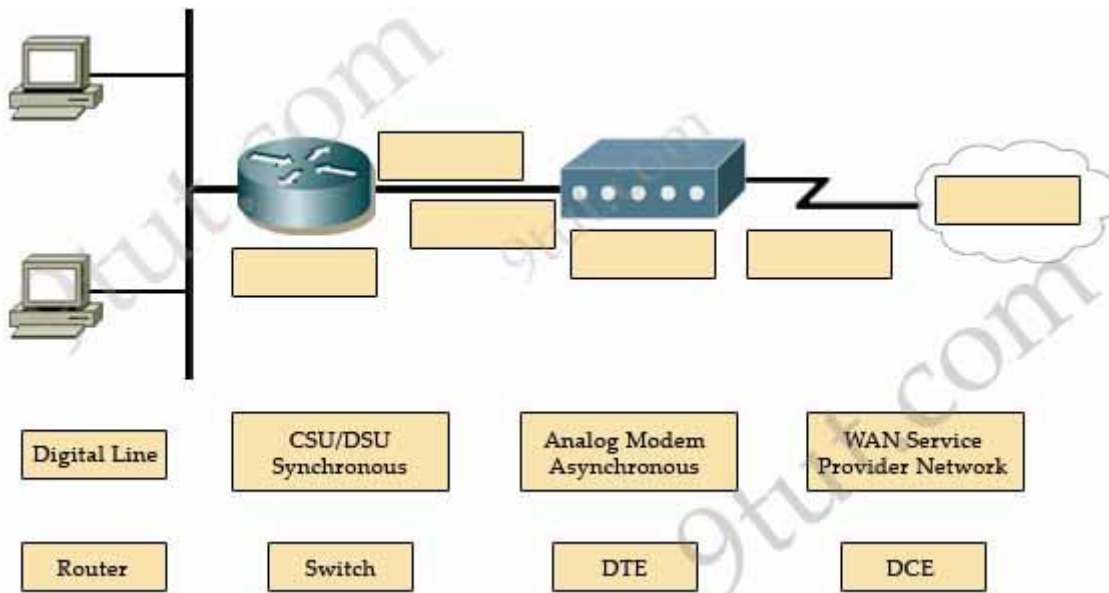
Answer:

From left to right:

Router, DTE, DCE, CSU/DSU Synchronous, Digital Line, WAN Service Provider Network.

Question 6

Drag each feature on the left to the appropriate routing protocol on the right.

Answer:

RIP version 1

+ sends frequent updates
+ less complex configuration
+ susceptible to routing loops
+ exchanges full routing table in updates

OSPF:

+ faster convergence
+ uses only event-triggered updates
+ same topology information held by all routers
+ requires more memory and processing power

Question 7

Drag item on left to match item on right

Answer:

+ Point to Point Advantage: Quality
+ Point to Point Disadvantage: Limited Flexibility
+ Circuit Switched Advantage: Cost
+ Circuit Switched Disadvantage: Low speed
+ Packet Switch Advantage: Efficient
+ Packet Switch Disadvantage: More Complex

Question 8

All hosts in the same subnet with 172.16.5.118/26 must be denied Telnet access to hosts outside the LAN (u need to just drag & drop) fill out the command. To complete the bracketed command, [**access-list** *list-number* **deny tcp 172.16.5.***address* **0.0.0.***mask* **any eq** *port*], drag each appropriate option on the left to its proper placeholder on the right. (Not all options are used)

0	list-number
1	address
23	mask
63	port
64	
80	
128	
255	

Answer:

+ list-number: 128
+ address: 64
+ mask: 63
+ port: 23

EIGRP Troubleshooting Sim

Question

Refer to the topology. Your company has connected the routers R1, R2 and R3 with serial links. R2 and R3 are connected to the switches SW1 and SW2, respectively. SW1 and SW2 are also connected to the routers R4 and R5.

The EIGRP routing protocol is configured. You are required to troubleshoot and resolve the EIGRP issues between the various routers. Use the appropriate show commands to troubleshoot the issues.

Question 1

The loopback interfaces on R4 with the IP addresses of 10.4.4.4/32, 10.4.4.5/32 and 10.4.4.6/32 are not appearing in the routing table of R5. Why are the interfaces missing?

A. The interfaces are shutdown, so they are not being advertised.
B. R4 has been incorrectly configured to be in another AS, so it does not peer with R5.
C. Automatic summarization is enabled, so only the 10.0.0.0 network is displayed.
D. The loopback addresses haven't been advertised, and the network command is missing on R4.

Answer: B

Question 2

Which path does traffic take from R1 to R5?

A. The traffic goes through R2.
B. The traffic goes through R3.

C. The traffic is equally load-balanced over R2 and R3.
D. The traffic is unequally load-balanced over R2 and R3.

Answer: A

Question 3

Router R6 does not form an EIGRP neighbor relationship correctly with router R1. What is the cause for this misconfiguration?

A. The K values mismatch.
B. The AS does not match.
C. The network command is missing.
D. The passive-interface command is enabled.

Answer: C

Question 4

Study the following output taken on R1:

```
R1#ping 10.5.5.55 source 10.1.1.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.5.5.55, timeout is 2 seconds:
Packet sent with a source address of 10.1.1.1
. . . . .
Success rate is 0 percent (0/5)
```

Why are the pings failing?

A. The network statement is missing on R5.
B. The loopback interface is shut down on R5.
C. The network statement is missing on R1.
D. The IP address that is configured on the Lo1 interface on R5 is incorrect.

Answer: C

OSPF Neighbor Sim

Question

Refer to the topology. Your company has decided to connect the main office with three other remote branch offices using point-to-point serial links. You are required to troubleshoot and resolve OSPF neighbor adjacency issues between the main office and the routers located in the remote branch offices.
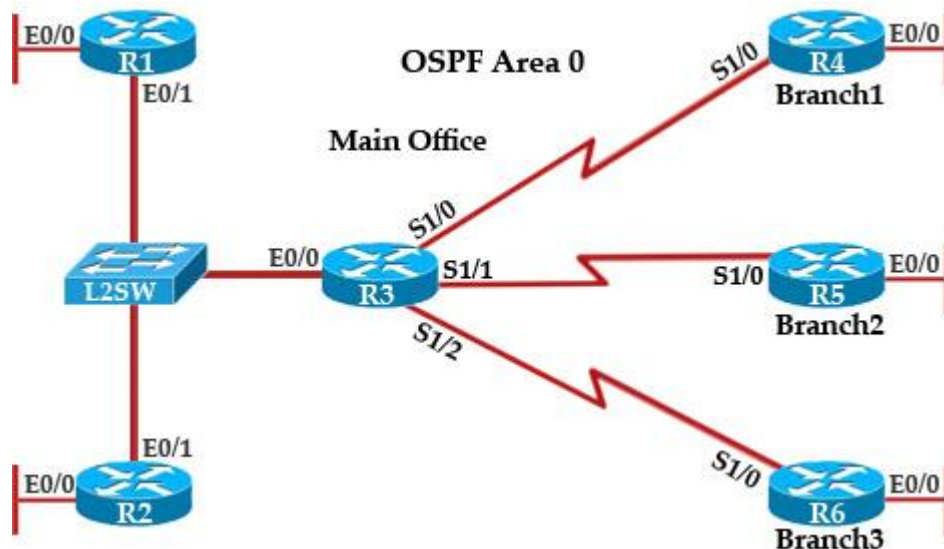
Question 1

An OSPF neighbor adjacency is not formed between R3 in the main office and R4 in the Branch1 office. What is causing the problem?

A. There is an area ID mismatch.
B. There is a Layer 2 issue; an encapsulation mismatch on serial links.
C. There is an OSPF hello and dead interval mismatch.
D. The R3 router ID is configured on R4.

Answer: A

Question 2

An OSPF neighbor adjacency is not formed between R3 in the main office and R5 in the Branch2 office. What is causing the problem?

A. There is an area ID mismatch.
B. There is a PPP authentication issue; a password mismatch.

C. There is an OSPF hello and dead interval mismatch.
D. There is a missing network command in the OSPF process on R5.

Answer: C

Question 3

R1 does not form an OSPF neighbor adjacency with R2. Which option would fix the issue?

A. R1 ethernet0/1 is shutdown. Configure no shutdown command.
B. R1 ethernet0/1 configured with a non-default OSPF hello interval of 25; configure no ip ospf hello-interval 25
C. R2 ethernet0/1 and R3 ethernet0/0 are configured with a non-default OSPF hello interval of 25; configure no ip ospf hello-interval 25
D. Enable OSPF for R1 ethernet0/1; configure ip ospf 1 area 0 command under ethernet0/1

Answer: B

Question 4

An OSPF neighbor adjacency is not formed between R3 in the main office and R6 in the Branch3 office. What is causing the problem?

A. There is an area ID mismatch.
B. There is a PPP authentication issue; the username is not configured on R3 and R6.
C. There is an OSPF hello and dead interval mismatch.
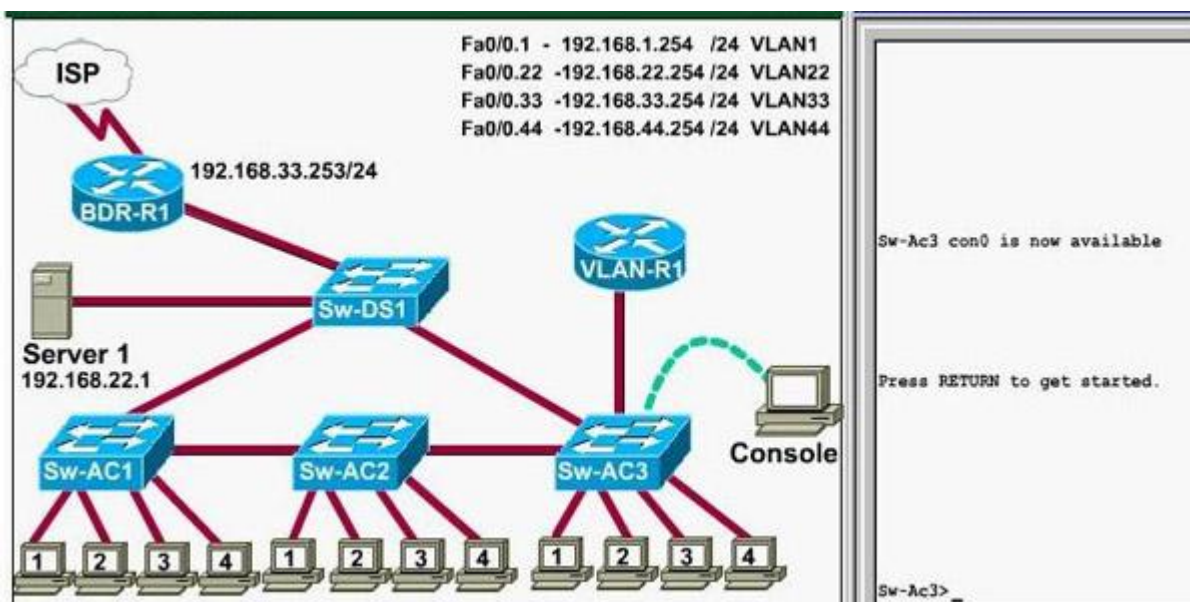D. The R3 router ID is configured on R6.

Answer: D

CCNA VTP SIM Question

Question

This task requires you to use the CLI of Sw-AC3 to answer five multiple-choice questions. This does not require any configuration.

To answer the multiple-choice questions, click on the numbered boxes in the right panel.

There are five multiple-choice questions with this task. Be sure to answer all five questions before leaving this item.

Notice: All the images in this VTP LAB are used for demonstration only, you will see slightly different images in the real CCNA exam. You can download this sim to practice here (but notice that this sim is not perfect, only for practicing purpose):
http://www.9tut.com/download/9tut.com_CCNA_vtp_sim.pka

Note: In this VTP sim, you have to answer 5 questions. After answering the first question, click on the number boxes to move to other questions. If you click "Next" at the first question, you will lose points for 4 remaining questions.

Question 1

What interface did Sw-AC3 associate with source MAC address 0010.5a0c.ffba ?

a) Fa0/1

b) Fa0/3

c) Fa0/6

d) Fa0/8

e) Fa0/9

f) Fa0/12

Answer: Fa 0/8

Question 2

What ports on Sw-AC3 are operating has trunks (choose three)?

a) Fa0/1

b) Fa0/3

c) Fa0/4

d) Fa0/6

e) Fa0/9

f) Fa0/12

Answer: Fa0/3, Fa0/9 and Fa0/12

Question 3

What kind of router is VLAN-R1?

a) 1720

b) 1841

c) 2611

d) 2620

Answer: 2620

Question 4

Which switch is the root bridge for VLAN 1?

Answer: Sw-DS1

Question 5

What address should be configured as the default-gateway for the host connected to interface fa 0/4 of SW-Ac3?

Answer: 192.168.44.254

Question 6

From which switch did Sw-Ac3 receive VLAN information ?

Answer: Sw-AC2

Question 7

Refer to the exibit, SwX was taken out of the production network for maintenance. It will be reconnected to the Fa 0/16 port of Sw-Ac3. What happens to the network when it is reconnected and a trunk exists between the two switches?

```
SwX#show vlan                               SwX#  show vtp stat
VLAN Name  Status   Ports                   VTP Version            : 2
.........................................   Configuration Revision      : 6
1   default    active Fa0/1, Fa0/2, Fa0/3   Maximum VLANs supported locally : 250
                      Fa0/4, Fa0/5, Fa0/6   Number of existing VLANs     : 8
                      Fa0/7, Fa0/8, Fa0/9   VTP Operating Mode        : Server
                      Fa0/10, Fa0/11, Fa0/12 VTP Domain Name          : home-office
                      Gi0/1, Gi0/2          VTP Pruning Mode         : Disabled
2   students   active                       VTP V2 Mode              : Disabled
3   admin      active                       VTP Traps Generation     : Disabled
4   faculty    active                       MD5 digest         : 0xD8 0xD8 0x38 0x22
                                                                0x98 0xE3 0xAC 0x65
                                            Configuration last modified by 0.0.0.0  at
                                                                3-28-99  01:24:88
```

A – All VLANs except the default VLAN will be removed from all switches

B – All existing switches will have the students, admin, faculty, Servers, Management, Production, and no-where VLANs

C – The VLANs Servers, Management, Production and no-where will replace the VLANs on SwX

D – The VLANs Servers, Management, Production and no-where will be removed from existing switches

Question 8

Out of which ports will a frame be forwarded that has source mac-address 0010.5a0c.fd86 and destination mac-address 000a.8a47.e612? (Choose three)

A – Fa0/8

B – Fa0/3

C – Fa0/1

D – Fa0/12

Answer: B C D

Question 9

If one of the host connected to Sw-AC3 wants to send something for the ip 190.0.2.5 (or any ip that is not on the same subnet) what will be the destination MAC address?

CCNA Access List Sim 2

Question

Security is being added to the Corp1 router. The user on host C should be able to use a web browser to access financial information from the Finance Web Server. No other hosts from the LAN nor the Core should be able to use a web browser to access this server. Since there are multiple resources for the corporation at this location including other resources on the Finance Web Server, all other traffic should be allowed.

The task is to create and apply a numbered access-list with no more than three statements that will allow ONLY host C web access to the Finance Web Server. No other hosts will have web access to the Finance Web Server. All other traffic is permitted.
Access to the router CLI can be gained by clicking on the appropriate host.

All passwords have been temporarily set to "cisco".
The Core connection uses an IP address of 198.18.196.65
The computers in the Hosts LAN have been assigned addresses of 192.168.33.1 – 192.168.33.254
Host A 192.168.33.1
Host B 192.168.33.2
Host C 192.168.33.3
Host D 192.168.33.4
The servers in the Server LAN have been assigned addresses of 172.22.242.17 – 172.22.242.30
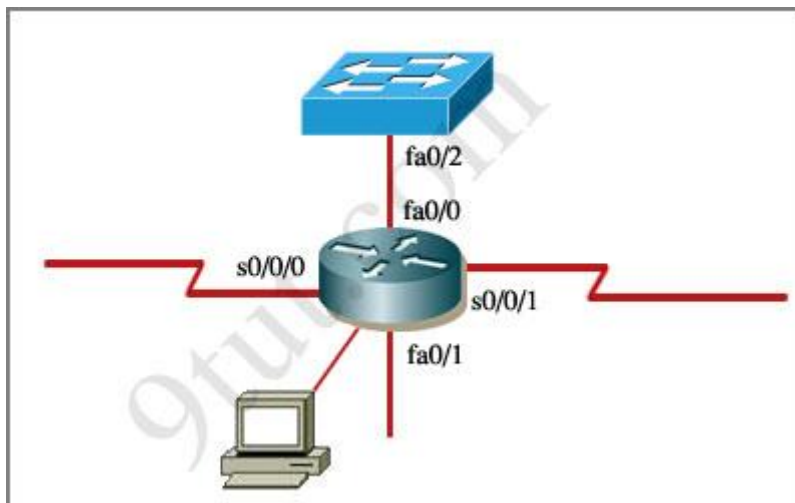The Finance Web Server is assigned an IP address of 172.22.242.23.
The Public Web Server is assigned an IP address of 172.22.242.17

CCNA Access List Sim

Question

An administrator is trying to ping and telnet from Switch to Router with the results shown below:

Switch>
Switch> ping 10.4.4.3
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.4.4.3,timeout is 2 seconds:
.U.U.U
Success rate is 0 percent (0/5)
Switch>
Switch> telnet 10.4.4.3
Trying 10.4.4.3 …
% Destination unreachable; gateway or host down
Switch>

Click the console connected to Router and issue the appropriate commands to answer the questions.

CCNA NAT SIM Question 2

http://www.9tut.com/57-ccna-nat-sim-question-2

Question
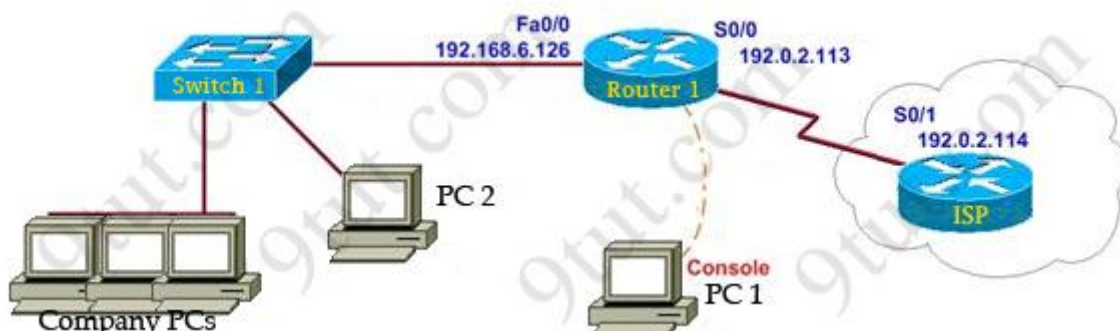
You work as a network technician at 9tut.com. Study the exhibit carefully. You are required to perform configurations to enable Internet access. The Router ISP has given you six public IP addresses in the 198.18.32.65 198.18.32.70/29 range.

9tut.com has 62 clients that needs to have simultaneous internet access. These local hosts use private IP addresses in the 192.168.6.65 – 192.168.6.126/26 range.

You need to configure Router1 using the PC1 console.

You have already made basic router configuration. You have also configured the appropriate NAT interfaces; NAT inside and NAT outside respectively.

Now you are required to finish the configuration of Router1.

CCNA Implementation SIM

http://www.9tut.com/66-ccna-implementation-sim

This topology contains 3 routers and 1 switch. Complete the topology.

Drag the appropriate device icons to the labeled Device
Drag the appropriate connections to the locations labeled Connections.
Drag the appropriate IP addresses to the locations labeled IP address

(Hint: use the given host addresses and Main router information)
To remove a device or connection, drag it away from the topology.

Use information gathered from the Main router to complete the configuration of any additional routers. No passwords are required to access the Main router. The config terminal command has been disabled for the HQ router. The router does not require any configuration.

Configure each additional router with the following:

Configure the interfaces with the correct IP address and enable the interfaces.
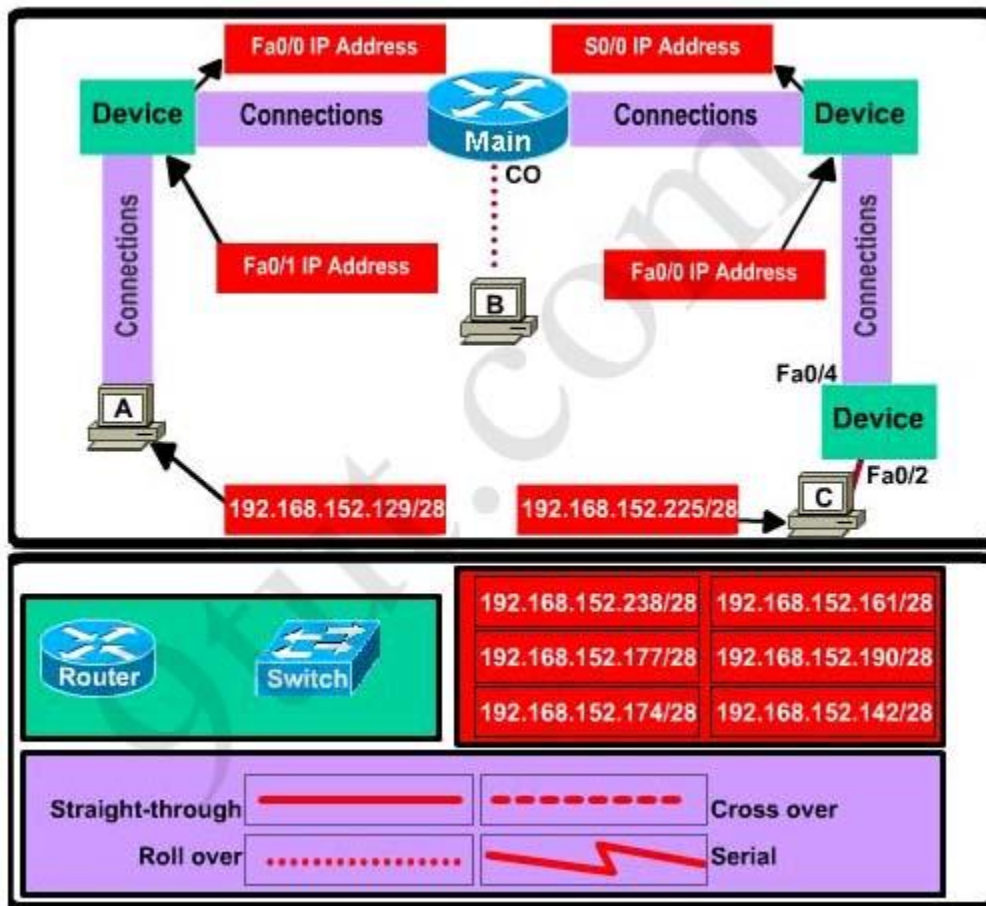Set the password to allow console access to **consolepw**
Set the password to allow telnet access to **telnetpw**
Set the password to allow privilege mode access to **privpw**

Note: Because routes are not being added to the configurations, you will not be able to ping through the internetwork.
All devices have cable autosensing capabilities disabled.
All hosts are PC's

CCNA EIGRP LAB Question

Question

After adding R3 router, no routing updates are being exchanged between R3 and the new location. All other inter connectivity and Internet access for the existing locations of the company are working properly.

The task is to identify the fault(s) and correct the router configuration to provide full connectivity between the routers.

Access to the router CLI can be gained by clicking on the appropriate host. All passwords on all routers are cisco.

IP addresses are listed in the chart below.
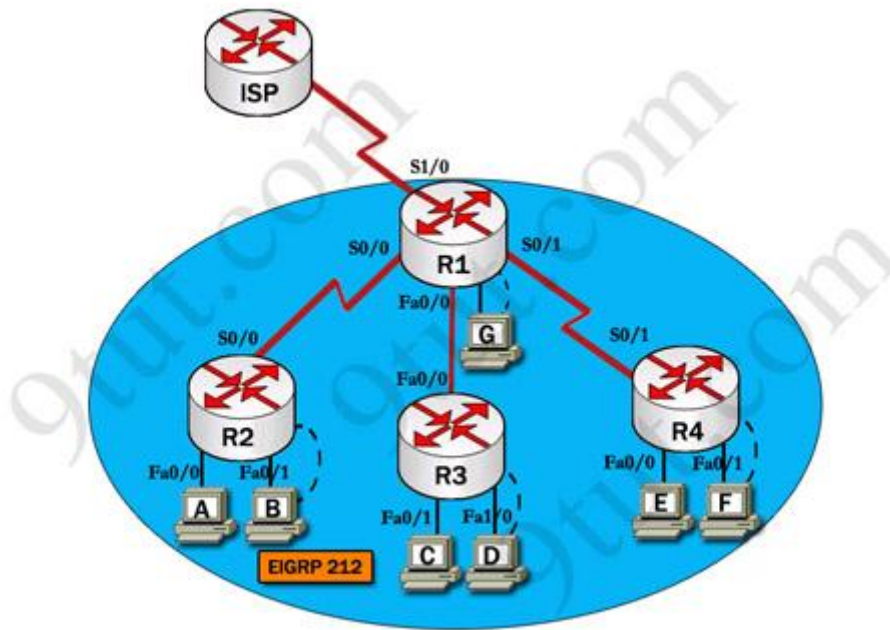
R1	R2
R1	**R2**
Fa0/0: 192.168.77.33	**Fa0/0:** 192.168.60.97
S1/0: 198.0.18.6	**Fa0/1:** 192.168.60.113
S0/1: 192.168.60.25	**S0/0:** 192.168.36.14
S0/0: 192.168.36.13	
R3	**R4**
Fa0/0: 192.168.77.34	**Fa0/0:** 192.168.60.129
Fa0/1: 192.168.60.65	**Fa0/1:** 192.168.60.145
Fa1/0: 192.168.60.81	**S0/1:** 192.168.60.26

CCNA Drag and Drop SIM Question

http://www.9tut.com/65-ccna-drag-and-drop-sim-question

Question

You have been hired by Specialty Hardware Incorporated to document the layout of the network. Complete the following tasks: Complete the network topology shown in the graphic by dragging the labels below with the appropriate router types, interface types, and IP addresses to the graphic . Find the information you need by using the router console attached to the R-CENTER router.
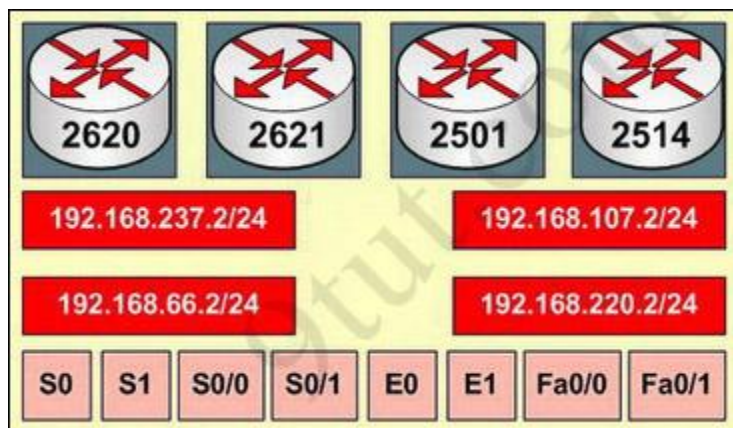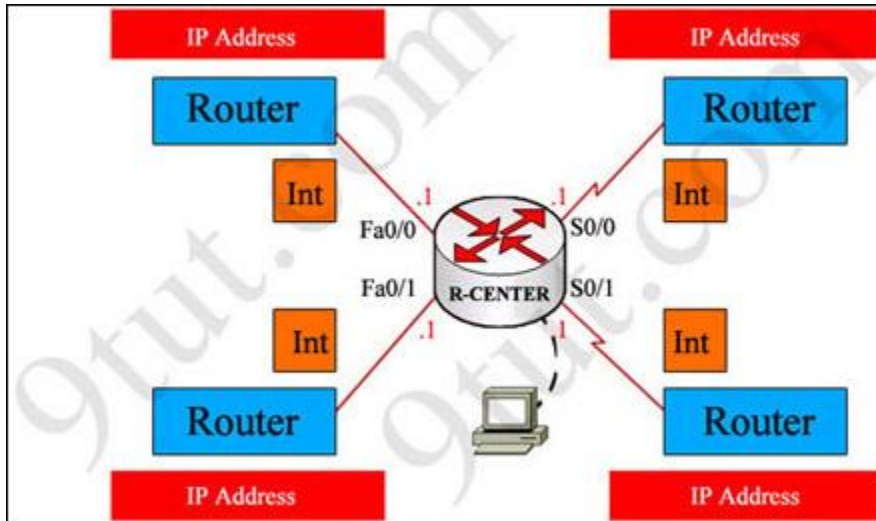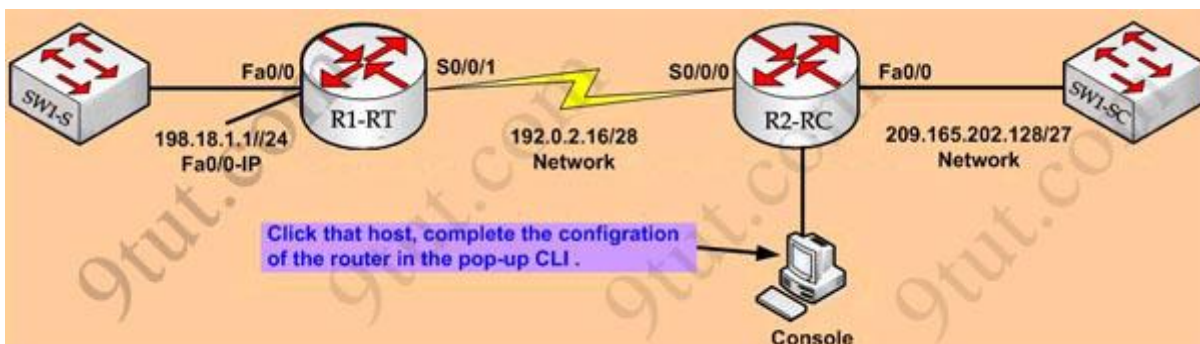
CCNA Configuration SIM Question

Question:

To configure the router (R2-RC) click on the console host icon that is connected to a router by a serial console cable (shown in the diagram as a dashed black line)

CCNA Training Company recently installed a new router in their office. Complete the network installation by performing the initial router configurations and configuring RIPV2 routing using the router command line interface (CLI) on the R2-RC.

Name of the router is **R2-RC**
Enable-secret password is **cisco1**
The password to access user EXEC mode using the console is **cisco2**
The password to allow telnet access to the router is **cisco3**
IPV4 addresses must be configured as follows:
Ethernet network **209.165.202.128/27** – router has last assignable host address in subnet
Serial network is **192.0.2.16/28** – router has last assignable host address in the subnet. Interfaces should be enabled.
Router protocol is **RIP V2**

Attention :
In practical examinations, please note the following, the actual information will prevail.
1. Name of the router is xxx
2. Enable-secret password is xxx
3. Password to access user EXEC mode using the console is xxx
4. The password to allow telnet access to the router is xxx
5. IP information

CCNA NAT SIM Question 1

http://www.9tut.com/52-ccna-nat-sim-question

Question

A network associate is configuring a router for the CCNA Training company to provide internet access. The ISP has provided the company six public IP addresses of 198.18.184.105 198.18.184.110. The company has 14 hosts that need to access the internet simultaneously. The hosts in the CCNA Training company LAN have been assigned private space addresses in the range of 192.168.100.17 – 192.168.100.30.

The task is to complete the NAT configuration using all IP addresses assigned by the ISP to provide Internet access for the hosts in the Weaver LAN. Functionality can be tested by clicking on the host provided for testing.

Configuration information
router name – Weaver
inside global addresses – 198.18.184.105 198.18.184.110/29
inside local addresses – 192.168.100.17 – 192.168.100.30/28
number of inside hosts – 14

The following have already been configured on the router :

– The basic router configuration

– The appropriate interfaces have been configured for NAT inside and NAT outside

– The appropriate static routes have also been configured (since the company will be a stub network, no routing protocol will be required.)

– All passwords have been temporarily set to "cisco"

The task is to complete the NAT configuration using all IP addresses assigned by the ISP to provide Internet access for the hosts in the Weaver LAN. Functionality can be tested by clicking on the host provided for testing.

Configuration information
    router name - Weaver
    inside global addresses-198.18.184.105 198.18.184.110/29
    inside local addresses - 192.168.100.17 - 192.168.100.30/28
    number of inside hosts - 14

eSIM™ Professional 00:00:01
Scenario 1   Version 1.0
You will have to scroll this window and the problem statement window to view the entire problem.
    To configure the router click on a host icon that is connected to a router by a serial console cable (shown in the diagram as a dotted line).
    The [Tab] key and most

Hide Topology

Fa0/0
192.168.100.30

S0/0
192.0.2.113

Weaver

S0/1
192.0.2.114

ISP

Host for
Testing

Console